

**From:** [REDACTED]  
**To:** [REDACTED]  
**Cc:** [Enquiries](#)  
**Subject:** RFI 032 - Document request: working paper on profit principles and cost risk adjustment  
**Date:** 28 January 2020 12:38:23  
**Attachments:** [20190917 CRA working paper OWG \(1\).pdf](#)  
[20190701Profit principles WP DRAFT.docx](#)

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Dear [REDACTED],

Thank you for your enquiry received on 17 January 2020, which we are treating as a request under the Freedom of Information Act. This has been allocated reference RFI 032.

A copy of the following working papers, which you requested, are attached to this email.

- The SSRO working paper issued to OWG members in July 2019 setting out profit principles; and
- SSRO working paper which provides an updated analysis related to the Cost Risk Adjustment issued in September 2019.

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within two months of the date of receipt of the response to your original request and should be addressed to: Neil Swift, c/o Enquiries, [enquiries@ssro.gov.uk](mailto:enquiries@ssro.gov.uk).

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF.

I note from our records that in March 2019 you were kind enough to provide my colleague Adrian Wallis with an update on your work related to the single source procurement framework. You have also had previous correspondence with David Galpin, the Director of Legal and Policy at the SSRO.

As I mentioned in a previous correspondence, we are currently [consulting](#) on our proposed recommendations for the 2020 review of the regulatory framework for single source defence contracts. The consultation ends on the 28<sup>th</sup> of February 2020. If you would be interested in speaking with us during the consultation period to share insights from your work on the development of the regulatory regime we would welcome the opportunity to hear your views. Please contact me if you would like to arrange a meeting or telephone discussion with colleagues at the SSRO.

Lastly, congratulations to you and your wife on the birth of your son!

Best wishes,

[REDACTED]

Manager, Regulation and Economics team  
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# **SSRO**

Single Source  
Regulations Office

## **Review of contract profit rates**

### **Step 2 – cost risk adjustment**

17 September 2019

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## 1. Executive summary

- 1.1 This working paper considers matters relevant to the range of the cost risk adjustment (CRA) and how it is navigated. The SSRO first considered cost risk in advance of the Secretary of State's first review of legislation,<sup>1</sup> and we have participated in extensive discussions on this topic between industry and the MOD.
- 1.2 The merits of any proposed changes to the CRA will need to be considered as part of the Secretary of State's planned review of the Defence Reform Act scheduled for 2020. Whether there is any change to the legislation is a matter for the MOD to decide and we are contributing constructively. If there is a change to legislation it is likely that the SSRO will need to provide associated statutory guidance or change how or what data is collected through DefCARS.<sup>2</sup>

### Review of the evidence base

- 1.3 The SSRO has revisited the evidence base available to inform any changes to the CRA. The current range of the CRA is constrained to some extent relative to competitive market profit outcomes and other international regimes. However, we consider the early empirical evidence does not present compelling evidence to support a major change to the CRA at this time. As time passes and the evidence base develops this view may change, but this may not be before the 2020 review of legislation. In the absence of evidence, matters related to the operation of the CRA, such as the appropriate range, will remain a matter of judgement. Critical to that is an understanding of risk related to contract costs and which contracting party is exposed to cost variance. Widening the range of the CRA would allow for profit rates beyond those currently available and closer to the limits of what might be sustainable, for both contractors and the MOD.

### Evidence available at this time

- 1.4 We have carried out some important analysis to inform judgements regarding the CRA which we present in five parts:
  - a) Stakeholder views (Section 4) – These centre around views from the defence industry that profit rates that can be earned are not high enough; and, from the MOD, on the existence of companies earning lower profit rates on commoditised contracts, and incentivising risk transfer to contractors. Suggestions for change to the bandwidth of the CRA include a lower limit that would be less than a third of the prevailing BPR and an upper limit which would double it.
  - b) Use of the CRA so far (Section 5) – To date, there are more positive adjustments than negative adjustments, but this appears consistent with the mix of pricing methods.
  - c) Impact on the estimated contract profit rate (CPR) (Section 7) – We have illustrated the possible financial implications of changes to the CRA bandwidth, which may be significant.
  - d) International comparisons and other cross-checks (Section 7) – Our analysis is that the spread of available profit rates is centred around a similar range to other regimes and

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<sup>1</sup> SSRO (2018) *Cost Risk and Incentives in Qualifying Defence Contracts: Recommendations to the Secretary of State for Defence* available at <https://www.gov.uk/government/publications/review-of-single-source-regulatory-framework>.

<sup>2</sup> The Defence Contract Analysis and Reporting System (DefCARS) allows contractors to meet the reporting requirements for contract and supplier reports under the Defence Reform Act 2014 and Single Source Contract Regulations 2014.

## Step 2 Cost risk adjustment – Working paper

cross checks but is more constrained at the limits. These differences in themselves do not present compelling evidence of the need for change.

- e) Composition and stability of the baseline profit rate (BPR) – Two features of the BPR are its empirical basis and practicality. The SSRO continues to refine the approach and methodology to assessing the BPR, while seeking to avoid a loss of stability. The corollary of widening the CRA is to reduce the relative contribution of the BPR to the contract profit rate, giving rise to greater uncertainty as to the outcome of profit rate negotiations (for the MOD and contractors). The effect of this cannot be reliably anticipated.

### Evidence that is not yet available

- 1.5 In three particular areas we think there is currently a lack of important data and evidence which would inform whether there was a need or benefit to offer profit rates outside those achievable given the current range of the CRA:
  - a) Quantification of cost variance – Understanding contract costs and exposure to cost variance should be central to this discussion. Reports that contractors submit using DefCARS can play a supportive role in tracking and reporting of cost variance and, therefore, in understanding the true exposure to cost risk. In January 2019 we shared some preliminary analysis with the SSRO's Operational Working Group (OWG) about 59 contracts. This represents the first, early look at how estimated costs in regulated contracts are changing over time. Further data will emerge as contracts are completed.
  - b) Risk management and behaviours – As a general principle, government considers that risks should be allocated to those best placed to manage them. The allocation of cost risk determines which contracting party pays when costs differ from what was anticipated, and to what extent. Central to the consideration of legislative change is how it will alter behaviours with respect to the management of cost risk, how learning effects over time reduce risk and whether this will better support the achievement of value for money and fair and reasonable prices.
  - c) Actual contract profit rates – It is important to consider both the agreed contract profit rate and the actual contract profit rate (also known as final out-turn profit), because the latter reveals the impact of cost risk that materialised and the extent of a contractor's exposure to it. Examining actual profit rates agreed on competitive contracts let by MOD single source suppliers and the returns those contracts realised is also important to obtain a more complete understanding the appropriate rewards for risk. However, there are at present no reliable indicators of this as only a small number of regulated contracts have been completed and competitive contract data has not been disclosed.

### **Other considerations**

- 1.6 If the MOD wishes to make changes to the CRA this might be achieved through legislation, supported where appropriate by changes in guidance, or merely through changes in guidance. There are several options as to how the process used by the contracting parties to navigate the range to agree an appropriate CRA is structured. The merits of these options depend to an extent on the width of the CRA range and whether changes are implemented through legislation, guidance or both (Section 8).
- 1.7 There are other factors at play which are not in the scope of this paper to consider but that we note might impact on the MOD and industry, for example:
  - a) The defence budget – The MOD needs to consider the balance between what it pays in profit to transfer cost risk and the potential need to fund cost growth where it retains cost risk.

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- b) Defence industrial policy – The MOD needs to deliver a range of policy objectives, of which single source contract pricing is just one part.
- c) HM Treasury balance sheet review<sup>3</sup> – The HM Treasury-led ‘government balance sheet review’ is placing greater scrutiny of the range of circumstances in which the government places its balance sheet at risk for the private sector and the compensation it receives for doing so.
- d) Economics and corporate finance – As discussed in the SSRO’s profit principles working paper, the appropriate reward for bearing risk will be influenced by wider considerations related to the need to generate returns for the providers of capital.<sup>4</sup>

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<sup>3</sup> HM Treasury (2018) *Balance Sheet Review* (presentation) available [here](#).

<sup>4</sup> SSRO (2019) *Review of Contract Profit Rates: Profit Principles*.

## 2. Introduction

- 2.1 Section 39(1) of the Defence Reform Act (the Act) requires the SSRO to keep under review the provisions made by Part 2 of the Act and the Single Source Contract Regulations 2014 (the Regulations). In support of this statutory duty, the SSRO is undertaking a review of contract profit rates expected or earned by contractors in qualifying defence contracts (QDCs) and qualifying sub-contracts (QSCs). This review of contract profit rates (review of CPR) aims to help us:
- a) better understand contract profits in QDCs and QSCs;
  - b) understand factors that have influenced these contract profits; and
  - c) consider whether and what changes may be needed to legislation or to the SSRO's monitoring, methodologies or guidance to better achieve the intent of the legislation.
- 2.2 Following our initial analysis of contract profit data reported by contractors in QDCs and QSCs, a number of potential areas where work might be desirable in 2019/20 were identified and discussed with members of the SSRO's Operational Working Group (OWG) in April 2019. These stakeholders agreed that one of the main priorities for further work was to consider matters relevant to the range of the cost risk adjustment (CRA) and how it is navigated.
- 2.3 Ensuring appropriate levels of compensation for risk exposure are available and allocated to contractors and the Ministry of Defence (MOD) is fundamental to the achievement of optimal risk sharing in single source contracts and has implications for the achievement of fair and reasonable contract prices and value for money. HM Treasury's Balance Sheet Review speaks of reducing risk and improving compensation to the government for bearing risk to support fiscal sustainability.<sup>5</sup>
- 2.4 The MOD has been engaging with single source suppliers and the SSRO on proposals to change the bandwidth of the CRA (currently  $\pm 25$  per cent of the baseline profit rate), and on the approach to determining an appropriate adjustment for a given QDC/QSC.
- 2.5 This working paper takes stock of the current position on the CRA, drawing on the proposal of the MOD, the work of the SSRO and other wider relevant government reviews. It presents options available for modifying the CRA on which stakeholder feedback and evidence is sought. This work is being undertaken in parallel with work to review the guidance on dealing with uncertainty and risk when determining Allowable Costs in QDCs and QSCs.
- 2.6 The SSRO considered matters related to the CRA in *Cost Risk and Incentives in Qualifying Defence Contracts: Recommendations to the Secretary of State for Defence*<sup>6</sup> and its associated appendices (the Cost risk study). This working paper should be read in conjunction with the Cost risk study, which is referred to throughout.
- 2.7 The responses to this working paper will help the SSRO consider whether any changes may be needed to the legislation, or to its methodologies, guidance and monitoring. Any recommendations for legislative change will be subject to public consultation in spring 2020. Any proposed changes to SSRO methodologies, guidance or monitoring will be consulted on with stakeholders as necessary in due course.

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<sup>5</sup> HM Treasury (2018) *Balance Sheet Review* (presentation) available [here](#).

<sup>6</sup> SSRO (2018) *Cost Risk and Incentives in Qualifying Defence Contracts: Recommendations to the Secretary of State for Defence* available at <https://www.gov.uk/government/publications/review-of-single-source-regulatory-framework>.



### 3. Legislation

#### Step 2: cost risk adjustment

- 3.1 Section 17(2) of the Act sets out the sequence of steps to be taken to determine the contract profit rate for a QDC or QSC. Step 2 of that sequence is the CRA, which is to “*Adjust that [baseline profit] rate by an agreed amount, being an amount falling within specified parameters above or below the baseline profit rate, so as to reflect the risk of the primary contractor’s actual allowable costs under the contract differing from its estimated allowable costs...*”. Section 17(4)(b) clarifies that the adjustment agreed may be zero.
- 3.2 Regulation 11(3) specifies the parameters of the CRA to be an “*...amount which is within a range of plus or minus 25% of the baseline profit rate...*”.
- 3.3 The explanatory notes to the Act further set out that step 2 is “*...an adjustment to reflect the residual cost risk retained by the contractor under the QDC ...This adjustment may increase or decrease the [contract profit rate]*”.

#### Contract profit rates agreed on a group basis

- 3.4 Section 18(2)(c) of the Act provides that where the Secretary of State is a party to a group of QDCs with the same primary contractor, the Regulations may provide for section 17(2) to apply in relation to those contracts taken together or individually.<sup>7</sup>
- 3.5 Regulation 13 provides that “*...where the Secretary of State proposes to enter into two or more qualifying defence contracts with the same primary contractor...within the period of one year...*”, the prospective contractor and the Secretary of State may agree an amount which may be used as the CRA for any QDC entered into between the prospective contractor and the Secretary of State within the relevant year. Regulation 13(3) provides that the amount “*...must be within a range of plus or minus 25% of the baseline profit rate.*”
- 3.6 The explanatory memorandum to the Regulations sets out that this Part was intended for contractors with whom the MOD has a large number of smaller QDCs. The Part allows for a single rate to be agreed for a portfolio of contracts rather than having to calculate them separately for each one.

#### Navigating the adjustment

- 3.7 As required by Section 18 of the Act, the Secretary of State or an authorised person, and the primary contractor must have regard to guidance issued by the SSRO in relation to the steps set out in section 17(2), which includes the CRA. The SSRO’s guidance is set out in Appendix 1 of this working paper.

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<sup>7</sup> This does not apply to QSCs.

## 4. Stakeholder views

### Responses to SSRO consultations and working papers

- 4.1 As part of developing the SSRO's Cost risk study the SSRO provided an abstract of comments made by stakeholders in previous SSRO consultations that are relevant to the contract pricing guidance.<sup>8</sup> This covers responses received up to September 2017.

#### Summary of comments made by stakeholders in SSRO consultations prior to September 2017

- Version 1 of the Guidance included a table indicating that Firm, Fixed and Volume driven Prices should attract +25% cost risk adjustment. This level of adjustment is still appropriate and, for clarity, the table should be reinstated.
- The asymmetry in PEPL (Protection against excessive profits and losses) in the MOD's favour may increase the risk and therefore the profit to contractors.
- An element of the profit is the reward for taking cost risk, the estimated allowable cost is the mean expected allowable incurred cost. The SSRO needs to make a clear statement consistent with the Act and the Regulations approved by Parliament.
- The MOD firmly supports the principle of more appropriate, lower rates of profit on pass-through costs. The MOD agrees that the cost risk adjustment is, in the interim, the best mechanism to deal with pass-through costs, and that the higher the proportion of pass-through costs to the total cost, the higher the adjustment should be (i.e. the higher the negative adjustment at Step 2).
- The guidance would appear to imply that adjustment for risk can only occur when there is a high risk that the eventual allowable costs would differ from the estimate. Where a medium risk exists then there should remain an opportunity to take risk into account by variance of the profit rate; although that adjustment would be at a proportionally different rate. The inference that where the medium risk is shared by the parties ignores the possibility that the risk may still turn to reality and either the MOD or the contractor would want to reasonably protect their respective positions.
- The BPR does not address estimated/programme risk. Contractors must price so that, on average, the outturn is at the priced profit rate (or the contractor/MOD will be advantaged). The variability around that outturn is risk. Contractors cannot influence the price of, say, steel, however, they must assess the likely actual costs and price it in. The BPR should assess the variability of this outcome (the shape of the distribution curve) and this methodology would lead to fair and reasonable prices, with reward for variability and therefore riskier contracts.

<sup>8</sup> SSRO (2018) *Cost Risk and Incentives in Qualifying Defence Contracts: Recommendations to the Secretary of State for Defence – Appendices, Appendix 1: Developing the SSRO's guidance on risk and incentives in Allowable Costs and the profit rate adjustments* available at <https://www.gov.uk/government/publications/review-of-single-source-regulatory-framework>.

## Step 2 Cost risk adjustment – Working paper

4.2 In October 2017, Stakeholders submitted responses to the draft discussion paper of the SSRO's Cost risk study<sup>9</sup> on the matter of the cost risk adjustment.

### Stakeholder feedback in response to the SSRO's Cost risk study

- The current range of the CRA did not anticipate a reduction in the BPR, which has reduced the range of profits available in QDCs.
- The current CRA range was an arbitrary figure, not based on empirical evidence.
- One contractor suggested a widening of the CRA range: from  $\pm 25$  per cent to -25 per cent and +50 per cent of the BPR. As the BPR was expected to fall to 6 per cent, a larger negative adjustment could discourage contractors from taking contracts.
- There should be a trigger for going outside 'the standard range' [unspecified], rather than it being available routinely.
- Risk should be assessed at contract and site/business analysis stage and not at the baseline profit rate stage.
- Widening the CRA would facilitate risk transfer to contractors, reducing the MOD's exposure to cost risk and increasing certainty for the government that it would receive value for money.
- There needs to be an appropriate and practical method to set the CRA such that agreement could be reached between the MOD and contractors without recourse to specialists.
- Existing reporting requirements are adequate to provide the level of transparency needed for larger adjustments to the baseline profit rate, if permitted.
- The approach taken by the United States government to determining a risk allowance for non-competitive contracts using its Weighted Profit Guidelines was viewed as a more proportionate approach to agreeing a risk allowance than that provided for by the UK Framework. Industry respondents suggested that consideration be given to developing a UK version of the accepted US Guidelines.
- The MOD provided a more detailed outline of its proposals for navigating between a 'floor' ('capability') and 'ceiling' risk-adjusted profit rate using a mechanism based on quantifying the variation between the expected Allowable Costs and the associated 90th percentile (P90) estimate of Allowable Costs.

<sup>9</sup> SSRO (2017) *Cost risk and incentives in qualifying defence contracts: Responses to draft discussion paper* available at <https://www.gov.uk/government/publications/review-of-single-source-regulatory-framework>.

## Step 2 Cost risk adjustment – Working paper

### 4.3 Stakeholders have submitted responses to working papers on profit principles<sup>10</sup> and Allowable Costs, uncertainty and risk.<sup>11</sup>

#### Stakeholder feedback in response to the SSRO's *Profit Principles* working paper and *Allowable Costs, Uncertainty and Risk* working paper

- Respondents expressed differing views on the purpose of the CRA. The MOD considered that the CRA was to deal with the extent to which actual costs might vary from expected costs (as it had specifically defined them). It said the adjustment should not be used to compensate contractors for the expected cost impact of risks. One industry respondent considered that the purpose of the CRA remained ambiguous to some extent. It noted, however, the reference in the working paper to Section 17(2) of the Act and Regulation 11(3) which indicates that the CRA is to 'reflect the risk of the primary contractor's actual allowable costs under the contract differing from its estimated allowable costs', which it, and another respondent, referred to as 'risk outside of cost'. For ADS, determining the CRA required consideration to be given to the confidence interval at which the estimate of Allowable Costs had been compiled. The CRA, it said, should include an allowance for the variability of any risk contingency or management reserve that had been included in the Allowable Costs.
- Some industry respondents considered that the treatment of uncertainty in Allowable Costs could not be determined in isolation from discussions about the CRA. One suggested that the magnitude of the cost risk adjustment available might influence the amount of cost uncertainty which is considered as an Allowable Cost.
- One contractor queried whether the MOD's current efforts to develop a framework for determining an appropriate cost risk adjustment for a QDC/QSC was needed, given the stated purpose of the adjustment.
- Two industry respondents agreed with the position described in the working paper, that the cost risk adjustment should not be regarded as a contingency against cost overrun, although in practice, subject to the pricing method of the contracts, the additional profit expected as a result of the adjustment might be reduced by cost overruns. One considered that the cost risk adjustment should be a reward for additional risk taken, incentivising contractors to bear more risk.
- Industry respondents had different views on how the CRA might apply to contracts using different pricing methods. One considered that cost/profit variance (and therefore the need for cost risk adjustment) was only an issue for contractors in fixed price contracts. Another, however, considered that cost-plus contracts might have varying levels of complexity requiring different degrees of management effort to manage costs and risks, which should be reflected in an appropriate cost risk adjustment.
- One industry respondent considered that specific guidance may be needed on how the cost risk adjustment deals with sunk costs at the time of agreement (or contract amendment), where risk had previously been borne by the contractor and had either materialised or hadn't.
- ADS considered that the SSRO should demonstrate that the risk in contracts performed by comparator group companies was comparable to that in QDCs and QSCs in order to provide assurance that the baseline profit rate which provided the basis for determining contract profit rates could support the achievement of fair and reasonable prices.

<sup>10</sup> SSRO (2019) *Review of Contract Profit Rates: Profit Principles*.

<sup>11</sup> SSRO (2019) *Pricing Guidance Working Paper: Allowable Costs, Uncertainty and Risk*.

**Government balance sheet review**

- 4.4 The CRA is part of wider set of measures related to the management of risk in government. HM Treasury has a specific interest in ensuring the appropriate compensation is paid for the transfer of risk.
- 4.5 The Whole of government accounts (WGA) are consolidated financial statements of over 5,500 organisations across the public sector prepared under International Financial Reporting Standards (IFRS). The first WGA was published for the year ended 31 March 2010 and made clear several metrics that had previously been difficult to calculate, such as the net public service pension liability, the Government's commitments under Private Finance Initiative (PFI) contracts, total provisions, and contingent liabilities.
- 4.6 This increased disclosure has resulted in increased scrutiny over the government's balance sheet. Part of that balance sheet review includes HM Treasury looking across government departments in cases where the government provides implicit or explicit insurance or guarantees to the private sector or other international governments. The review is exploring options to improve incentives and secure appropriate compensation for the taxpayer when providing insurance to the private sector. The MOD is closely involved in these discussions over contingent liabilities it has, many of which relate to single source contracts.<sup>12</sup>

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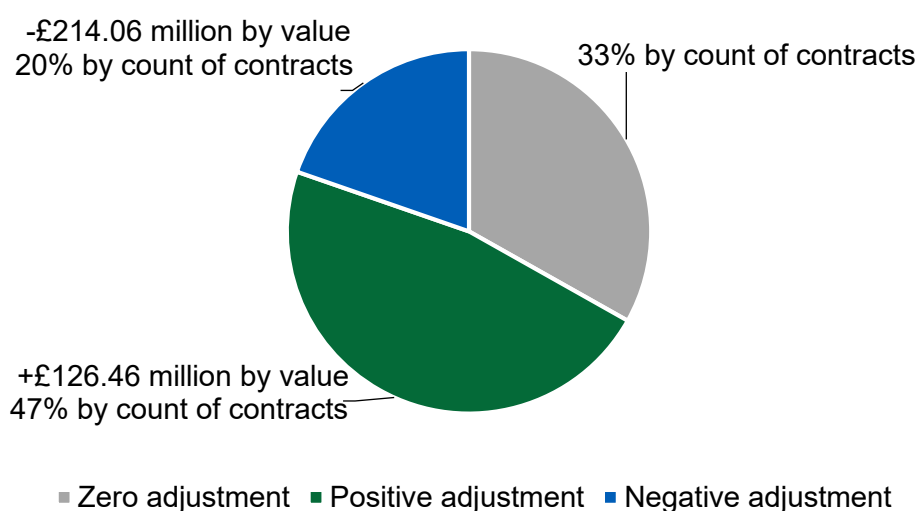
<sup>12</sup> MOD (2019), *Ministry of Defence Annual Report and Accounts 2018 to 2019*, p158 available at: <https://www.gov.uk/government/publications/ministry-of-defence-annual-report-and-accounts-2018-to-19>.

## 5. Use of the cost risk adjustment to date

### Cost risk adjustments agreed to date

- 5.1 The analysis undertaken relates to contracts that became QDCs and QSCs between 1 April 2015 and 31 March 2019 and were reported by defence contractors to the SSRO through contract reports, as required by Part 5 of the Single Source Contract Regulations 2014. Appendix 2 includes updates to some charts presented previously alongside new analysis.
- 5.2 The prevalence of reported adjustments is skewed, with more contracts receiving a positive adjustment (47 per cent) than a negative adjustment (20 per cent) (Figure 1). However, contracts with a negative adjustment tend to be larger value contracts. In total, the financial impact of the CRA is to decrease total profit by an estimated £87.6 million (0.3 per cent of the total contract price of £26.8 billion) compared to if the CRA were zero in all cases.

Figure 1: Count of reported cost risk adjustments and associated value



### Contract profit rates agreed on a group basis

- 5.3 Contractors are not required to report if they have agreed contract profit rates on a group basis (paragraphs 3.4 to 3.6). However, an inspection of reported data shows there are 16 contracts across five contractors where all six steps of a QDC or QSC have the same value as at least one other contract with the same contractor. We welcome feedback from stakeholders on how they are using contract profit rates agreed on a group basis.

### Looking forward

- 5.4 The financial impact of the CRA on a forward-looking basis is function of a number of factors, which are yet to be determined, including:
- contract costs;
  - the baseline profit rate;
  - the CRA bandwidth; and
  - the regulated contract pricing methods.
- 5.5 All of these are uncertain. Section 7 provides quantified financial illustrations of a range of outcomes for the CRA.

## 6. Purpose of the cost risk adjustment

- 6.1 Contracts may apportion financial liability for uncertain events. This allows risks and opportunities to be held by the party best placed to manage them or shared between the parties. The CRA allows for the contract price to be set recognising those arrangements.
- 6.2 “Cost risk” as expressed in the Act and Regulations is:  
*“the risk of the primary contractor’s actual allowable costs under the contract differing from its estimated allowable costs”<sup>13</sup>*
- 6.3 The CRA is typically assessed on an individual contract basis. As new contracts are added to the portfolio of contracts held by a company (each being a “marginal contract”) the risk profile of the company as a whole is modified. If prices are to be fair and reasonable and value for money is to be delivered, a CRA needs to reflect the value of the financial risk that the variability between actual and estimated Allowable Costs imparts on the exposed party or parties.
- 6.4 Parties to a contract are generally assumed to be able to quantify risk and opportunity and appropriately factor this into the estimated costs of delivering a contract. This view has informed recent engagement on updates to the Allowable Cost guidance on uncertainty and risk, which will shortly be the subject of a public consultation. The SSRO agrees with stakeholder feedback that the CRA should be made with respect to an assessment of variability of the outcome – that being the extent to which actual Allowable Costs may differ from the estimated Allowable Costs. This position was reflected in the Cost risk study. This position is also supported by draft profit principles 2, 3 and 4 which were issued to stakeholders for discussion in July 2019.<sup>14</sup>
- 6.5 It is important the cost risk adjustment is determined in a way which accurately reflects the risk the parties are exposed to and is not employed for any purpose other than that set out in legislation. In the Cost risk study, the SSRO explored the characteristics of a contract which affect the extent to which volatility of the estimate of Allowable Costs impacts on the contractor’s profit. The impact of the contract’s terms and conditions, the pricing method, and the potential impact of any final price adjustment should be considered when determining the CRA. Further detail on this is set out in Appendix 3.
- 6.6 We welcome input on the views expressed above and any suggested alternative interpretations of the purpose of the cost risk adjustment.

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<sup>13</sup> Section 17(2) of the Act and Regulation 11(3). The extent to which actual costs differ from estimated costs is often referred to as a “variance”. The data and explanations reported by suppliers in DefCARS is intended to help analyse these. Matters relating to the reporting of amendments and variance are considered in the Review of reporting requirements working paper, issued in September 2019.

<sup>14</sup> SSRO (2019) *Review of Contract Profit Rates: Profit Principles*.

## 7. Range of the cost risk adjustment

### Introduction

- 7.1 In our 2017 review, both the MOD and contractors expressed a view that the existing range of the CRA was not wide enough to correctly reward the diverse range of risk allocations evident across QDCs/QSCs.<sup>15</sup> The SSRO did not make a positive recommendation to change the boundaries of the CRA at that time, but in Autumn 2017 published the Cost risk study that considered stakeholder proposals to expand the range of the CRA. This section of the paper builds on the analysis presented in the Cost risk study.
- 7.2 The implication for QDCs/QSCs of the current range of the CRA is that it sets limits on the highest and lowest available contract profit rate at step 2. Contracting parties may wish to attain a contract profit rate at step 2 beyond the permissible range and may, therefore, need to consider alternative risk sharing and compensation arrangements.<sup>16</sup> Counterbalancing this should be learning effects which over time reduce risk and, therefore, the need for wide-ranging profit adjustments.
- 7.3 The SSRO recognises that the current range of the CRA is considered to be arbitrary and that widening the ranges of the cost risk (step 2) and incentive (step 5) adjustments would increase the scope for the MOD and contractors to agree QDCs and QSCs with different risk sharing arrangements, which may or may not be beneficial.
- 7.4 The following analysis seeks to compare the available profits under the current CRA range ( $\pm 25$  per cent of the baseline profit rate) to other relevant benchmarks in order to inform a view as to whether current range is overly restrictive. It also examines what the impact of change would be. Our view is that this analysis does not offer compelling evidence of the requirement for a major change.

### Interaction with the baseline profit rate

- 7.5 The CRA bandwidth is  $\pm 25$  per cent of the baseline profit rate. The range available has varied over time, with changes in the baseline profit rate, as shown in Figure 2 and Table 1.

Figure 2: Impact of changes to the baseline profit rate on the range available after the application of step 1 and step 2

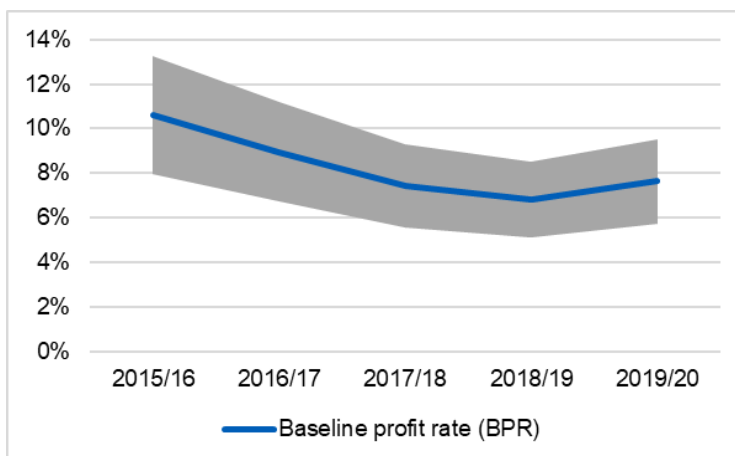


Table 1: Available range of the CRA each year

Financial year	Range available
2015/16	$\pm 2.65$ pp
2016/17	$\pm 2.24$ pp
2017/18	$\pm 1.87$ pp
2018/19	$\pm 1.70$ pp
2019/20	$\pm 1.91$ pp

<sup>15</sup> SSRO (2018) *Recommendations to the Secretary of State: Review of Part 2 of the Defence Reform Act 2014 and Single Source Contract Regulations 2014* available at <https://www.gov.uk/government/publications/review-of-single-source-regulatory-framework>

<sup>16</sup> Or, in the case of a QSC, the primary contractor and its sub-contractors.



## Step 2 Cost risk adjustment – Working paper

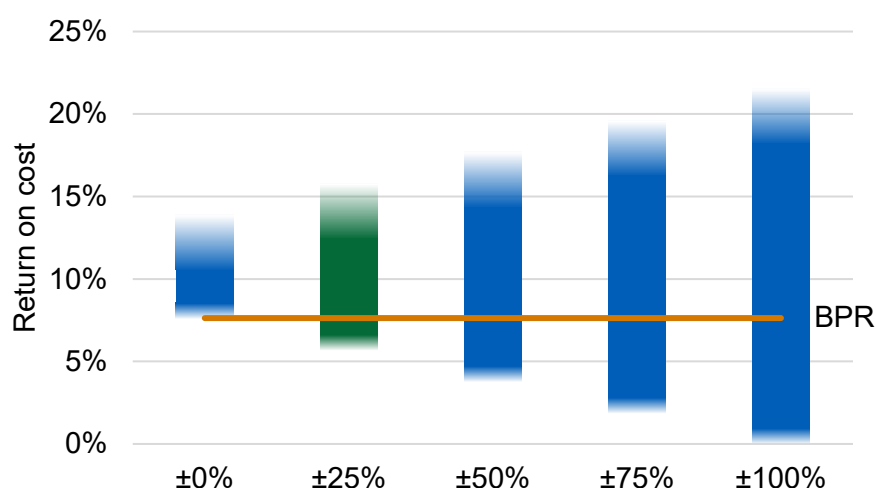
7.6 Some stakeholders have suggested that de-linking the size of the CRA range from the size of the baseline profit rate (i.e., the range being a fixed number of percentage points up or down from the baseline profit rate) would be beneficial. The SSRO considers that there are arguments for and against this approach and welcomes any input on this issue.

### Potential effect of altering the existing range

7.7 For contracts agreed up to 31 March 2019, the CRA of  $\pm 25$  per cent of the baseline profit rate has provided flexibility of up to  $\pm £535.6$  million (2 per cent of total estimated contract price excluding the CRA of  $£26.7$  billion) to compensate the contracting parties for bearing risk. The net effect of the adjustments agreed was to decrease the total profits that would otherwise have been earned by contractors by an estimated  $£87.6$  million (0.3 per cent of total contract price of  $£26.8$  billion).

7.8 If the bandwidth of the CRA were altered, the range of available contract profit rates would change. Figure 3 shows an estimate of the theoretically available range of contract profit rates for contracts becoming QDCs/QSCs in 2019/20 using different CRA ranges.

Figure 3: Estimated available range of contract profit rates at different CRA bandwidths<sup>17</sup>



#### Notes

The solid areas incorporate the mean capital servicing adjustment for contracts entered into in 2018/19 (0.97pp); the gradient areas end at points that incorporate the smallest (0pp) and largest (4.3pp) capital servicing adjustments agreed to date.

7.9 Changing from  $\pm 25$  per cent to  $\pm 100$  per cent would quadruple the financial flexibility available to adjust profit to compensate for bearing risk. For contracts agreed to 31 March 2019 this would have meant an increase in flexibility from  $\pm £535.6$  million to  $\pm £2.14$  billion.

7.10 Stakeholder feedback to date has suggested that if the range were to be widened then this must be accompanied by increased precision and control in navigating the range. The SSRO agrees with this assessment.

### Setting an appropriate range

7.11 Valuing the risk which a contractor is willing, and has the capacity, to expose itself to in a single source contract, and the compensation required for doing so, is key to making an objective assessment of the range of CRA necessary to facilitate optimal risk sharing arrangements. It would be counterproductive if the range were so wide that parties would not

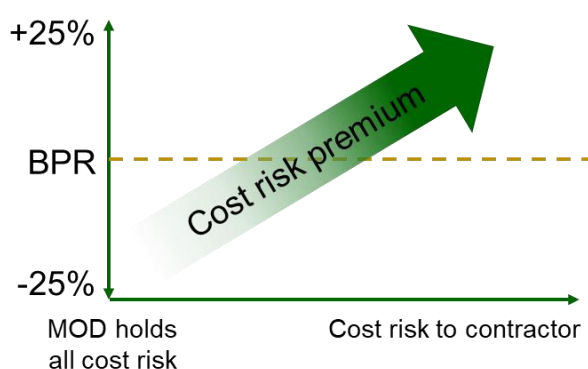
<sup>17</sup> See Appendix 4: Technical details of charts for further details on the construction of this chart.

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contemplate a situation where they would agree to transfer enough risk to require a maximum or minimum adjustment.

- 7.12 When the parties agree a CRA, additional profit is paid to, or taken from, the contractor compared to what would otherwise have been paid (Figure 4). In effect, this is a payment mechanism between the parties, for example:
- in a fixed price contract with a positive CRA the contracting authority “pays” a “premium” to the contractor through an increased contract profit rate and the contractor takes on the risk of cost variance; or
  - in a cost-plus contract with a negative CRA the contractor “pays” a “premium” to the contracting authority by receiving a contract profit rate that is lower than it might otherwise have been, and the contracting authority takes on the risk of cost variance.
- 7.13 The final price adjustment and the step 5 incentive adjustment may also have the effect of altering the contractor’s profit where outcomes deviate from expectations.

Figure 4: The cost risk premium in the contract profit rate



- 7.14 The following sections contain a range of comparative analysis which illustrates the extent of flexibility to offer a “premium” in the profit rate as a reward for taking risk. The key question is how such a change to this flexibility might alter the behaviour of the contracting parties. For example, given an increase in the CRA range:
- how much extra cost risk the contractor is willing and capable of taking on and if the trade-off is worthwhile to the contracting authority; or
  - under what circumstances a cost-plus or target contract might instead be agreed as a firm price contract and if the trade-off is worthwhile to the contracting authority.
- 7.15 There are a variety of approaches to determine the compensation a risk bearing counterpart requires for bearing the uncertainty about the amount and timing of the cash flows (sometimes referred to as the “risk margin”). Further detail on risk margins, including how these concepts are applied in guarantee fees, are set out in Appendix 5. Performing further analysis is beyond the scope of this paper and would be a complex task but may be an approach to consider as part of a future review and we welcome stakeholder feedback on this.

### DefCARS as a data source

- 7.16 The SSRO considers that DefCARS can play a supportive role in tracking and reporting on cost variance. In January 2019 we shared some preliminary analysis across 59 contracts which represents the first, early look at how cost estimates are changing over time. Further data on the impact of cost risk on actual contracts will reveal itself as contracts are completed.

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7.17 We think it is important to consider both agreed CPR and actual CPR (also known as final out-turn profit), because the latter includes cost risk that has materialised and was allocated. There is substantial data available for estimated profits (the average agreed CPR across all contracts awarded since 1 April 2015 was 9.59 per cent). However, there is at present no reliable indicator of actual profit, as only a small number of contracts have completed. The SSRO considers that this is an important source of evidence because this measure of contract profit rate will incorporate the level of cost risk that has materialised in a given contract.

### Proposal under discussion

7.18 The SSRO is aware of discussion to extend the range of the CRA to -70 per cent to +100 per cent. Using 2019/20 rates, such an adjustment would offer a range of contract profit rates at step 2 of between 2.29 per cent and 15.26 per cent before the application of the other steps. Box 1 illustrates the change in flexibility to compensate for risk given this proposal. Related to 7.11 above, we welcome submissions on the extent of the risk related to cost variance which contractors would be expected to expose themselves to, given the compensating increase in the profit rates available.

#### **Box 1: Illustration of +100 per cent to -70 percent CRA**

Taking a contract with Allowable Costs of £100 million and the 2019/20 baseline profit rate, the profit payable due to the combination of step 1 and step 2 would vary as follows:

- Baseline profit rate + CRA of 100 per cent = £15.3 million
- Baseline profit rate + CRA of 25 per cent = £9.5 million
- Baseline profit rate – CRA of 25 per cent = £5.7 million
- Baseline profit rate – CRA of 70 per cent = £2.3 million

Widening the CRA range from  $\pm 25$  per cent to +100 per cent to -70 per cent increases the flexibility available to compensate for cost risk over threefold, from £3.8 million to £13.0 million in this example. This is a range of 12.97 percentage points using the 2019/20 baseline profit rate.

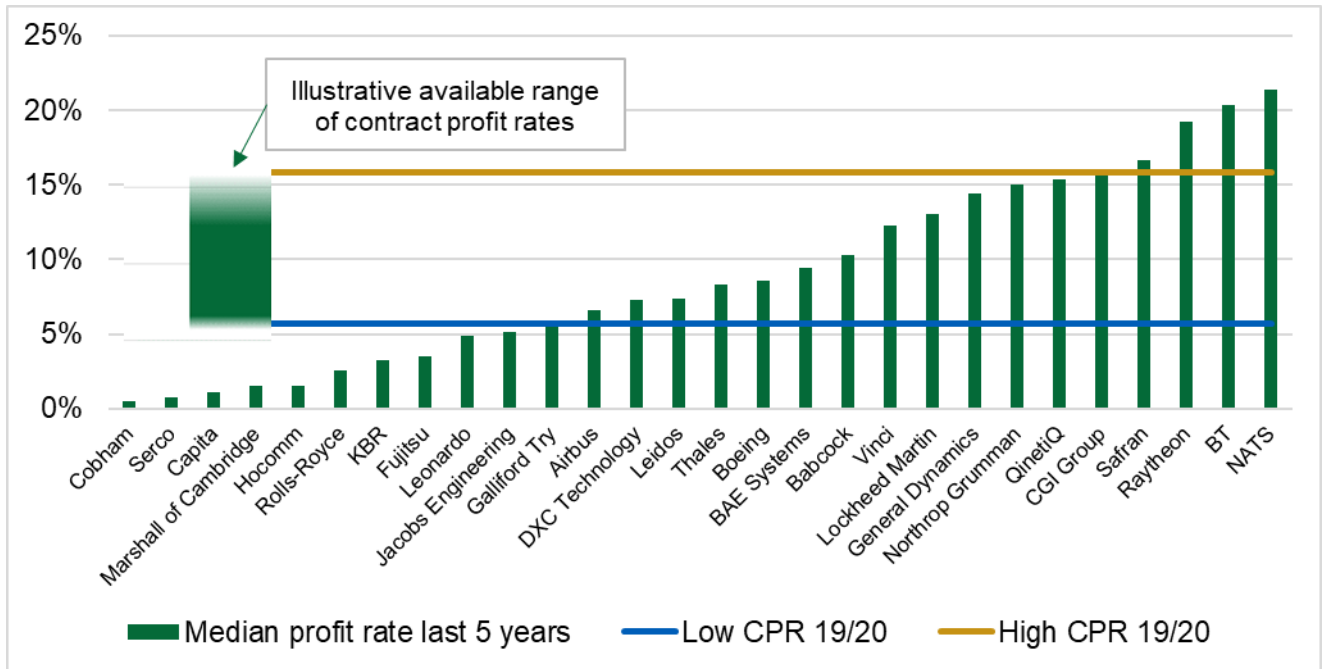
7.19 The SSRO does not know the exact circumstances in which such a maximum or minimum adjustment as that proposed is expected to apply. However, we believe the proposed lower band stems from the existence of companies earning profit rates on low-risk activities below what is permitted by the current CRA limits (i.e., less than approximately 6 per cent of Allowable Costs). These lower profit rates are attainable under other international single source procurement regimes.

7.20 The SSRO analyses some lower-margin activities in its construction and ancillary services indices, which for 2019/20 have underlying rates of 4.02 per cent and 5.86 per cent respectively. It is plausible to think the lower risk in these types of activities might help explain the relatively lower profit rates, compared to those of the companies which currently make up the baseline profit rate comparator group. A -70 per cent step 2 adjustment could allow for a similar contract profit rate after the application of the other steps to reflect that lower risk. These indices are not included in the SSRO's assessment of the appropriate baseline profit rate on the basis that these types of activities account for a small minority of single-source contract spend. However, to the extent that activity and risk are related, alternative benchmarks such as these might usefully inform a change in the bandwidth of the CRA and prove useful in how any range is navigated.

**Benchmarking against actual company profits of non-competitive MOD suppliers**

7.21 The MOD publishes annual statistics on its contract spending with suppliers.<sup>18</sup> Contract spending data for 2017/18 identifies 43 suppliers paid more than £50 million through their subsidiaries. 28 of those companies are reported to receive at least some non-competitive spend. Figure 5 shows the median profit rate of those companies over the last 5 years alongside the range of contract profit rates achievable at the time of agreement for contracts entered into in 2019/20.

Figure 5: Actual company profits of non-competitive MOD suppliers and the range of achievable contract profit rates<sup>19</sup>



Source

Orbis, SSRO calculations

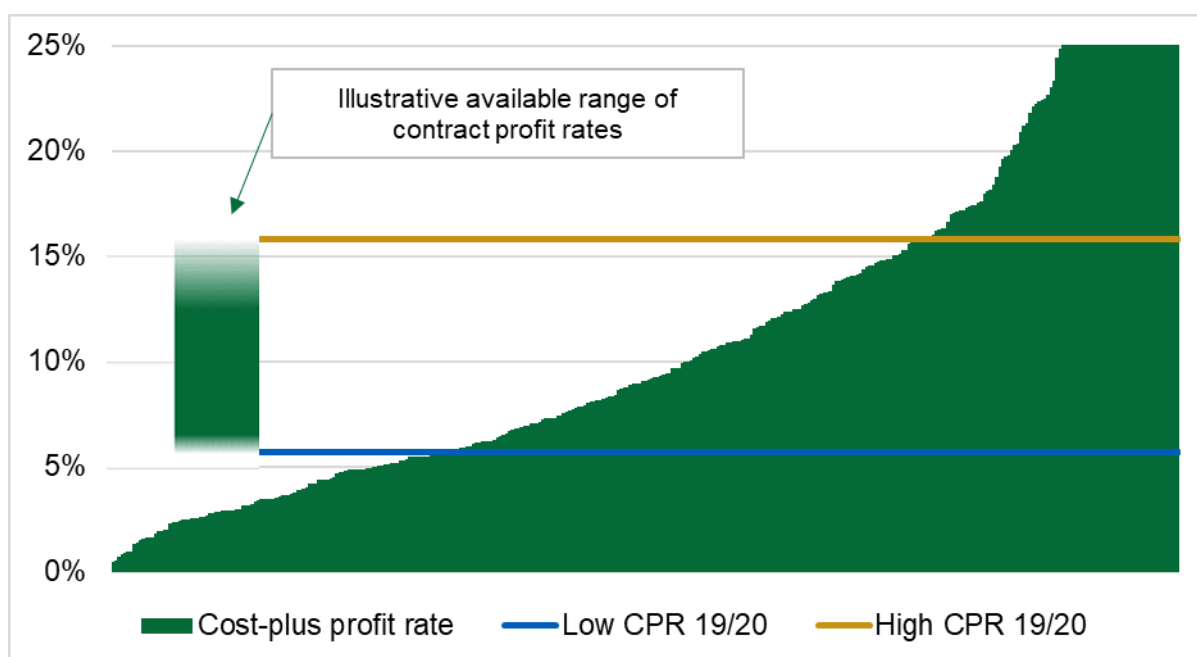
<sup>18</sup> Ministry of Defence (2018) *Finance & Economics Annual Bulletin: Trade, Industry & Contracts 2018*.

<sup>19</sup> See *Appendix 4: Technical details of charts* for further details on the construction of this chart.

### Benchmarking against the range of profit rates observed in the comparator group

7.22 The baseline profit rate recommended by the SSRO is an average, calculated from an index of public and private companies. The companies in the index exhibit a range of profit rates. Figure 6 compares the range of contract profit rates achievable at the time of agreement for contracts entered into in 2019/20 with the spread of profit rates (unadjusted for capital servicing) observed in comparator companies. The upper and lower quartiles are 15.46 per cent and 7.35 per cent. The chart shows there are numerous active going concerns earning actual profit rates both above and below the range of contract profit rates available at the time of agreement. Profit rates outside of this range are attainable in QDCs and QSCs depending on the regulated pricing method and contractor performance. This analysis does not, of itself, suggest a need to widen the range of the CRA. However, it raises a question as to whether the profit rates outside of the current available range would be considered sustainable, at the lower end for contractors and at the higher end for the MOD.

Figure 6: Profit rates observed in the comparator group<sup>20</sup>



7.23 The Y axis in Figure 6 is truncated at 25 per cent to allow comparison to the other charts. This means the results of 39 companies cannot be observed in the chart. The maximum profit rate is 144 per cent. The average profit rate of the 39 companies in the excluded range is 45.7 per cent.

7.24 Alongside the “develop and make” and “provide and maintain” indices that make up the comparator group, there are two other indices – “construction” and “ancillary services” – that are not included in the assessment of the appropriate baseline profit rate. For 2019/20 the underlying rate of those indices are 4.02 per cent and 5.86 per cent respectively, which are outside the range available with the current CRA. Should there be a desire to expand the range of available profit rates in QDCs and QSCs to those which are attained in some particular industries given the risk they take, then the SSRO’s benchmarks may usefully inform that discussion.

7.25 The SSRO continues to receive representation from industry stakeholders that reflect dissatisfaction with the baseline profit rate methodology, in particular in relation to the risks associated with undertaking QDCs and QSCs compared to the risks faced by comparator

<sup>20</sup> See *Appendix 4: Technical details of charts* for further details on the construction of this chart.

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companies. The Cost risk study (Appendix 9) explored in detail differences in the profile of risk between the activities of the baseline profit rate comparator group companies and QDCs. It raised a number of questions in relation to risks which it perceived to be low in QDCs and QSCs compared to the comparator group, and also where these might be considered to be higher. The SSRO has since published further analysis on defence industry and comparator group profit rates as part of its 2019/20 recommendation which do not support the view that one group is systematically more profitable than the other. Nor does economic theory suggest this should be the case.<sup>21</sup>

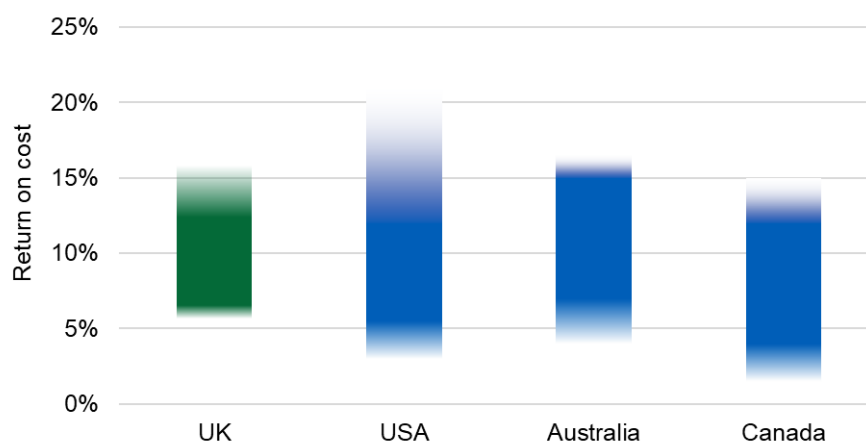
### Benchmarking against the range of contract profit rates at the time of agreement in other national procurement regimes

7.26 Other countries have regulations for non-competitive government contracts. Some relevant extracts of regulations or guidance are set out in Appendix 6. Figure 7 shows an estimate of the illustrative range of contract profit rates available at contract award for Australia, Canada and the United States of America (USA) compared to the UK regime.<sup>22</sup> These different approaches to determining contract profit do not map directly and care must be taken when making comparison between them. We note in particular that:

- a) the non-UK regimes use a weighted-average approach. This means that, even though some specific components of cost may have higher or lower profits applied, the ability for a contract as a whole to navigate the full range is limited, as illustrated by the faded sections of the bars in the chart; and
- b) the contract pricing type usually constrains the range available for a particular contract.

7.27 The analysis indicates that the current available range in the UK sits well alongside international comparisons, although it is more constrained. This apparent constraint does not offer compelling evidence of the requirement to widen the current range. Rather the comparison shows that rates of profit both above and below what can be attained currently in this regime may be available elsewhere. Widening the range could those allow rates to be attainable.

Figure 7: Range of available contract profit rates at contract award in UK and other national single source procurement regimes<sup>23</sup>



#### Notes:

The solid area is an illustrative low/high for a standard contract. The gradient areas end at the theoretical minimum and maximum, applying reasonable limits where a profit component is unbounded. The USA

<sup>21</sup> [www.ssro.gov.uk/government/publications/2019-contract-profit-rate](http://www.ssro.gov.uk/government/publications/2019-contract-profit-rate)

<sup>22</sup> See *Appendix 6: Approaches to risk in other regimes* for details on the construction of contract profit in these other regimes.

<sup>23</sup> See *Appendix 4: Technical details of charts* for further details on the construction of this chart.

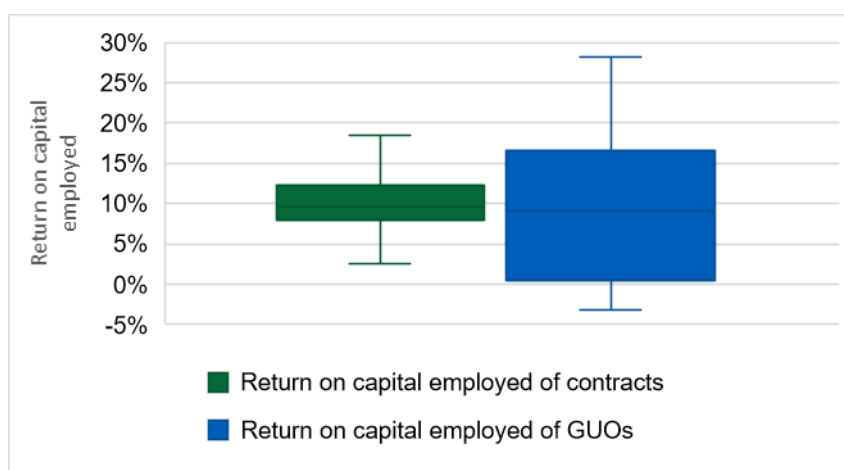
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bar does not incorporate the impact of Facilities Capital Employed because the SSRO cannot identify the available range. We welcome stakeholder input on this.

### Benchmarking returns on capital

7.28 As of 30 April 2019, the SSRO had received contract reports for 201 contracts that became QDCs/QSCs by 31 March 2019. The SSRO can identify 69 unique global ultimate owners (GUOs) of the contracting organisations for those contracts. Using a standardised measure of capital employed and capital intensity, we compared the indicative returns on capital employed (ROCE)<sup>24</sup> for contracts and for 66 GUOs of QDC/QSC contractors where data was available (Figure 8). As we would expect, given that the data for GUOs is reported after the materialisation of risk, the ROCE of GUOs demonstrates a wider spread than that of contracts (which are reported on an estimated basis). However, we observe that both ranges are centred around similar mid-points lending little support to the view that risk is systematically under-rewarded in QDCs and QSCs. As contracts are completed a comparison using actual contract level ROCE would provide more robust evidence.

Figure 8: Estimated return on capital employed for contracts and GUOs of QDC/QSC contractors



#### Source

Orbis, SSRO calculations

The chart is a box and whisker diagram: the box is the interquartile range of the data; the line inside the box is the median; outliers are points more than 1.5 times the interquartile range past the ends of the box and the whiskers extend to the last point that is not an outlier.

### Approaches to defining the range

7.29 The range of the CRA is currently defined in Regulations 11(3) and 13(3). If the range were altered this could be through new values specified in the Regulations. However, there might also be a change to how the range is specified. For example, the range could be determined by the Secretary of State on a periodic basis (supported by a recommendation from the SSRO); or the range could be defined in SSRO guidance. We consider the relative advantages and disadvantages of these approaches below (Table 2). In Section 9 we set out more detail about how we consider any change to the range of the CRA might be achieved.

<sup>24</sup> See *Appendix 4: Technical details of charts* for further details on the construction of this chart.

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Table 2: Advantages and disadvantages of approaches to defining the CRA range

Approach	Advantages	Disadvantages
Amending the defined range in the Regulations	Simpler to implement.	Limited flexibility. More up-front work required to define the range.
Range determined by the Secretary of State each year (or other period), following an SSRO recommendation	More flexible. Can reflect systematic changes in risk over time.	Uncertainty in the range over time. The SSRO would need to develop a methodology to do this on an ongoing basis.
SSRO guidance	More flexible. Can reflect systematic changes in risk over time. Simpler to implement and maintain than legislation.	Lacks legal weight. The SSRO would need to develop a methodology to do this on an ongoing basis.



## 8. Navigating the cost risk adjustment

### Introduction

- 8.1 This section first considers the advantages and disadvantages of a stakeholder suggestion to consider the contract's regulated pricing method separately when determining the CRA. Secondly, we consider the advantages and disadvantages of the following broad approaches to navigating the range of the CRA:
- a) the current principles-based guidance approach, which gives the parties wide discretion to determine the appropriate adjustment;
  - b) additional rules-based boundaries that defines the range available according to the circumstances, supplemented by principles-based guidance on how to navigate the remaining range;
  - c) multiple-criteria decision analysis, in which conflicting criteria are considered separately to structure the decision-making process; and
  - d) a highly structured approach, in which the scope for applying discretion is very limited.

### A separate adjustment for contract pricing method

- 8.2 As indicated in Appendix 6, national procurement regimes in Australia, Canada and the United States of America have a distinct component of profit that reflects only the contract pricing method (for example, firm price, target price, or cost-plus). The UK regime includes specific guidance on the CRA for cost-plus contracts, but in general the SSRO's guidance is that the CRA "*should give consideration to the contract pricing method*" alongside other factors, rather than this being a distinct consideration.
- 8.3 The consequence of a separate consideration of contract pricing method would likely be to restrict the range of achievable contract profit rates for contracts using a particular method compared to the current approach. For example, contracts using particular contract pricing methods may be restricted to a specified CRA value or to a sub-set of the full CRA range. This may be perceived to be an advantage or a disadvantage depending on the importance of negotiation space in the determination of contract profit rates.
- 8.4 The benefit of separating the consideration of the pricing method is additional transparency about how the pricing method shares risk and the cost/benefit in monetary terms of doing so. Separation would also allow the determination of the rest of the CRA to be the same for all contract types, which may enhance consistency.
- 8.5 A cost of separating the consideration of the pricing method is that it may require additional reporting about the regulated pricing method, for example how firm or volume-driven prices are adjusted for changes in specified indices, or the specific details of the sharing mechanism for a target price.
- 8.6 Stakeholders are invited to comment on whether they consider that separating the consideration of the pricing method would assist the parties in determining an appropriate CRA and if they consider this should be enacted through legislation or guidance.

### Potential approaches to navigating the range

- 8.7 Below, four potential approaches to navigating the CRA are examined. These encompass routes which have previously or are currently being explored by the MOD. Stakeholders are invited to comment on the potential approaches and how changes, if any, might be implemented in practice, including through changes to legislation and the SSRO's guidance.

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8.8 Stakeholder feedback to date has suggested that if the range were to be widened then this must be accompanied by increased specificity on how that range is navigated. The SSRO agrees with this assessment.

### 1: Principles-based guidance

8.9 The existing approach is principles-based guidance that contractors and the MOD must have regard to when negotiating the cost risk adjustment. Cost risk adjustment compliance issues related to the requirement under Regulation 23(2)(d) suggest further development of the process by which the adjustment is made at step 2 and the associated guidance warrants further attention.

8.10 The SSRO could investigate and consult on any changes to the existing guidance in the context of:

- a) changes made for 2019/20 to the specific guidance on the principles for determining Allowable Costs;
- b) the working paper on profit principles and stakeholders' responses to that; and
- c) any changes made to guidance on uncertainty in Allowable Costs that may be introduced from 1 April 2020.

8.11 The SSRO's forward work plan includes a review of current guidance on the CRA during 2020/21.

### 2: Rules-based boundaries, supplemented by principles-based guidance

8.12 Navigation of the full range could be constrained to some degree by the characteristics of the contract (for example, the contract type or the main activity type), with principles-based guidance assisting the parties in navigating the remaining range.

8.13 A similar approach is taken in the determination of contract profit under the Australian CASG *Profit Principles* (see Appendix 6). The steps of profit related to 'Contractual risk' and 'Activity risk' have a full potential range of 9 percentage points but the range for a contract is restricted based on 5 defined contract types and 4 defined activity types. For example, a firm price contract for acquisition activities has a negotiation range of 3 percentage points.

8.14 The SSRO could investigate and consult on how such a process might be implemented.

### 3: Multiple-criteria decision analysis (currently being developed by the MOD and industry)

8.15 Navigation of the range could be determined using a structured process in which the parties consider multiple criteria independently and combine them in a structured way to arrive at the result. For example, weighing up the trade-off between the factors which influence cost risk and the amount of profit. An approach of this type is currently being considered by the MOD and has been described as a "points-based system".

8.16 The SSRO could investigate further and consult on how such a process might be implemented.

### 4: Highly structured approach (previously explored by the MOD)

8.17 A mechanistic or formulaic approach is where the scope for applying discretion is very limited. For example, in paragraph 7.11 above and Appendix 5, the paper discusses how actuarial methods might be used to determine the appropriate range of the CRA. In 2018, the MOD explored proposals for navigating the range using a mechanism based on quantifying the variation between the expected Allowable Costs and the associated 90th percentile (P90) estimate of Allowable Costs.

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8.18 The SSRO could investigate and consult on how such a process might be implemented. We note that previous stakeholder feedback has suggested that there needs to be an appropriate and practical method to agree the CRA as part of a contract negotiation, and that agreement could be reached between the MOD and contractors without the need for regular recourse to specialisms beyond that which is typically available in the course of business.

### Advantages and disadvantages of alternative approaches presented

8.19 Table 3 shows the SSROs consideration of the advantages and disadvantages of alternative approaches to navigating the range of the CRA, based on its understanding of the discussions to date. Stakeholders are invited to comment on these or set out further factors that should be considered.

Table 3: Advantages and disadvantages of alternative approaches to navigating the CRA

Approach	Advantages	Disadvantages
1: Principles-based guidance	<ul style="list-style-type: none"> <li>No significant changes to legislation or guidance required.</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent approaches between contracts may be perceived as unfair. This may become more prevalent if the overall range is widened.</li> <li>May give rise to difficulties in explaining how the adjustment was arrived at.</li> </ul>
2: Rules-based boundaries, supplemented by principles-based guidance	<ul style="list-style-type: none"> <li>Provides clear restrictions, enhancing consistency, but still leaves space for negotiation. This may help maintain consistency if the overall range were widened.</li> <li>More consistent with approaches taken in other international procurement regimes.</li> </ul>	<ul style="list-style-type: none"> <li>May be difficult to ensure the right categories exist and that contracts can be easily placed within them.</li> <li>Significant work required to agree appropriate ranges for different circumstances, rather than just one overall range.</li> </ul>
3: Multiple-criteria decision analysis	<ul style="list-style-type: none"> <li>Consistent approach between contracts.</li> <li>Relatively simple to calculate the adjustment once the inputs are known, potentially speeding up contract negotiations.</li> </ul>	<ul style="list-style-type: none"> <li>Inflexibility.</li> <li>Challenging to develop a system that can be applied to all situations.</li> <li>Extends the scope of negotiation to multiple criteria rather than just one.</li> </ul>
4: Highly structured approach	<ul style="list-style-type: none"> <li>Tailored calculation for every contract might ensure consistency and fairness.</li> <li>Potential to speed up contract negotiations if no negotiation is required.</li> </ul>	<ul style="list-style-type: none"> <li>Significant work required to design or modify a system that can be applied to QDC/QSCs.</li> <li>Potentially disproportionate effort to calculate based on the values at stake.</li> </ul>

### Simplified approach for low-value contracts

8.20 Sections 18(2)(a) and (b) of the Act provide that Regulations may disapply the requirement to take any or all of steps 2 to 6 in section 17(2) in relation to a QDC the value of which is less

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than the amount specified, or provide for any or all of those steps to apply in relation to such a contract with modifications set out in the Regulations. The Regulations do not take advantage of this provision and the same approach to determining the CRA is applied to all contracts.

- 8.21 The SSRO could investigate and consult on how such provisions might be implemented. Stakeholders are invited to consider if it would be beneficial for the Regulations to incorporate a simplified approach for lower-value contracts, where such a threshold might be placed, and what simplifications would be appropriate.

## 9. Discussion of potential legislative change

9.1 This working paper has discussed several matters relating to the purpose, application, range, and navigation of the CRA. The SSRO are not putting forward any particular recommendations at this time; however, this section discusses how the matters discussed might be implemented. Stakeholder responses will help the SSRO if it does make recommendations for legislative change, which will be subject to public consultation in spring 2020.

### Purpose and application

9.2 The purpose of the CRA is set out in Section 17(2) and Regulation 11(3): “...to reflect the risk of the primary contractor’s actual allowable costs under the contract differing from its estimated allowable costs...”.

9.3 Paragraph 6.5 of this paper sets out that the SSRO considers this to apply to the extent it impacts on the contractor’s profit, and the factors to be considered in determining that impact. We welcome views on this interpretation, any alternative interpretations, or views as to whether the wording of the Act and Regulations might be better expressed.

### Range

9.4 Regulation 11(3) specifies the range of the CRA. The SSRO are not putting forward any particular recommendations at this time; however, we consider that any alteration to the width of the range, or alteration to its basis (for example, to fixed percentage points up or down from the baseline profit rate) could be achieved by amending that Regulation. Corresponding alterations might also be made to Regulation 13(3), which is the range applicable to rates agreed on a group basis for QDCs.

9.5 If the range were to be variable by an annual, or other, determination by the Secretary of State or expressed in the SSRO’s statutory guidance, we consider this would be best achieved through amending the Act and the Regulations.

### Navigation

9.6 The SSRO considers that if the range were to be widened then this must be accompanied by increased specificity on how that range is navigated, which could be achieved through legislation or guidance.

9.7 In navigating the CRA, Section 18(1) requires that parties have regard to guidance issued by the SSRO. The SSRO has issued guidance but there is no requirement for it to do so. This is a different approach to that taken for Allowable Costs, where Section 20(1) requires the SSRO to issue guidance. If it were desirable to require the SSRO to issue guidance this would require an amendment to the Act.

9.8 If the process to navigating the range were to be set out in legislation, we consider this would be best achieved through amending the Act to allow for the process to be expressed in the Regulations, rather than expressed directly in the Act.

9.9 In paragraphs 8.2 to 8.6 of this paper we discussed separating the consideration of the pricing method from the rest of the CRA. We consider that such an approach could be implemented in statutory guidance without legislative amendment. However, introducing this as a new profit rate step would require significant amendment to both the Act and the Regulations.

## 10. Questions for stakeholders and next steps

10.1 In summary, the SSRO asks stakeholders for views on the following questions:

No.	Reference	Questions
1	Para 5.3	How are stakeholders using contract profit rates agreed on a group basis?
2	Para 6.1 to 6.6	Do stakeholders agree with the views expressed or have views on alternative interpretations of the purpose of the cost risk adjustment?
3a	Section 7	What are the difficulties experienced by stakeholders as a result of the current range of achievable contract profit rates?
3b	Para 7.6	Should the range of the CRA be fixed rather than vary alongside the value of the baseline profit rate?
3c	Para 7.10 to 7.14	How should the range available for the CRA be determined?
3d	Para 7.20 to 7.27	Do stakeholders have any comments on the benchmarking analysis?
3e	Para 7.28	Where should the range available for the CRA be specified?
4a	Section 8	What difficulties have stakeholders experienced in navigating the range of the CRA?
4b	Para 8.2 to 8.6	Should the consideration of the contract pricing method be separate from other considerations and, if so, how should this be achieved?
4c	Para 8.7 to 8.18	Which approach should be taken to assist the parties in navigating the range?
4d	Para 8.19	Should a simplified approach be taken for lower-value contracts?
5	Section 9	What changes would be required to the legislation to achieve alternate approaches?

10.2 The SSRO also welcomes comments on any other aspects of this working paper or any other matters relating to the cost risk adjustment.

10.3 Stakeholders are now invited to comment on this working paper, which was issued on 17 September 2019. Written feedback should be sent to [consultations@ssro.gov.uk](mailto:consultations@ssro.gov.uk) by 11 October 2019.

10.4 The SSRO also invites stakeholders to discuss any of the issues raised in this working paper with us on an individual basis. To schedule a discussion on this topic please contact David Pottruff ([david.pottruff@ssro.gov.uk](mailto:david.pottruff@ssro.gov.uk)).

10.5 The SSRO will consider the responses and decide on any further action. There is a range of action we may take following the review, for example, reviewing existing guidance. We may also recommend that the Secretary of State makes changes to the Act or the Regulations. Any proposed changes to legislation will be the subject of consultation in early 2020.

## Appendix 1: SSRO guidance

A1.1 Section 3 of the SSRO's current Guidance on the baseline profit rate and its adjustment<sup>25</sup> is reproduced below.

### **Basis of cost risk adjustment**

3.1 Section 17(2) of the Act, and Regulation 11(3), set out the requirement for the cost risk adjustment:

“Adjust the baseline profit rate by an agreed amount which is within a range of plus or minus 25% of the baseline profit rate, so as to reflect the risk of the primary contractor's actual allowable costs under the contract differing from its estimated allowable costs”.

3.2 The cost risk adjustment guidance is principles-based rather than rules-based.

### **Regulated pricing methods**

3.3 Regulation 10(2) states that the parties to a qualifying defence contract may agree which regulated pricing method is to be used for that contract. The parties can also agree a different pricing method for defined components of the contract (Regulation 10(3)).

3.4 There are six regulated pricing methods that the parties to a qualifying defence contract may decide to use, as set out in Regulation 10(4) to 10(11). All regulated pricing methods use either an estimate or actual Allowable Cost base.

### **Principles of risk adjustment**

#### **General approach**

3.5 Contractors and the MOD must have regard to the following approach and principles when negotiating the cost risk adjustment to the baseline profit rate. The terms and conditions of each individual contract should always be considered when determining the adjustment.

3.6 The purpose of the cost risk adjustment is to incorporate into the contract profit rate an additive or deduction to reflect the risk that the contractor's actual Allowable Costs in delivering the requirement will differ from the estimated Allowable Costs included in the contract price. While one factor will be the proportion of actual versus estimated costs included in the pricing method, other factors also drive risk. The adjustment should be agreed by considering the principles stated at paragraph 3.15.

3.7 For qualifying defence contracts that are based on the cost-plus or estimate-based fee pricing methods, the cost risk adjustment should be minus 25 per cent, because actual Allowable Costs are used to determine the costs to be paid, although the MOD and the contractor should always have regard to the principles at paragraph 3.15.

3.8 For all other pricing methods, the adjustment may vary from minus 25 per cent to plus 25 per cent, depending on the risk of actual Allowable Costs differing from estimated Allowable Costs, using the following guidance and the principles stated at paragraph 3.15.

<sup>25</sup> SSRO (2019) *Guidance on the Baseline Profit Rate and its Adjustment 2019/20 (Version 5)* available at <https://www.gov.uk/government/publications/guidance-on-the-baseline-profit-rate-and-its-adjustment-version-5>.

3.9 Subject to the considerations of the regulated pricing method, the starting point for the appropriate cost risk adjustment is that none should apply. A positive or negative cost risk adjustment should apply where it can be reasonably justified and evidenced.

**Negative adjustment**

3.10 A negative adjustment should be made where the MOD and the contractor agree there is a lower (or no) risk of actual Allowable Costs differing from estimated Allowable Costs.

3.11 For example, this may be justified where there are risks that are well understood and for the large part mitigated.

3.12 The SSRO recognises that for some defence contracts most of the cost risk associated with one or more sub-contracts is held by, or assigned to, the Secretary of State. It is appropriate to recognise these circumstances when agreeing a cost risk adjustment. The cost risk adjustment should reflect the reduced risk of the primary contractor's actual Allowable Costs under the contract differing from its estimated Allowable Costs, thus recognising the reduced risk held by the prime contractor associated with the sub-contract(s).

**Positive adjustment**

3.13 A positive adjustment should be made where the MOD and the contractor agree there are higher risks of actual Allowable Costs differing from estimated Allowable Costs.

3.14 For example, this may be justified where the risk is held by the contractor, and not the MOD, and where the risks are not well understood and/or cannot be managed in the Allowable Costs because they are not in the control of the contractor and therefore cannot be mitigated.

**Principles to consider**

3.15 The contractor and the MOD must have regard to the following principles (which are not exhaustive) when determining the cost risk adjustment. The adjustment should:

- a. only consider uncertainties that impact on Allowable Costs;
- b. give consideration to the contract pricing method (refer to 3.7 and 3.8);
- c. not take into account risk that should be managed in estimated Allowable Costs;
- d. be based upon an assessment of the extent to which actual Allowable Costs may vary from estimated Allowable Costs, both positively and negatively;
- e. take into account the relative likelihood of actual Allowable Costs being over or under the estimated Allowable Costs;
- f. take into account the extent to which the probability and expected impact of cost risk has been mitigated, eliminated or transferred to another party, for example through insurance or where sub-contract risk is 'passed through' to a party other than the prime contractor;
- g. take into account the extent to which cost risk should be covered through Allowable Costs;
- h. reflect and draw upon the overall approach to risk assessment such as risk allocation, management, and risk registers (and be recorded in the risk register);
- i. not take into account uncertainty resulting from force majeure, for example an unforeseeable natural disaster; and
- j. be based on reasonable documented assumptions and/or evidence.



## Appendix 2: Analysis on the cost risk adjustment

- A2.1 As part of the SSRO's Cost risk study the SSRO published analysis of data provided by contractors in statutory reports for 88 contracts which became QDCs or QSCs during 2015/16 and 2016/17. Section 5 of the Cost risk study examined how the regulated pricing methods affect the allocation of cost risk between the MOD and contractors. The section included figures demonstrating:
- a) total price of QDCs by regulated pricing method;
  - b) comparison of pricing methods between QDC and QSC;
  - c) pattern of CRAs by pricing method;
  - d) value of CRAs by pricing method; and
  - e) relationship between pricing method and activity.
- A2.2 This appendix updates some of the charts presented in that study alongside new relevant analysis. The 'Relationship between pricing method and activity' figure has not been updated because the SSRO no longer holds that data.
- A2.3 This analysis relates to contracts that became QDCs and QSCs between 1 April 2015 and 31 March 2019. This data is reported by defence contractors to the SSRO through contract reports, as required by Part 5 of the Single Source Contract Regulations 2014.
- A2.4 The SSRO was notified of 214 contracts that became QDCs/QSCs between 1 April 2015 and 31 March 2019. Contractors have one month after the date the contract becomes a QDC to submit reports, and as of 30 April 2019 the SSRO had received contract reports for 201 contracts, which the following analysis is based on. All data is based on the latest submitted report for each QDC/QSC as of 30 April 2019, to reflect the most recently reported position.

### Reported cost risk adjustment in individual QDCs/QSCs

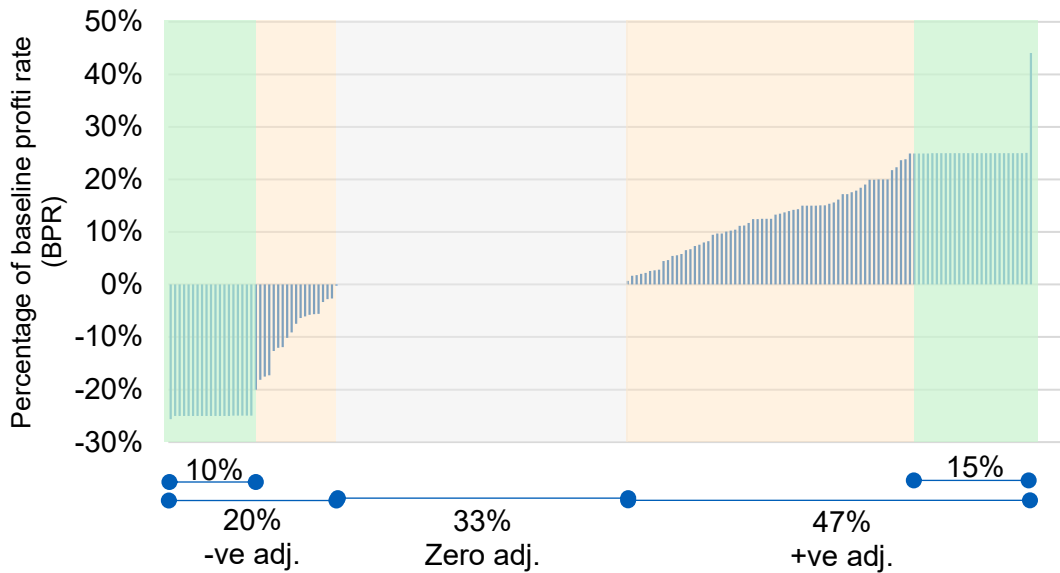
- A2.5 The SSRO's *Annual Qualifying Defence Contract Statistics: 2018/19*<sup>26</sup> is part of a regular published series of statistical reports containing analysis of key QDC/QSC information. Figures 12 and 13 of that bulletin show the maximum, minimum and median values reported for each of the profit rate adjustments for each year.
- A2.6 The CRA is calculated by applying a percentage to the baseline profit rate. Figure 9 shows the CRA reported in individual QDCs/QSCs as a percentage of the baseline profit rate in the year in which the contract became a QDC/QSC.
- A2.7 Positive adjustments (47 per cent of contracts) are more prevalent than negative adjustments (20 per cent). However, the financial value attached to negative adjustments is higher because the Allowable Costs to which these adjustments are applied are larger. The net effect of the CRA is to decrease total profit by an estimated £87.6 million (0.3 per cent of total contract price of £26.8 billion).

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<sup>26</sup> SSRO (2019) *Annual Qualifying Defence Contract Statistics: 2018/19* available at <https://www.gov.uk/government/publications/annual-qualifying-defence-contract-statistics-201819>.

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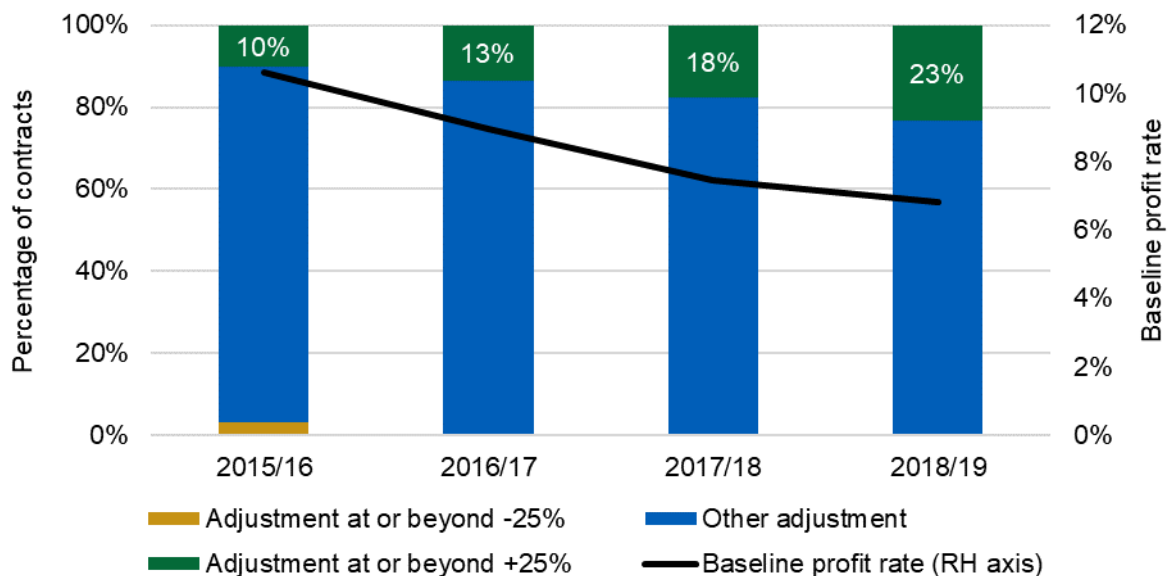
Figure 9: CRA as a percentage of the baseline profit rate in the year the contract was entered into and the proportion of types of adjustments



**Proportion of adjustments in each year at the extremes of the range**

A2.8 Excluding cost-plus contracts<sup>27</sup> (for which the SSRO’s guidance is that the maximum negative CRA be applied), 16 per cent of QDC/QSCs report an adjustment at or beyond ±25 per cent. The proportion of contracts with the maximum adjustment has increased over time (Figure 10). There could be many reasons for this emerging trend and the SSRO does not have sufficient information to draw a conclusion.

Figure 10: Prevalence of maximum/minimum adjustments by year in which the contract became a QDC/QSC, excluding cost-plus contracts



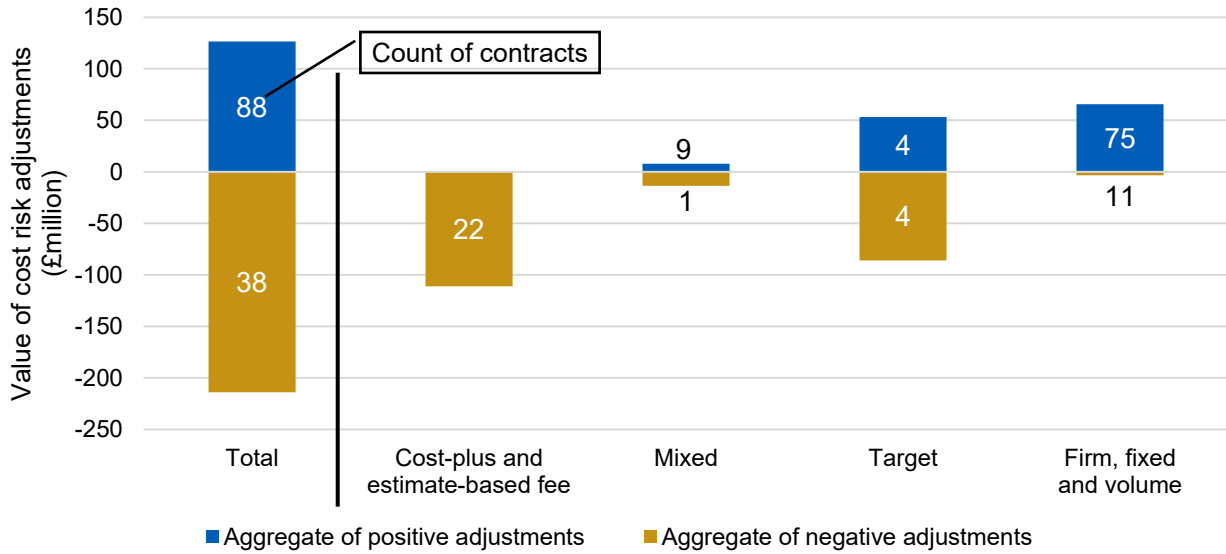
**Value of adjustments in total and by contract pricing method**

A2.9 The total estimated contract price of all QDC/QSCs was £26.8 billion. In aggregate, the effect of the CRA in all contracts is an £87.6 million reduction in total estimated contract prices compared to if the CRA was 0 per cent in all cases (0.3 per cent of total estimated contract price, excluding the CRA).

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A2.10 Figure 11 shows this disaggregated by whether the adjustment to an individual QDC/QSC is positive or negative, alongside the same information for different contract pricing methods.<sup>27</sup> The number on the bars is the number of contracts in the group.

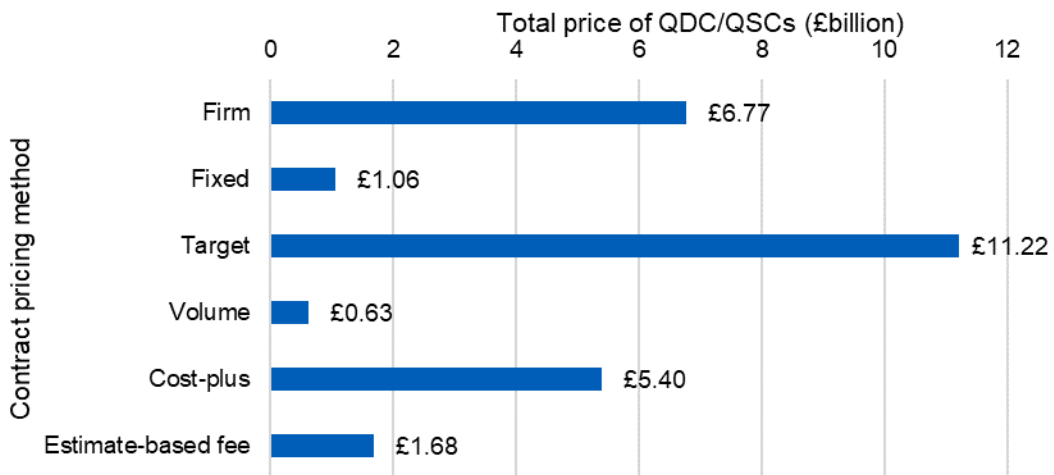
Figure 11: Aggregate value of CRAs by contract pricing method and count of contracts



**Total price of QDCs by regulated pricing method**

A2.11 We examined the use of different pricing methods. The most-reported pricing method by number of contracts was firm pricing, with 147 QDCs using this method in at least a proportion of the contract. The most reported pricing method by contract price was target pricing, with 42 per cent of contract price attributed to it (Figure 12).

Figure 12: Contract price by pricing method (£ billion)<sup>28</sup>



<sup>27</sup> Contracts are allocated to a pricing method where at least 75 per cent of the Allowable Costs in the contract are priced using that method. In other cases, the contract is shown as ‘mixed’.

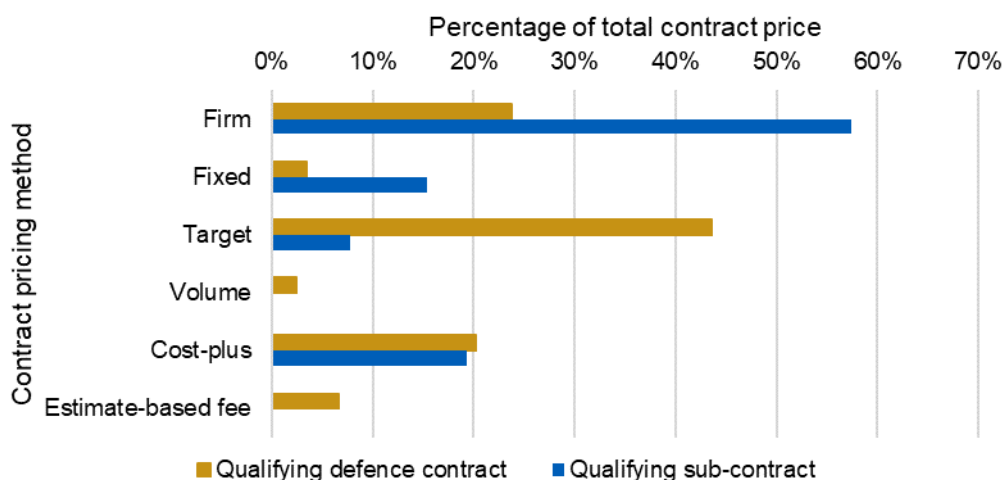
<sup>28</sup> Pricing method is sourced from pricing method data page of the latest submitted report. Due to data reporting issues, the sum of the bars may not be the same as the total estimated contract price.

### Comparison of pricing methods between QDC and QSC

A2.12 The SSRO receives partial data on sub-contracts within QDCs. There were 460 sub-contracts with a value greater than £1 million reported to the SSRO with a total price of £6.0 billion. Of these, 32 QSCs, which have their own reporting requirements, accounted for £1.2 billion.

A2.13 We examined the pricing methods reported for QSCs and compared this with the pricing methods used for QDCs. We found that the price of QSCs was more likely than QDCs to be based on a firm or fixed pricing method, which transfer cost risk to the contractor (Figure 13).

Figure 13: QDCs and QSCs by contract pricing method (percentage of total contract price)



### Pattern of cost risk adjustments by pricing method

A2.14 We examined the magnitude of the reductions and increases resulting from CRAs for QDCs with different pricing methods.<sup>29</sup> Across all contracts, the unweighted average CRA was 0.34 percentage points (or 4 per cent of the baseline profit rate in the year each contract became a QDC/QSC) (Figure 14).

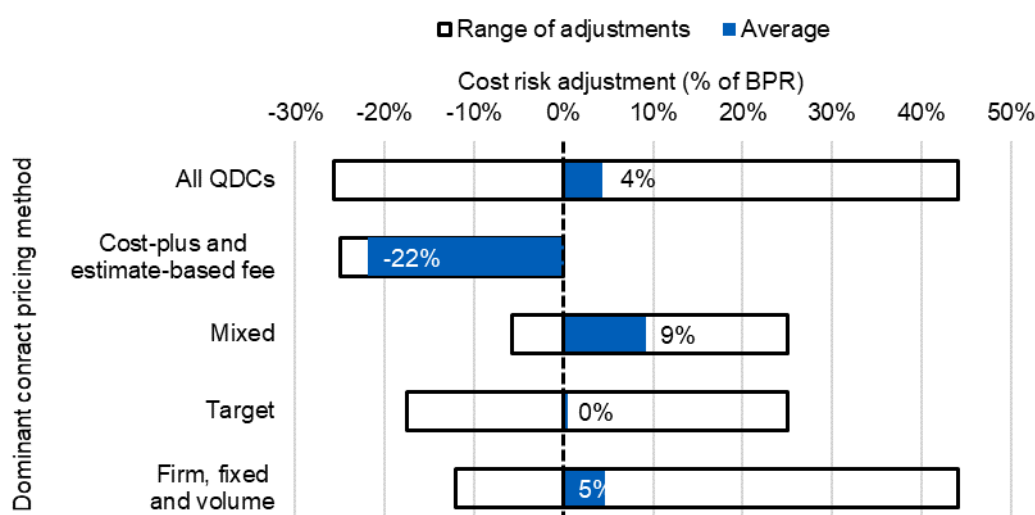
A2.15 QDCs predominantly using the firm, fixed, or volume pricing method (based on estimated Allowable Costs) had an average CRA of 6 per cent of the baseline profit rate. This group of QDCs included adjustments ranging from -12 per cent to +44 per cent of the baseline profit rate.

A2.16 For QDCs predominantly using the cost-plus or estimated-based fee pricing methods (based on actual Allowable Costs) the average CRA was -25 per cent of the baseline profit rate. There were no positive CRAs for contracts using these pricing methods. This pattern of CRAs is consistent with our guidance.

<sup>29</sup> As contracts may use a combination of pricing methods the analysis assigned contracts to a pricing method where at least 75 per cent of the Allowable Costs in the contract related to the pricing method.

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Figure 14: Minimum, maximum and average CRAs by contract pricing method



**Notes:**

Figures in bars represent the unweighted average CRA for each group.

A2.17 The unweighted average CRA is +4 per cent of the BPR. However, as noted in paragraph A2.9 the financial value attached to negative adjustments is higher, meaning the net weighted effect is to decrease total profit by an estimated £87.6 million.

### Value of cost risk adjustments by pricing method

A2.18 We examined the expected value of the increases and decreases in contract profit rates resulting from CRAs for QDCs with different pricing methods.<sup>30</sup> The value of adjustments varies for groups of contracts with different pricing methods.

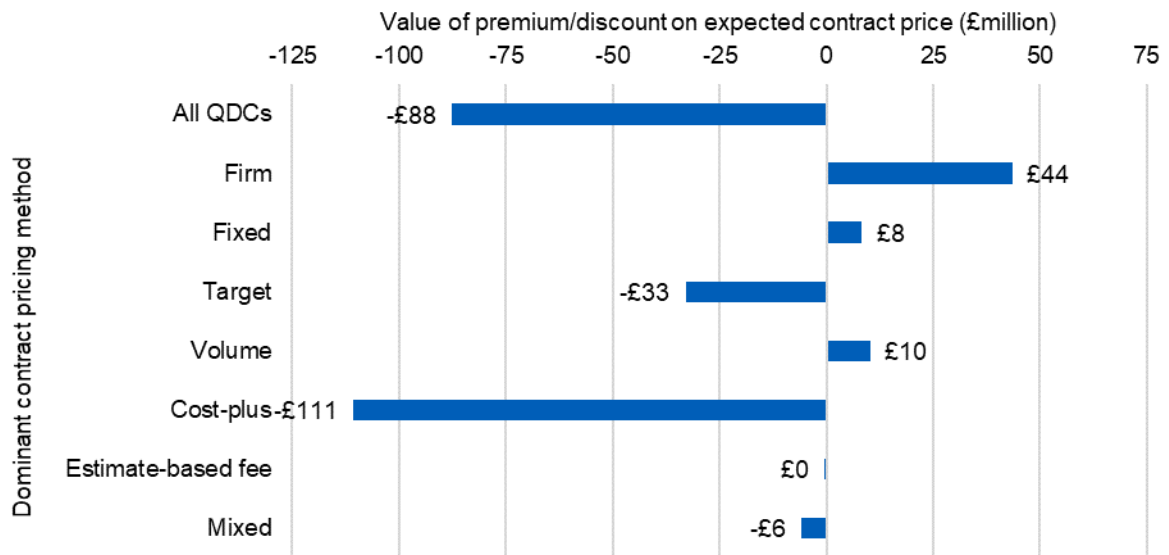
A2.19 Contracts using the firm pricing method (based on estimated Allowable Costs) have a total estimated contract price of £6.6 billion. In these contracts, the contractor bears the most cost risk. The contracting authority paid a premium on these contracts of £44 million (equal to 0.6 per cent of the total estimated contract price) compared with the expected price without the CRA (Figure 15).

A2.20 Contracts using the cost-plus and estimate-based fee pricing method (based on actual Allowable Costs) had total estimated contract price of £7.2 billion. In these contracts, the contracting authority bears the most cost risk. The contracting authority secured a discount on these contracts of £111 million (equal to 1.5 per cent of the total estimated contract price) compared with the expected price without the CRA.

<sup>30</sup> As Contracts may use a combination of pricing methods the analysis assigned contracts to a pricing method where at least 75 per cent of the Allowable Costs in the contract related to the pricing method.

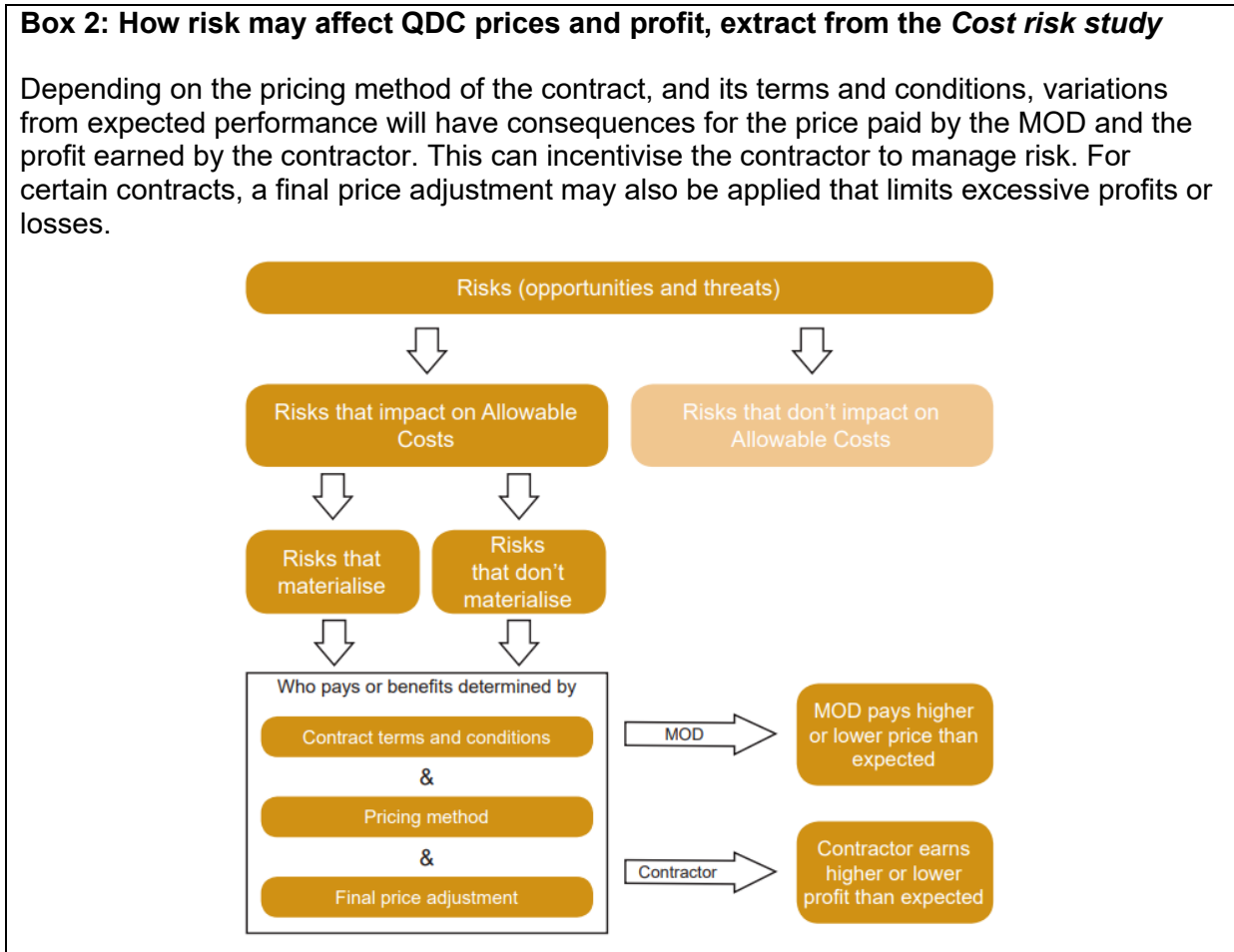
## Step 2 Cost risk adjustment – Working paper

Figure 15: Value of premium/discount on expected contract price (£million) by contract pricing method



## Appendix 3: Extent to which cost risk impacts the contractor’s profit

A3.1 In section 6 we set out that the CRA should reflect the volatility around the estimate of Allowable Costs only to the extent it impacts the contractor’s profit. This statement was further explored in the Cost risk study (Box 2).



A3.2 The impact of the contract’s terms and conditions, the pricing method, and the potential impact of any final price adjustment should be considered when determining the CRA.

### Contract terms and conditions

A3.3 The contract’s terms and conditions may expressly set out how risk is addressed, for example through scope limitations or liquidated damages. In paragraphs 3.16 to 3.19 of the Cost risk study the SSRO set out the standard contract terms and conditions (DEFCONS) used in QDCs and the MOD provided details of the principal risks covered by contract terms and conditions.

### Pricing method

A3.4 The pricing methods used determine which party bears the impact of cost risk and to what extent. Section 5 of the Cost risk study included a significant body of analysis about the pricing methods. In particular, Figure 5 in that report showed how risk exposure is shared between the parties to contracts under different pricing methods.

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A3.5 Appendix 2 of this paper updates figures 6 to 10 of the Cost risk study, incorporating data of contracts that became QDCs and QSCs between 1 April 2015 and 31 March 2019. The SSRO welcomes any additional stakeholder contributions on how the contract pricing methods affect the determination of the CRA.

### Final price adjustment

A3.6 The final price adjustment is an ex-post adjustment that applies to some contracts (Box 3).

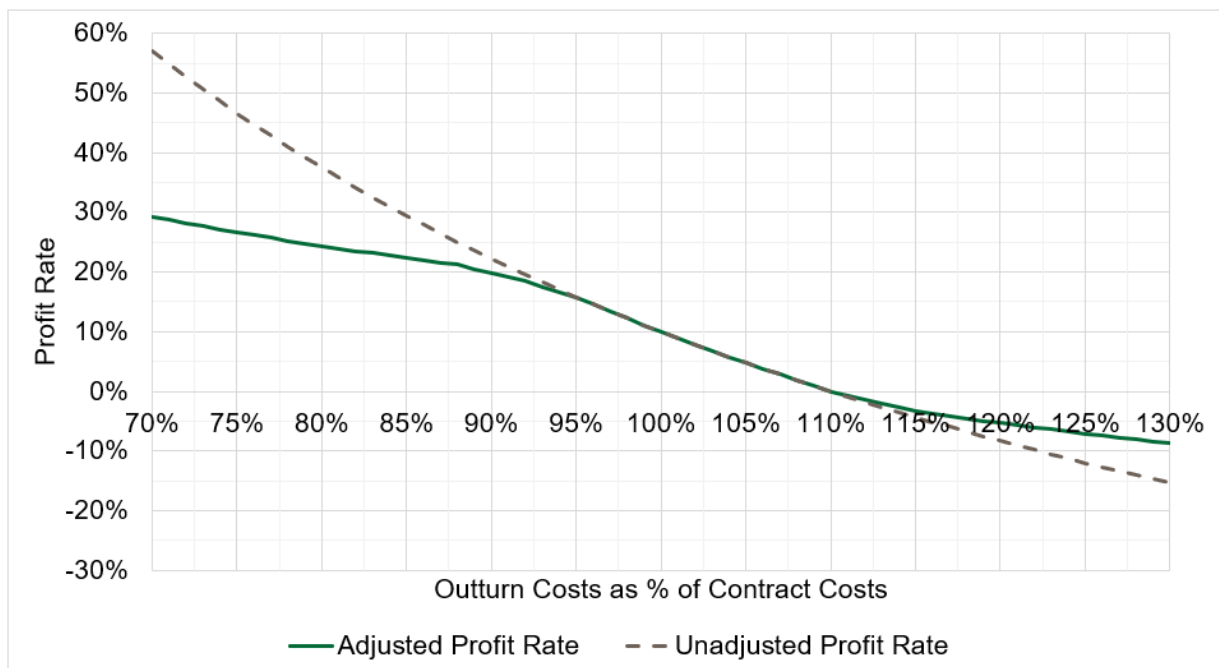
#### **Box 3: Final price adjustment, extract from the *Cost risk study***

Regulation 16 specifies that a final price adjustment may apply to contracts priced using the firm, fixed or volume-driven pricing methods where there is variance between the actual and agreed contract profit rates due to differences between actual and estimated Allowable Costs. The final price adjustment is intended to share, between the MOD and the contractor, the pain or gain that occurs when the actual cost of delivering a contract differs from the estimated cost and, consequently, the profit achieved by the contractor differs from that anticipated.

Contractors told us that the final price adjustment is a suitable mechanism to address unexpected profits.

A3.7 Figure 16 shows the potential impact of a final price adjustment on a firm price QDC with a contract price of £100 million and a contract profit rate of 10 per cent. The SSRO welcomes stakeholder feedback on how the potential impact of the final price adjustment has affected the determination of the CRA.

Figure 16: Impact of a final price adjustment on a £100 million firm priced contract with a 10 per cent contract profit rate





## Appendix 4: Technical details of charts

### Figure 3: Estimated available range of contract profit rates at different CRA bandwidths

- The solid area is an illustrative low/high for a standard contract. The gradient areas end at the theoretical minimum and maximum, applying reasonable limits where a profit component is unbounded.
- The baseline profit rate and SSRO funding adjustment are incorporated at the values applicable for 2019/20 (7.63pp and -0.042pp). The incentive adjustment range is 0pp to 2pp. The POCO adjustment is assumed to be 0pp.
- The capital servicing adjustment is not bounded. The solid area incorporates the mean capital servicing adjustment for contracts entered into in 2018/19 (0.97pp); the gradient areas end at points that incorporate the smallest (0pp) and largest (4.3pp) capital servicing adjustments agreed to date.

### Figure 5: Actual company profits of non-competitive MOD suppliers and the range of achievable contract profit rates

- The available range of contract profit rates is as per Figure 3 above.
- Each company is represented by a bar and these are sorted from low to high.
- The profit rate of each respective company is the median of the most recent five financial periods ended on or before 31 March 2018.
- The profit rate is given by:  $\text{Operating Profit} / (\text{Revenue} - \text{Operating Profit})$

### Figure 6: Profit rates observed in the comparator group

- The available range of contract profit rates is as per Figure 3 above.
- Each comparator company is represented by a bar and these are sorted from low to high.
- The Y axis is truncated at 25 per cent to allow comparison to the other charts. This means the results of 39 companies cannot be observed in the chart. The maximum profit rate is 144 per cent. The average profit rate of the 39 companies in the excluded range is 45.7 per cent.
- The cost-plus profit rate is:  $\text{Operating Profit} / (\text{Revenue} - \text{Operating Profit})$

### Figure 7: Range of available contract profit rates at contract award in other national regimes

- The USA bar does not incorporate the impact of Facilities Capital Employed because the SSRO cannot identify the available range.
- The solid area is an illustrative low/high for a standard contract, applying reasonable values where a profit component is unbounded. For example, the UK bar uses the mean average capital servicing adjustment for contracts entered into in 2018/19.
- The gradient areas end at the theoretical minimum and maximum, applying reasonable limits where a profit component is unbounded. For example, the UK bar uses the smallest and largest capital servicing adjustments reported to date.
- The process for navigating the range is different in each country. Note in particular that:
  - regimes other than the UK use a weighted average approach. This means that, even though some specific components of cost may have higher or lower profits applied, the ability for a contract as a whole to navigate the full range may be limited;
  - the contract pricing type usually constrains the range available for a particular contract; and

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- the payment mechanisms of the contract or the capital structure of the contractor may affect the calculation of capital servicing for a particular contract.
- Actual performance may affect the final profit, or a cap or subsequent adjustment may apply.
- The Canadian regime is not unique to defence contracts and can be applied to any non-competitive government procurement.

### **Figure 8: Estimated return on capital employed for contracts and GUOs of QDC/QSC contractors**

- Capital employed has many definitions. In general, it is the capital investment necessary for a business to function and is commonly represented as total assets less current liabilities. This definition can be used to determine a 'capital intensity' of a particular company by dividing its cost of production by this definition of capital employed (CP:CE ratio). That same company-level CP:CE ratio could be applied to QDCs/QSCs held by that company to calculate an implied return on capital for those contracts. This data might be used to compare estimates of company return on capital to estimates of contract return on capital.
- The contract return is derived from reported information of 201 contracts analysed in *Annual defence contract statistics 2018/19*. The GUO return is derived from the financial information of 66 unique GUOs of contracting companies; each GUO is represented once in the analysis.
- The chart is a box and whisker diagram: the box is the interquartile range of the data; the line inside the box is the median; outliers are points more than 1.5 times the interquartile range past the ends of the box and the whiskers extend to the last point that is not an outlier.

## Appendix 5: Valuing the transfer of risk for a contract

- A5.1 IFRS 17 *Insurance contracts* defines an insurance contract as “a contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policy holder.”<sup>31</sup>
- A5.2 There are a variety of approaches to determine the compensation an insurer (or any risk bearing counterparty) requires for bearing the uncertainty about the amount and timing of the cash flows (sometimes referred to as the “risk margin”). These concepts might be applied to the compensation required to transfer risk in respect of contract to provide goods and services.
- A5.3 One practical example of a “risk margin” is a loan guarantee, which is a promise by one party (the guarantor) to assume the debt obligation of a borrower if that borrower defaults. For example, under the UK Guarantees scheme for infrastructure<sup>32</sup> HM Treasury guarantees that lenders to some infrastructure projects will be repaid in full and on time, irrespective of project performance. HM Treasury charges a fee to the borrower to compensate the taxpayer for this risk, set for each project to ensure the borrower pays a market-oriented cost for its debt finance.
- A5.4 When the National Audit Office compiled its report on the scheme<sup>33</sup> it noted that:
- “Market prices and underlying project risks may vary independently of each other, therefore market prices do not necessarily reflect the financial risk from guarantees. An alternative approach to calculate guarantee fees is to set a minimum capital charge. This is widely applied in the insurance sector to comply with prudential regulatory issues, which do not apply to governments.”*
- A5.5 This “minimum capital charge” is equivalent to “risk margin” and represents the potential costs of transferring insurance obligations to a third party should an insurer fail. European Commission guidance on guarantees<sup>34</sup> recommends that minimum guarantee fees should cover:
- a) the risk of default;
  - b) the administration costs; and
  - c) the cost of capital (for commercial entities there is a regulatory requirement to set aside additional capital, based on the level of risk).
- A5.6 An approach for theoretical pricing of this risk margin is to use the capital asset pricing model (CAPM). In applying CAPM as a theoretical approach to contract pricing there are two steps:
- d) calculate a required return (risk margin) through considering the risks; and
  - e) use that return as a discount rate to place a value on the contract and therefore calculate a price allowance for the risks (i.e., the guarantee fees).
- A5.7 Box 4 shows how the price allowance for risk on a contract might be calculated.

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<sup>31</sup> International Accounting Standards Board (2017) *IFRS 17 Insurance Contracts, Appendix A Defined terms*.

<sup>32</sup> <https://www.gov.uk/guidance/uk-guarantees-scheme>.

<sup>33</sup> National Audit Office (2015) *UK Guarantees scheme for infrastructure* available at <https://www.nao.org.uk/report/uk-guarantees-scheme-for-infrastructure/>.

<sup>34</sup> European Commission (2008) *Commission Notice on the application of Articles 87 and 88 of the EC Treaty to State aid in the form of guarantees*.

**Box 4: Simplified application of “risk margin” to a contract**

A three-year contract has been agreed with costs of £10 million and a profit rate of 8 per cent, excluding any “risk premium”. There is uncertainty that means the contract could cost £1 million more than planned and the parties would like to determine what the “risk premium” should be.

The risk margin could be calculated using a modified CAPM:

$$R_r = R_f + \beta(R_m - R_f)$$

Where,

$R_r$  = Risk margin

$R_f$  = The risk-free return

$R_m$  = An observable risk margin of a market

$\beta$  = A function that describes the sensitivity of the contract risk margin to the market risk margin

A challenge remains in determining the “beta” for a particular contract. However, there are established approaches to determining beta that might be adapted for the purpose of the CRA; for example:

- f) “market betas” observed for traded company shares; and
- g) linear regression of historical returns at different risk levels.

In this circumstance, we assume the required risk margin is 5 per cent.

The “risk premium” is effectively a guarantee fee in exchange for guaranteeing the £1 million uncertainty for three years. The risk margin can be used as a discount rate in a modified present valuation model to calculate the risk premium required for this contract.

$$PV = \frac{C}{(1 + R_r)^n}$$

Where,

$PV$  = Present value (ie, risk-discounted contract price)

$C$  = Contract price

$R_r$  = Risk margin

$n$  = number of compounding periods (ie, years)

$$(\text{£1million} - \text{Risk premium}) = \frac{\text{£1 million}}{(1 + 5\%)^3}$$

$$\text{Risk premium} = \text{£0.136 million}$$

This risk premium can then be expressed in terms of a return on cost

$$\frac{\text{£0.136 million}}{\text{£10 million}} = 1.36\%$$

Therefore, in the case of this example contract:

- If the risk were borne by the contractor, the profit rate would be 8.00 + 1.36 = 9.36 per cent
- If the risk were borne by the contracting authority the profit rate would be 8.00 – 1.36 = 6.64 per cent

## Appendix 6: Approaches to risk in other regimes

### The Yellow Book Risk/Reward Matrix

A6.1 Prior to the introduction of the SSCRs, the Yellow Book regime allowed for a risk-related adjustment of up to plus or minus 10 per cent of the Standard Baseline Profit Allowance (SBPA) paid on 'risk contracts'<sup>35</sup> (and contract amendments) with an estimated or target cost of £50 million or more. The adjustment was determined based on linking risk to types of work, using a matrix of risk and reward. In the case of 'non-risk'<sup>36</sup> contracts, the adjustment was minus 25 per cent of the SBPA.

Extracts from Report on the 2014 Annual Review of the Profit Formula for Non-competitive Government Contracts

<b>FLEXIBLE PROFIT ADJUSTMENT (TO STANDARD BASELINE PROFIT ALLOWANCE)</b>			
<b>TYPE OF WORK</b>	<b>SBPA – 10%</b>	<b>SBPA</b>	<b>SBPA + 10%</b>
SUPPLY	<ul style="list-style-type: none"> <li>Follow on and repeat orders for production/ supply involving existing specification</li> <li>Repeatable quality</li> </ul>	<ul style="list-style-type: none"> <li>Interrupted production</li> <li>Typical/normal production orders</li> </ul>	<ul style="list-style-type: none"> <li>First production batch for a new requirement with significant development/production overlap</li> <li>One-off high technology procurement</li> </ul>
SUPPORT/SERVICE PROVISION	<ul style="list-style-type: none"> <li>Clearly defined specification</li> <li>Repeatable quality</li> <li>Reactive support/repairs, maintenance or ongoing contracts</li> </ul>	<ul style="list-style-type: none"> <li>Initial repair and support order</li> <li>Customer specified repair and maintainability standards</li> <li>Support requirements not fully defined</li> </ul>	<ul style="list-style-type: none"> <li>Long term commitment to Service and Capability provision to a defined output standard</li> </ul>
DEVELOPMENT	<ul style="list-style-type: none"> <li>After design certification, support activities involving routine document maintenance and simple analysis of existing designs</li> <li>Post development work, minor development work and programmes involving minor modification of established technologies</li> </ul>	<ul style="list-style-type: none"> <li>Development work</li> <li>Contractor accepts full responsibility for performance and integration Modification Programmes including proposals for, and analysis of, extensive changes to existing design in respect of established technologies</li> <li>Fault management</li> </ul>	<ul style="list-style-type: none"> <li>High Technology or Specialist skills or new concept</li> </ul>

#### Notes

- Deciding on the appropriate rate on individual contracts should depend on a balance of factors. The underlying principle should be that the majority of activity should attract the standard rate of profit unless there are strong characteristics to indicate otherwise. Where there are strong

<sup>35</sup> A contract with a pricing arrangement which does not insulate the contractor against loss.

<sup>36</sup> A contract placed on a cost reimbursement basis which insulates the contractor against loss.

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characteristics indicating otherwise the profit rate applicable to that contract shall be the rate that is applicable to the majority of activity.

2. The risk matrix set out above should apply to contracts with an estimated cost in excess of £5 million. Contracts below this amount should receive the standard rate of risk (or non-risk) profit.
3. Cost-plus (i.e. non-risk) contracts should attract the Standard Baseline Profit Allowance less 25 per cent in all instances. The risk matrix set out above does not apply to cost-plus contracts.
4. In the case of firm or fixed price contracts and contract amendments with an estimated or target cost of £50 million or more, the Baseline Profit allowance should be 30 basis points less than the Standard Baseline Profit Allowance (known as the Adjusted Standard Baseline Profit Allowance or ASPBA) subject to any further adjustment in accordance with the risk/reward matrix.
5. The Target Baseline Profit on TCIF contracts and contract amendments:
  - a. should be based on the Standard Baseline Profit Allowance for contracts or contract amendments with a target cost below £50 million; and
  - b. should be based on the Adjusted Standard Baseline Profit Allowance (i.e. the SBPA less 30 basis points) for contracts or contract amendments with a target cost of £50 million or more.
6. The aim of the variable profit rate arrangements should be to achieve a broadly neutral cost impact for MOD, assessed not on an annual basis but over a time period covering a number of years. The assessment should not include contracts that are dealt with in accordance with notes 4 and 5 above.
7. The variable profit arrangements and their application on individual contracts are subject to review and monitoring in order that the arrangements can be refined and developed.

### Other national procurement regimes

A6.2 Other countries have regulations for non-competitive government contracts. Extensive regulations and guidance exist on the determination of contract profit in these other regimes and it is not practicable to examine all features in detail in this working paper. However, some relevant extracts are set out in below.

A6.3 Approaches used elsewhere to determine contract profit do not map directly to those in the Act and Regulations and care must be taken when making direct comparison between different regimes. However, Figure 17 broadly sets out how the profit rate steps in other regimes map to the determination of contract profit set out in the Regulations.

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Figure 17: Mapping of contract profit steps in national procurement regimes

	UK	Australia <sup>37</sup>	Canada <sup>38</sup>	USA <sup>39</sup>
Profit component	Baseline profit rate	Return for contractual risk Return for activity risk	General business risk	Performance risk
	Cost risk adjustment	Return for general business risk	Contractual risk	Contract type risk and working capital adjustment
	Capital servicing adjustment	Expectation that the payment regime provides a neutral cash flow	Return on capital employed	Facilities capital employed
	Incentive adjustment	No equivalent		Cost efficiency
	POCO adjustment	No equivalent; costs generally recorded at the cost to the group.		
	SSRO funding adjustment	No equivalent.		

A6.4 Below for reference is a summary of international guidance related to principles relevant to the determination of profit in contracts.

### Australian Government Department of Defence: Capability Acquisition and Sustainment Group (CASG) Profit Principles

A6.5 The CASG Profit Principles clarify how profit is determined for Department of Defence (DoD) contracts to which the Principles apply. The Principles operate within an overarching framework of legislative and policy requirements concerning the proper management of public money and public property and rules for achieving value for money with procurements.

A6.6 Broadly speaking, different rates of profit are applied to different components of the contract, which are aggregated to deliver the contract profit rate.

A6.7 In respect of cost risk, one objective of the profit principles is to reward contractors fairly and reasonably commensurate with risk; the greater the risk accepted by the contractor the greater the profit reward. A combination of both these factors is broadly analogous to the combination of the SSCR's baseline profit rate and the CRA.

- h) 'Contractual risk' depends upon the type of contract and the cost risk it represents to the contracting parties.
- i) 'Activity risk' recognises that different kinds of activities have different risks associated with them and the complexity of the activities undertaken will influence the rate of return that applies.

<sup>37</sup> Department of Defence (2017) *CASG Profit Principles* available at [http://www.defence.gov.au/casg/Multimedia/CASG\\_Profit\\_Principles-9-9036.pdf](http://www.defence.gov.au/casg/Multimedia/CASG_Profit_Principles-9-9036.pdf)

<sup>38</sup> Public Works and Government Services Canada (2017) *Standard Acquisition Clauses and Conditions (SACC) Manual* available at <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/10#section-10.65>

<sup>39</sup> Department of Defense (2019) *Department of Defense FAR Supplement* available at [https://www.acq.osd.mil/dpap/dars/dfars/html/current/215\\_4.htm#215.404-71](https://www.acq.osd.mil/dpap/dars/dfars/html/current/215_4.htm#215.404-71)

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- j) 'General business risk' recognises the level of effort or value-add that a contractor makes in the management of resources required to perform the contract.

### Extracts from CASG Profit Principles<sup>40</sup>

#### Contractual risk

*Different types of contracts will be assigned a percentage range of profit to compensate for the contractual risk pertaining to that specific contract type.*

Table 4: Contractual risk

<b>Contract Type</b>	<b>Contract Rate (%)</b>
<i>Variable and Firm Price</i>	8 – 10
<i>Target Cost Incentive (TCIM)</i>	7 – 8
<i>Cost Plus Incentive Fee (CPIF)</i>	6 – 7
<i>Cost Plus Award/Fixed Fee (CPAF/CPFF)</i>	5 – 6
<i>Cost Plus Margin (CPM) / Time &amp; Materials</i>	4

*Determining the appropriate contract risk premium for individual contracts depends on a number of factors, including discrete contract terms.*

*Assign values towards the higher end of the range when:*

- incentive provisions (e.g. cost and performance incentives) place a high degree of risk on the contractor;*
- the contract uses an aggressive performance-based payment schedule that increases risk;*
- the contractor is responsible for warranty and latent defects.*

*Assign values towards the lower end of the range when:*

- contractual provisions substantially reduce the contractor's risk;*
- risks are mitigated by the inclusion of contingency and management reserves;*
- incentive provisions place a low degree of risk on the contractor;*
- there is a performance-based payment schedule that is routine with minimal risk.*

#### Activity Risk

*Different kinds of activities have different risks associated with them and the complexity of the activities undertaken will influence the rate of return that applies for the contract.*

*There are four activity categories and they are shown in descending order of risk in Table 2. Where there are various activities performed in a contract, the profit range for the main activity will be used.*

<sup>40</sup> Department of Defence (2017) CASG Profit Principles available at [http://www.defence.gov.au/casg/Multimedia/CASG\\_Profit\\_Principles-9-9036.pdf](http://www.defence.gov.au/casg/Multimedia/CASG_Profit_Principles-9-9036.pdf)



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Table 5: Activity risk

<b>Contract Type</b>	<b>Description</b>	<b>Activity Rate (%)</b>
<i>Acquisition</i>	<i>Includes develop and make activities such as: research and development, design and development, intellectual property development, manufacture, assembly to specification and order.</i>	2.0 – 3.0
<i>Acquisition and Sustainment</i>	<i>Where a single contract includes significant elements of acquisition (develop &amp; make) and sustainment (provide &amp; maintain activities).</i>	2
<i>Sustainment</i>	<i>Includes: capacity provision, maintenance and support, spare parts procurement, IT services, training.</i>	0.5 – 1.5
<i>Ancillary Services</i>	<i>This includes off the shelf items or standard services such as COTS, routine support services and facilities support.</i>	0

### General business risk

The table below illustrates the applicable profit or profit ranges for the various cost categories

Table 6: General business risk

<b>Cost Element</b>	<b>Profit on Cost Element (%)</b>
<i>Direct Labour</i>	3.5
<i>Overhead</i>	3.5
<i>Material</i>	0 – 2
<i>Subcontract</i>	0 – 2
<i>Spares</i>	0 – 2
<i>ODCs</i>	0 – 2
<i>Travel</i>	0
<i>G&amp;A</i>	<i>Overall profit rate</i>

## **Public Works and Government Services Canada: Standard Acquisition Clauses and Conditions (SACC) Manual**

A6.8 The SACC Supply Manual sets out policy and guidelines for negotiating the price of a non-competitive contracts. It is intended primarily for the use of Public Works and Government Services Canada (PWGSC) contracting officers acting in PWGSC's capacity as a common services provider when it undertakes procurements on behalf of other Government of Canada organizations. The approach is not only applied to defence procurement.

A6.9 Section 10.65 'Calculation of profit on negotiated contracts' sets out policy and guidelines for the calculation of the amount of profit. The object of price negotiation is to duplicate a fair market price, while establishing a realistic division of responsibilities and risks between the contractor and Canada. Broadly speaking, different rates of profit are applied to different components of the contract, which are aggregated to deliver the contract profit rate.

## Step 2 Cost risk adjustment – Working paper

A6.10 In respect of cost risk, profit levels will vary to recognize the levels of general business and contractual risk assumed by the contractor in performance of the contract. A combination of both these factors is broadly analogous to the combination of the SSCR's baseline profit rate and the CRA.

- a) 'General business risk' recognises the level of effort a contractor makes in the management of all the resources required to perform the contract in an efficient and economical manner.
- b) 'Contractual risk' depends upon the basis of payment selected for each individual line item of the contract, or part thereof, and the cost base associated with each distinct basis of payment.

Extracts from the Standard Acquisition Clauses and Conditions (SACC) Manual:  
10.65 Calculation of profit on negotiated contracts<sup>41</sup>

General business risk

*The level of effort is considered to vary according to the elements of cost and is reflected in the following rates of profit to be applied to the costs in each element:*

*Table 7: General business risk: rate applied to cost element*

<b>Cost element</b>	<b>Rate</b>
<i>Direct materials</i>	<i>1.5 percent</i>
<i>Subcontracts</i>	<i>2 percent</i>
<i>Accountable advance spares embodied</i>	<i>2 percent</i>
<i>Direct labour</i>	<i>4 percent</i>
<i>Overhead</i>	<i>4 percent</i>
<i>all other allowable costs</i>	<i>1.5 percent</i>

Contractual risk

*The rates of profit to be paid for contractual risk will depend upon the basis of payment selected for each individual line item of the contract*

*Table 8: Contractual risk: rate applied to contract line item*

<b>Contract type</b>	<b>Range available</b>
<i>Firm price and firm base price with economic price adjustments</i>	<i>7% maximum</i>
<i>Fixed time rate with ceiling price</i>	<i>4.5% maximum</i>
<i>and without ceiling price</i>	<i>3.5% maximum</i>
<i>Cost reimbursable with incentive fee</i>	<i>4.5% maximum</i>
<i>Cost reimbursable with fixed fee with ceiling price</i>	<i>4.5% maximum</i>

<sup>41</sup> Public Works and Government Services Canada (2017) *Standard Acquisition Clauses and Conditions (SACC) Manual* available at <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/10#section-10.65>

**Step 2 Cost risk adjustment – Working paper**

<i>and without ceiling price</i>	<i>1% maximum</i>
<i>Cost reimbursable with no fixed fee and no ceiling price</i>	<i>0%</i>

*The basis of payment determines the maximum level of profit and requires the following consideration of different factors in arriving at the appropriate profit level.*

- the ability of Canada to state its requirements in the form of a well-defined specification;*
- the ability of the contractor to convert Canada's specification into a comprehensive statement of work;*
- the ability of Canada and the contractor to precost the statement of work;*
- the duration of the contract and its effect on the predictability of labour and material costs and overhead distribution, taking into account whether protection in this regard is provided to the contractor by the inclusion in the contract of a provision for economic price adjustment (firm base price with economic price adjustments basis of payment);*
- whether the final determination of the firm price takes place before or after a portion of the contract period has elapsed.*

**United States of America: Federal Acquisition Regulation (FAR)**

A6.11 The Federal Acquisition Regulation (FAR) is the principal set of rules for government procurement in the United States. The purpose of the FAR is to provide "uniform policies and procedures for acquisition." It is the uniform, government-wide regulation governing executive agency procurement contracts. The Department of Defense (DOD) FAR Supplement (DFARS) is a subset of the FAR that deals with procurement for the DOD. The FAR and DFARS apply broadly and also have provisions that are specifically relevant to non-competitive procurement.

A6.12 The FARs require that agencies making non-competitive contract awards normally use a "...structured approach for determining the profit". For defence procurement, the DFARS incorporate three structured approaches; the weighted guidelines method is most commonly used for contracts with profit-making organisations that are not for construction. Broadly speaking, different rates of profit are applied to different components of the contract, which are aggregated to deliver the contract profit rate.

A6.13 The weighted guidelines approach to profit incorporates two factors relating to cost risk. A combination of both these factors is broadly analogous to the combination of the SSCR's baseline profit rate and the CRA.

- a) 'Performance risk' addresses the contractor's degree of risk in fulfilling the contract requirements. The factor consists of both the technical uncertainties of performance and the degree of management effort necessary to ensure that contract requirements are met and to reduce and control costs.
- b) 'Contract type' focuses on the degree of cost risk accepted by the contractor under varying contract types. (NB. this step also incorporates a working capital adjustment that is not discussed below)

Step 2 Cost risk adjustment – Working paper

Extracts from the Defence Federal Acquisition Regulations Supplement: 215.404-71 Weighted guidelines method<sup>42</sup>.

Performance risk

Table 9: Performance risk: normal and designated ranges

	Normal Value	Designated Range
Standard	5%	3% to 7%
Technology Incentive	9%	7% to 11%

- c) *Standard. The standard designated range should apply to most contracts.*
- d) *Technology incentive. For the technical factor only, contracting officers may use the technology incentive range for acquisitions that include development, production, or application of innovative new technologies. The technology incentive range does not apply to efforts restricted to studies, analyses, or demonstrations that have a technical report as their primary deliverable.*

Contract type

Table 10: Contract type: normal and designated ranges.

Contract Type	Normal Value (percent)	Designated Range (percent)
<i>Firm-fixed-price, no financing</i>	5	4 to 6.
<i>Firm-fixed-price, with performance-based payments</i>	4	2.5 to 5.5.
<i>Firm-fixed-price, with progress payments</i>	3	2 to 4.
<i>Fixed-price incentive, no financing</i>	3	2 to 4.
<i>Fixed-price incentive, with performance-based payments</i>	2	0.5 to 3.5.
<i>Fixed-price with redetermination provision</i>		
<i>Fixed-price incentive, with progress payments</i>	1	0 to 2.
<i>Cost-plus-incentive-fee</i>	1	0 to 2.
<i>Cost-plus-fixed-fee</i>	.5	0 to 1.
<i>Time-and-materials (including overhaul contracts priced on time-and-materials basis)</i>	.5	0 to 1.
<i>Labor-hour</i>	.5	0 to 1.
<i>Firm-fixed-price, level-of-effort</i>	.5	0 to 1.

A6.14 There are a number of criteria considered by the contractor officer when determining the appropriate adjustments to be made from the normal value, as set out in the guidelines.

<sup>42</sup> Department of Defense (2019) *Department of Defense FAR Supplement* available at [https://www.acq.osd.mil/dpap/dars/dfars/html/current/215\\_4.htm#215.404-71](https://www.acq.osd.mil/dpap/dars/dfars/html/current/215_4.htm#215.404-71)

**SSRO**

Single Source  
Regulations Office

# **Review of contract profit rates**

## Profit principles

July 2019

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## 1. Introduction

- 1.1 Section 39(1) of the Defence Reform Act (the Act) requires the SSRO to keep under review the provisions made by Part 2 of the Act and the Single Source Contract Regulations 2014 (the Regulations). In support of this statutory aim, the SSRO is undertaking a review of contract profit rates expected or earned by contractors in qualifying defence contracts (QDCs) and qualifying sub-contracts (QSCs); the non-competed contracts which are subject to the Regulations. This review of contract profit rates (review of CPR) aims to help us:
- a. better understand contract profits in QDCs and QSCs;
  - b. understand factors that have influenced these contract profits; and
  - c. consider whether and what changes may be needed to legislation or to the SSRO's monitoring, methodologies or guidance to better achieve the intent of the legislation.
- 1.2 Following our initial analysis of contract profit data reported by contractors in QDCs and QSCs, a number of areas where work might be desirable in 2019/20 were identified and discussed with members of the SSRO's Operational Working Group (OWG)<sup>1</sup> in April 2019. OWG members agreed that one of the priorities for further work was to codify a set of principles, rooted in economics and corporate finance, which could inform the determination and monitoring of contract profit rates that support value for money and fair and reasonable prices.
- 1.3 The SSRO has issued this working paper to OWG members to share its initial thinking and prompt a discussion about the principles. The objective is to reach a greater degree of consensus about the principles, their application in the pricing of contracts and their relevance to the SSRO's review of contract profit rates. In preparing the working paper we have drawn insights from our own analysis, from past reviews of the MOD's procurement, from academic and other literature, from other single source and international defence procurement regimes (see Appendix 1), and from discussions with expert commentators (such as the Government Actuaries Department). The paper draws on the working paper already shared with stakeholders on Allowable Costs, uncertainty and risk and sets the foundation for a further working paper on risk and contract profit which we plan to share in September.
- 1.4 The principles relevant to the determination of contract profit rates which the SSRO has identified and which we consider are helpful to the pricing of QDCs and QSCs, are listed below, with cross references to relevant sections of the working paper (Table 1). We consider these principles are implicit in the legislation as a consequence of the requirements of Allowable Costs, the six-step process for determining profit and the SSRO's statutory aims.

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<sup>1</sup> Comprising representatives of the Ministry of Defence, ADS Group and single source defence contractors.

**Table 1: Profit principles**

Principle	Relevant paragraphs
1. Good value for money and fair and reasonable prices are supported by a contract profit rate that gives the contractor an appropriate and reasonable return on the fixed and working capital it employs in performing the contract (and the satisfactory determination of Allowable Costs).	4.27 to 4.29
2. The contract profit rate, when applied to Allowable Costs, should enable the contractor to earn a return commensurate with that achieved by firms in a competitive market for the supply of goods and services which are the product of comparable economic activities.	4.30 4.36 to 4.43
3. The return on a QDC/QSC is appropriate and reasonable where it fairly contributes to meeting an investor's long-term expectations for returns on capital invested, given the risks to that investment.	4.32 to 4.33 Appendix 2
4. Where contractors perform at the expected level of efficiency, they should earn the contract profit rate that was estimated at the time of contract agreement.	4.22 to 4.24
5. Fairness requires consistency in the determination of contract profit rates (and Allowable Costs) such that relevant differences are consistently considered while irrelevant differences are consistently ignored.	4.16 to 4.17 4.44 to 4.48

1.5 This paper sets out and discusses the evidence which the SSRO has considered in forming its view on the relevant principles. The working paper is divided as follows:

- Section 2 describes key features of MOD's approach to procurement and the market for MOD contracts.
- Section 3 considers competition theory, the purposes of economic regulation and describes aspects of the UK regulatory framework for single source defence procurement.
- Section 4 considers the concepts of 'value for money' and 'fair and reasonable prices' and the implications of the principles underpinning these concepts for the approach to determining profit in QDCs and QSCs.
- Section 5 considers the SSRO's monitoring and review of the implementation of the Act and Regulations to date, and the implications of the principles identified for future monitoring and review.

1.6 We welcome comments on the paper by 16 August 2019. Details of how to respond can be found in the final section.



## 2. MOD procurement

- a. This section describes key features of MOD’s approach to procurement and the market for MOD contracts.

### Competitive procurement

- 2.2 The Ministry of Defence (MOD) plans to spend £186 billion in the decade from 1 April 2018 to 31 March 2028 to deliver and support the equipment needed by the UK’s armed forces.<sup>2</sup> As a purchaser, the MOD considers that:

*‘Open and fair competition is a fundamental component... in delivering affordable defence capability at overall long term Value for Money (VfM)... Competitive procurement helps to deliver VfM because it gives suppliers an incentive to reduce costs, increase productivity and encourage innovation by continually benchmarking them against their competitors.’<sup>3</sup>*

- 2.3 Competition is the UK government’s preferred procurement option and, in most cases, is required by European Union Law (Box 1). However, the nature of the MOD’s requirements for equipment and support reduces its ability to procure certain goods and services competitively. In some cases, a very specific requirement may only be met by a single supplier. In others, the government’s choice to procure domestically in the interests of national security excludes potential international suppliers from consideration.

#### **Box 1: Good practice and legal requirement to procure competitively**

Managing Public Money (MPM) states:

*‘Good procurement practice demands that public sector organisations buy the goods, works and services they need using fair and open procurement processes, guarding against corruption and meeting the standards in MPM. European Union (EU) law and World Trade Organisation (WTO) agreements underpin these principles.’<sup>4</sup>*

European Union law requires most government contracts to be procured via an open process involving publicly advertising the fact that the contract is available for tender, and then a competitive process to select the successful contractor. There is, however, an exemption in Article 346 of the Treaty of the Functioning of the European Union for: ‘measures which a Member State considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions or war materiel’.<sup>5</sup> The MOD’s guide to investment appraisal and evaluation notes that:

*‘In exceptional cases, where it can be clearly demonstrated that it is appropriate to source an aspect of capability we need for our freedom of action or operational advantage only from within the United Kingdom, MoD will seek delivery from the UK industrial base. Competitive procurement may have to be limited to suppliers who have appropriate facilities and personnel in the UK...’<sup>6</sup>*

<sup>2</sup> Ministry of Defence (2018) *The Defence Equipment Plan 2018: Financial Summary*.

<sup>3</sup> Ministry of Defence (2014) *JSP507 Investment Appraisal and Evaluation Part 1 (V6.0)*.

<sup>4</sup> HM Treasury (2018) *Managing Public Money, Annex 4.6*

<sup>5</sup> *Explanatory Notes to the Defence Reform Act 2014* available at [www.legislation.gov.uk](http://www.legislation.gov.uk).

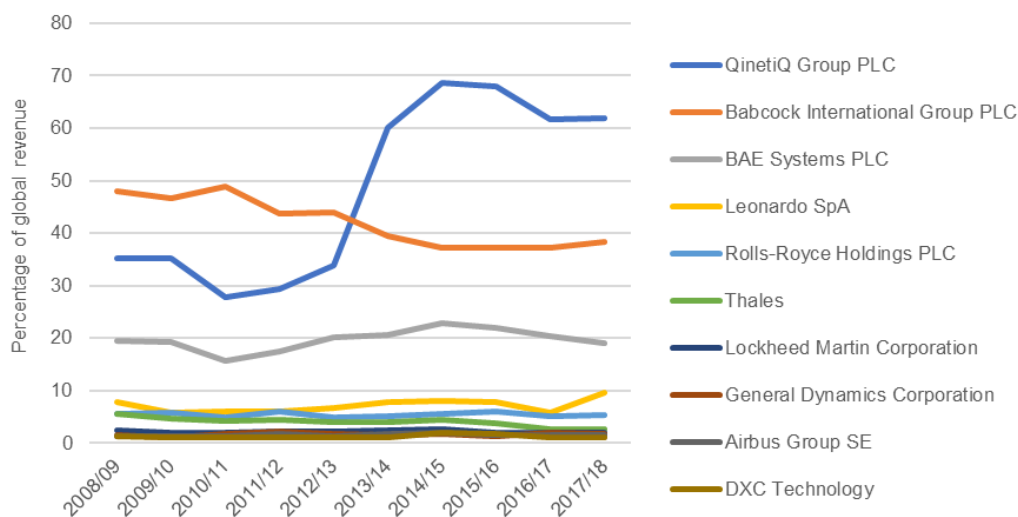
<sup>6</sup> Ministry of Defence (2014) *JSP507 Investment Appraisal and Evaluation Part 1 (V6.0)*.

- 2.4 Single source procurement (where a contract is placed with a supplier in the absence of competition) is a feature of defence and other public procurement in the UK and elsewhere.

### The market for MOD contracts

- 2.5 The MOD publishes annual statistics on its contract spending with suppliers.<sup>7</sup> Although the MOD's default approach to procurement is competitive tendering, its data show that single source contracting represents a significant proportion of its spending. In 2017/18, 35 per cent of the £24.3 billion the MOD spent on contract payments was through non-competitive contracts. In that year, 32 per cent by number and value of the MOD's new contracts were placed non-competitively.
- 2.6 The MOD's data shows that a considerable amount of its contract expenditure is with a small number of suppliers. In 2017/18, seven holding companies were paid more than £500 million each by the MOD, through their subsidiaries. In aggregate, these corporate groups accounted for 37 per cent of the MOD's total contract spending that year. Seventy per cent of the MOD's total expenditure with these groups in 2017/18 was through non-competitive contracts.
- 2.7 In some cases where the MOD procures from a single source contractor, it may be the only purchaser (globally, or in the UK) of the equipment or support being supplied, for example, when purchasing a nuclear-powered submarine or warship made to its unique specifications. In other cases, it may be one of a small number of organisations which are purchasing the same or similar equipment or support, for example, when purchasing weaponry or contracting for engine availability. It may, at other times, be one of many organisations purchasing the same or similar equipment or support, as in the case of commercially available items like software licences.
- 2.8 An indicator of the extent to which contractors contract exclusively with the MOD (whether single source or through competitive tenders) or with multiple organisations is provided by the MOD's contract spending data. The MOD has been a significant customer for many years to three of its top ten suppliers, when considering its annual contract spend as a percentage of the companies' global revenue (Figure 1).

**Figure 1: MOD contract spending as a percentage of global revenue 2008/09 to 2017/18**



Source: Ministry of Defence Trade, Industry and Contracts 2018 data

<sup>7</sup> Ministry of Defence (2018) *Finance & Economics Annual Bulletin: Trade, Industry & Contracts 2018*.

- 2.9 The MOD's contract spending data for 2017/18 identifies 43 suppliers paid more than £50 million through their subsidiaries. Total contract spending with these suppliers was £15.5 billion. For 15 of the suppliers (accounting for 13 per cent of total spending) no payments through non-competitive contracts were identified by the MOD. For 28 suppliers (accounting for 87 per cent of total spending) some payments were through non-competitive contracts.
- 2.10 Sixteen of the suppliers paid through non-competitive contracts published a segmented breakdown of turnover in their financial statements which included the United Kingdom as a reportable segment. For nine of these suppliers we estimate that income from MOD contracts accounted for more than one third of their UK revenue.<sup>8</sup> For five of these, more than half of the income from the MOD was through non-competitive contracts. The analysis also identifies examples of largely single source suppliers to the MOD for whom the MOD is not a significant UK customer (Table 2).

**Table 2: Estimate of suppliers' UK revenue in 2017/18 derived from MOD contracts**

MOD supplier	MOD spend with supplier in 2017/18 (£million)	% of the supplier's UK revenue in derived from MOD spend with supplier in 2017/18	% of MOD spend with supplier in 2017/18 which was non-competitive
Cobham plc	164	87%	30%
BAE Systems plc	3,496	86%	93%
QinetiQ Group plc	517	85%	83%
Rolls-Royce Holdings plc	876	58%	88%
Babcock International Group	1,790	57%	49%
Hocomm Ltd	62	45%	9%
Leonardo SpA	674	43%	93%
DXC Technology	446	39%	10%
Thales Group	357	36%	53%
NATS Holdings Ltd	86	18%	59%
CGI Group	58	8%	23%
Marshall of Cambridge (Holdings) Ltd	141	6%	97%
Capita Plc	164	4%	4%
Vinci S.A.	72	4%	88%
Galliford Try plc	106	4%	1%
British Telecommunications plc	273	1%	1%

Source: Ministry of Defence Trade, Industry and Contracts 2018 data and respective company financial statements for the year ended during the 2017/18 financial year.

<sup>8</sup> Figures are estimates as the two data sources may not align to the same twelve-month period.

### Sub-contracting

- 2.11 Sub-contracting is a common feature of complex programme delivery by prime contractors. QDC and QSC contractors are required to report the element of Allowable Costs in their contracts which relates to costs which have been sub-contracted, either to another group company or another contractor. They must also provide a description of actual or intended sub-contracts which the primary contractor has entered into, or intends to enter into, for the purpose of enabling it to perform its obligations under the contract. The contractor must provide this information for each sub-contract which has or is expected to have a value of not less than £1 million (or, if there are more than 20 such sub-contracts, the 20 which have, or are expected to have, the highest value).
- 2.12 For contracts which became QDCs or QSCs from 1 April 2015 to 31 March 2019, 460 sub-contracts with a value greater than £1 million were reported to the SSRO. The total price of these reported sub-contracts was £6.0 billion.<sup>9</sup> Sixty-five of the reported sub-contracts were with small or medium enterprises.<sup>10</sup>
- 2.13 The SSRO received reports for 32 contracts which became QSCs from 1 April 2015 to 31 March 2019; that is, sub-contracts which met the requirements set out in Section 26 of the Act and Regulation 58. These requirements include that the award of the contract was not the result of a competitive process and that the value of the contract is at least £25 million.
- 2.14 Due to the combined effect of the criteria for assessing when a sub-contract is a QSC, the time limits within which QSC assessments may be conducted, and the extent and timing of reporting requirements concerning sub-contracts, we have only a partial insight into non-competitive sub-contracting in QDCs and QSCs. However, it is clear that some sub-contracts to QDCs and QSCs are let without competition.
- 2.15 Our detailed analysis of sub-contracting in QDCs and QSCs agreed from 1 April 2015 to 31 March 2016<sup>11</sup> indicates that the supplier base for sub-contracts in QDCs and QSCs demonstrates similar characteristics to that for MOD single source contracts. Forty per cent of all reported planned sub-contracting expenditure within QDCs/QSCs in 2015/16 was shared between ten holding companies whose subsidiaries held QDCs or QSCs.

### **Implications for profit principles**

- 2.16 The structure of the market for defence contracts impacts on the MOD's ability to procure competitively in some cases. We note, however, that the data presented in this section describes features of the market for MOD contracts, including QDCs and QSCs, based on a snapshot at a point in time. The defence landscape changes over time, through for example, mergers, acquisitions and joint ventures. The significance of certain contractors to the MOD, and of the MOD to certain contractors has varied over time and may well change in future years. We consider that the principles which inform the pricing of regulated contracts should not be affected by the structure of the defence sector or who the MOD chooses to buy from using single source methods of procurement. Rather, they should be underpinned by longstanding economic theory. We consider in the next section the problems that may arise where there is a lack of competition between firms and the regulatory response to this.

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<sup>9</sup> Sub-contracts may contribute to more than one contract, so the sub-contract price reported may not be fully attributable to the QDC/QSC against which it is reported. The £6.0 billion total sub-contract price may, therefore, overestimate the amount of sub-contracting occurring in QDCs/QSCs.

<sup>10</sup> The SME status is based on data submitted by the contractors. No verification on whether these align to the definition of an SME as required by the Single Source Contract Regulations 2014 has taken place for the purposes of this analysis.

<sup>11</sup> SSRO (2016) *Sub-contracts Reported in Qualifying Defence Contracts 2015/16*.

### 3. Regulation of MOD single source procurement

- 3.1 This section considers competition theory, the purposes of economic regulation and describes aspects of the UK regulatory framework for single source defence procurement.

#### Competition and markets

- 3.2 The casework of competition and market authorities around the world indicates that profit-maximising firms that have dominant market positions may use this power to operate in ways that are sub-optimal for their customers, and the wider economy.

#### Market outcomes

- 3.3 In a monopoly, a single firm sets the price for goods and services to achieve profits above the normal level ('super-normal' profits) (Box 2). A monopoly may arise where an innovative or efficient firm increases its share of a particular market with products best suited to meeting consumers' needs. Monopolies may also arise for other reasons, such as when barriers to market entry prevent competition by other firms or where a purchaser (such as, on occasion, the MOD) specifies its requirements in a way that only one supplier is able to fulfil.
- 3.4 By contrast, under perfect competition – a theoretical market structure, in which rivalry between firms ensures prices for goods and services are set to satisfy consumers' demand – profits are at a 'normal' level: that is, the minimum needed to exceed the firm's opportunity cost (the next best alternative foregone).<sup>12</sup> In monopolistic competition, firms are price-setters as in pure monopoly, but compete through product differentiation, driving profits to normal levels in the long run.

#### **Box 2: Profit maximisation**

In economic theory, the demand for returns by investors in firms results in profit-maximising behaviours from those firms. A monopoly firm may be able to earn super-normal profits when it sells a lower quantity of good or services at a higher price than would be the case in a competitive market. Theoretically, a price/quantity combination can be found which achieves the highest possible amount of profit given the market demand the monopoly firm faces. In a competitive market, other firms would be able to enter the market to meet unfilled demand, reducing prices and, ultimately, available profits.

In practice, firms may have objectives other than profit maximisation, such as maximising sales, increasing market share or fulfilling social/environmental objectives.

- 3.5 The key features of perfect competition and monopoly are summarised below (Table 3). In practice, markets seldom exhibit perfect competition. Even in markets with a number of rivals, imperfections tend to exist, for example, inequalities of information or barriers to entry and varying degrees of market power for buyers or sellers. Firms in a market may respond in a range of ways to each other's decisions on price and output. How they do so will dictate the outcomes for consumers: in the case of UK defence procurement, the MOD and the taxpayers that fund its expenditure.

<sup>12</sup> Normal profit is achieved when economic profit (total revenue less total costs) is equal to zero. Zero economic profit does not mean a firm is not making any profit in an accounting sense. This is due to the treatment of opportunity cost, which accounts for any difference.

**Table 3: Key features of perfect competition and monopoly**

Features of perfect competition	Features of monopoly
<ul style="list-style-type: none"> <li>• There are many firms in the market.</li> <li>• There is freedom of entry and exit to the market; requiring low sunk costs.</li> <li>• All firms produce an identical product.</li> <li>• All firms are price-takers and, therefore, can only sell at the market price.</li> <li>• There is perfect information and knowledge in the market.</li> </ul>	<ul style="list-style-type: none"> <li>• There is one firm in the market.</li> <li>• There are high barriers to entry, or it may be impractical to have more than one firm producing the good (natural monopoly).</li> <li>• There is only one product.</li> <li>• The monopolist sets the price and consumers can only buy at that price.</li> <li>• There may be other market distortions, such as imperfect information.</li> </ul>

Efficiency

- 3.6 Competition between firms is commonly associated with the achievement of efficiency within the economy and increased productivity (Box 3). While a monopolistic firm may be able to generate economies of scale, the absence of competition may reduce its incentive to innovate and achieve cost efficiency. Its uncompetitive prices will result in non-consumption by some who would be willing to buy at the competitive price.

**Box 3: Efficiency and productivity**Allocative efficiency

Allocative efficiency occurs when there is an optimal distribution of goods and services within an economy, considering the preferences of consumers. It is achieved when the level of firms' output of goods and services is equal to consumers' demand for them; as occurs in perfect competition. Prices above the competitive level do not achieve allocative efficiency and result in a deadweight loss of social welfare.

Productive efficiency

Productive efficiency occurs when competitive pressure causes firms to optimise their use of inputs in order to minimise the average cost of production of goods and services. This may depend on processes and technology or management incentives (known as 'X efficiency'). The UK Competition & Markets Authority has noted that competition is an important driver of productivity.

*'...competition drives productivity in three main ways. First, within firms, competition acts as a disciplining device, placing pressure on the managers of firms to become more efficient. Secondly, competition ensures that more productive firms increase their market share at the expense of the less productive. These low productivity firms may then exit the market, to be replaced by higher productivity firms. Thirdly, and perhaps most importantly, competition drives firms to innovate, coming up with new products and processes which can lead to step-changes in efficiency.'*<sup>13</sup>

<sup>13</sup> Competition & Markets Authority (2015) *Productivity and Competition: A Summary of the Evidence*.

### Effective competition

- 3.7 In relation to the MOD's procurement of equipment and support, 'effective' competition may exist in markets characterised by relatively few rival firms who compete with one another, despite each enjoying large market shares. When there is effective competition, there is no single dominant firm, buyers and sellers can choose with whom to enter into a contract and supply and demand respond to price changes<sup>14</sup> to influence the volume and price of goods and services available.

### **Economic regulation**

- 3.8 The absence of effective competition in markets has led to a variety of public policy responses in the UK and elsewhere. Competition authorities and economic regulators apply a range of remedies where market failures undermine competition and risk undesirable outcomes for buyers or sellers.<sup>15</sup> These remedies include the statutory regulation of prices or profits (economic regulation) in particular markets.
- 3.9 In setting out the UK Government's principles for the economic regulation of infrastructure sectors, the Department for Business Innovation & Skills noted that:

*Competitive markets are the best way in the long run to deliver these services to consumers and provide incentives to invest and improve efficiency and service quality. In certain sectors network effects and/or economies of scale create circumstances, such as natural monopolies, which... limit the prospects for effective competition.<sup>16</sup>*

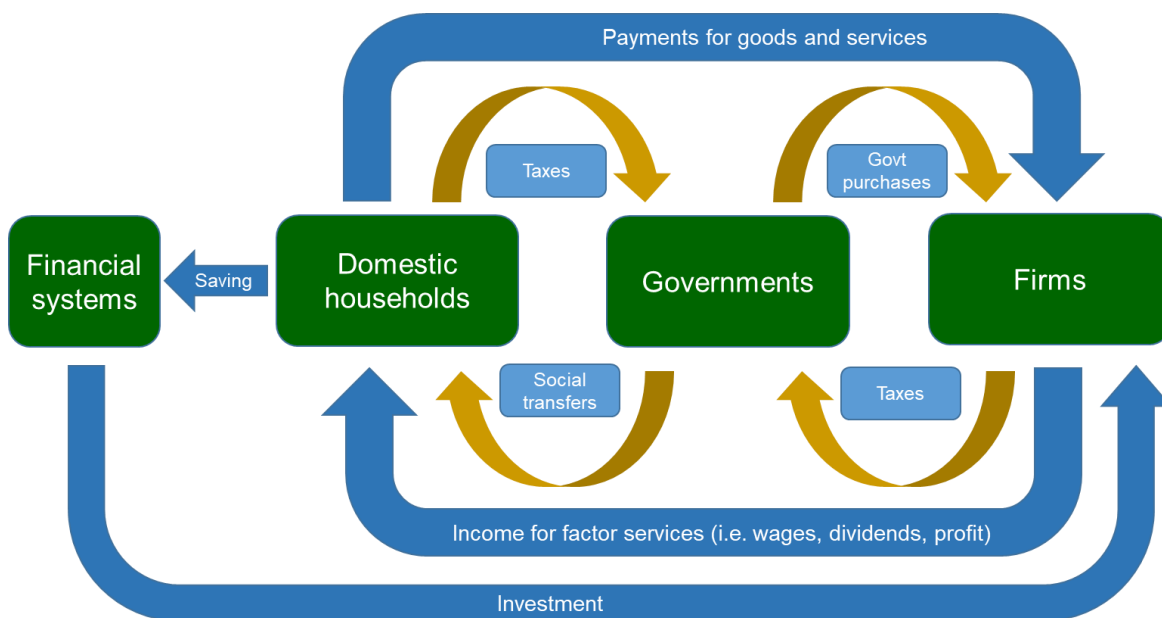
- 3.10 Traditional models of market intervention or economic regulation may seek to reduce barriers to entry, correct information asymmetry, or apply price or profit controls and/or incentives that influence the behaviour of market participants to mimic the beneficial effects of competition and protect against abuses of market power. While regulators may seek to curtail the profit-maximising behaviour of monopoly firms for reasons of economic efficiency and the economic welfare of consumers, the need for a company to generate returns to finance its operations through investment needs to be considered. The motive for companies to maximise profits derives from the demands of shareholders and bondholders to maximise the return on their investments, contributing to the flow of income within the economy (Figure 2).

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<sup>14</sup> 'Price elasticity of supply' and 'price elasticity of demand' are measures of how the quantity of supply and demand (respectively) for a good or service changes relative to changes in its price.

<sup>15</sup> For details of the approach taken to examine competition in UK markets see Competition Commission (2013) *Guidelines for market investigations: Their role, procedures, assessment and remedies*.

<sup>16</sup> Department for Business Innovation & Skills (2011) *Principles for Economic Regulation*.

**Figure 2: The circular flow of income within the domestic economy**

Source: SSRO and Lipsey and Christal (2004) *Economics*

### Defence industrial policy

- 3.11 Industrial policy as it relates to the defence sector is the responsibility of the Ministry of Defence. *Industry for Defence and a Prosperous Britain: Refreshing Defence Industrial Policy* was published in 2017. The policy acknowledges the effectiveness of competitive tension in ensuring value for money, performance and innovation.

### The statutory framework to regulate MOD contracts

- 3.12 Regulatory remedies can take different forms and may be applied prospectively (ex-ante) or retrospectively (ex-post). In the UK, economic regulation 'has typically capped the prices that dominant companies can charge in order to promote efficiency and fairness, while providing them a return on their assets and investments'.<sup>17</sup>
- 3.13 In the area of defence procurement, the UK government, and its single source contractors, have long recognised the need for remedies to address potential problems associated with the absence of competition in contracting and the MOD's position as a consumer with market power (Box 4). Prior to the introduction of the Single Source Procurement Framework, voluntary arrangements for determining the price of single source contracts had been in place for many decades: the Government Profit Formula and its Associated Arrangements, commonly referred to as the 'Yellow Book'. The profit formula 'aimed to provide a fair return to industry in the absence of a market price, and to protect industry from pressure by the MOD to set profit margins at low levels'.<sup>18</sup>

<sup>17</sup> Department for Business Innovation & Skills (2011) *Principles for Economic Regulation*.

<sup>18</sup> Lord Currie of Marylebone (2011) *Review of Single Source Pricing Regulations*.



**Box 4: Monopsony power**

In cases of monopsony, a single buyer can influence the price of goods or services it wishes to buy to maximise profits by lowering its costs, in the same way as a monopolist can do by raising the price of the products it wishes to sell. Suppliers may be faced with a ‘take it or leave it’ choice in respect of the price the monopsonist is willing to offer, which may be unsustainable for the supplier in the long run.

In some cases, the MOD may be considered akin to a monopsonist, although as a public body, the ‘profit’ motive for the MOD does not exist in the same way as it would for a firm.

- 3.14 The new Framework, introduced in 2015 following Lord Currie’s review of the MOD’s single source procurement, established requirements for the pricing of single source contracts that met the criteria to be QDCs or QSCs and for the reporting of information about those contracts to improve transparency about contract pricing and cost efficiency.<sup>19</sup> This provides a remedy to mitigate any adverse effects due to lack of competition and consequential harm to the MOD and taxpayers. The remedy having been established, it is now for its effectiveness to be considered and monitored in order to ensure its proper and transparent functioning.

The SSRO

- 3.15 The SSRO was established to oversee the regulatory framework and provide analysis and advice to support its implementation.<sup>20</sup> It applies professional expertise, drawing from the legal, economics and finance professions, to provide recommendations to the Secretary of State, as required by the Act, for the relevant rates to be used in contract pricing each year. It also publishes guidance on the pricing of contracts, to which the contracting parties must have regard; collects data that must be reported by contractors and may be used by the MOD to inform contract pricing decisions; and acts as an independent arbiter in cases where the MOD and contractors cannot reach agreement about the application of the Regulations in particular cases, either before or after contracts are signed.
- 3.16 The Act requires that in carrying out its functions the SSRO must aim to ensure that:
- a. good value for money is obtained in government expenditure on qualifying defence contracts, and
  - b. persons (other than the Secretary of State) who are parties to QDCs and QSCs are paid a fair and reasonable price under those contracts.

Contract pricing

- 3.17 Under the Framework, the prices for QDCs and QSCs are determined by adding profit, calculated as a mark-up on the Allowable Costs incurred in performing the contract, to the Allowable Costs (Box 5).

<sup>19</sup> Ministry of Defence (2013) *Better Defence Acquisition: Improving How We Procure and Support Defence Equipment*.

<sup>20</sup> Replacing the Review Board for Government Contracts which monitored the Yellow Book arrangements.

**Box 5: Determining the price of a QDC or QSC**

The Act and Regulations require that the price paid to a contractor under a QDC or QSC is determined using the formula:

$$(CPR \times AC) + AC$$

CPR is the contract profit rate for the contract, determined in accordance with Regulation 11.

AC is the contractor's Allowable Costs: those costs which the Secretary of State, or an authorised person, and the contractor are satisfied are appropriate; attributable to the contract; and reasonable in the circumstances.<sup>21</sup>

Regulation 11 requires that the contract profit rate for a QDC or QSC must be calculated using a six-step process (right). The SSRO provides guidance on how each step in the process is to be determined.<sup>22</sup>

The six-step process

3.18 This approach to pricing contracts comprises a mix of ex-ante and ex-post controls.

- a. Contract profit rates are set at the time of agreement for the duration of the contract (ex-ante).
- b. The baseline profit rate recommended by the SSRO is based on actual profits earned in the preceding three financial years by companies undertaking economic activities that are comparable to those undertaken in QDCs and QSCs (ex-post).
- c. Contract prices are based in some cases on estimated Allowable Costs (ex-ante) and in others on actual Allowable Costs (ex-post).
- d. The costs and profit in contracts whose prices were agreed on an ex-ante basis may vary due to estimating uncertainty or contractor performance and may in some cases be subject to a final price adjustment (ex-post) to provide protection against excessive profits or losses.

The components of contract profit

3.19 Regulated contract prices include profit for the contractor. Firms aim to generate profits in order to reward providers of capital for the risk to their investment. A firm may generate a profit or a loss on some or all business activities. Firms may be able to withstand generating a loss in the short or medium term but, in the long term, investors will expect to make a return on the capital they have supplied either as a shareholder or a lender. Investors' expectations for return reflects the compensation required due to the opportunity cost of investing (Box 6). We consider these matters further, with reference to corporate finance matters and the six-step process for determining contract profit rates, in Appendix 2. The six-step process addresses investors' profit motives in a variety of ways such that ascribing a particular profit motive to a particular step in the process is not straightforward.

<sup>21</sup> Requirements specified in Section 20(2)(a) to (c) of the Act. The SSRO is required by Section 20(1) to issue guidance about determining whether costs are Allowable Costs to which the Secretary of State or an authorised person, and the primary contractor, must have regard (Section 20(4)).

<sup>22</sup> SSRO (2019) *Guidance on the Baseline Profit Rate and its Adjustment 2019/20 (Version 5)*.

**Box 6: The profit motive and the time value of money**

Economic theories of investment suggest that individuals who supply capital to firms will demand compensation for doing so. This is because, by investing, they are foregoing the opportunity to spend that invested income now for the purpose of consumption. Placing greater value on an amount of consumption today than on the same amount in the future is known as 'time preference'. That difference explains the need to compensate investors.

Time preference can be broken down into three sub-components:

- pure time preference – inherent human preference to consume sooner rather than later;
- uncertainty/risk – the value of consumption today is known with certainty whereas it is not in the future, making current consumption relatively more attractive; and
- economic (and wealth) effects – the value of consumption, or the ability of income to fund consumption, reduces over time as economies grow (i.e., inflation).

The first two elements are unique to each investor as they relate to personal preferences.

Required returns will differ from individual to individual depending on their preferences, the relative balance of the components which drive the desire for returns, the investment vehicle (i.e., shares or bonds) and the potential alternative uses of the funds which they have invested (the opportunity cost). This will influence the profit which will need to be on offer for a firm to make a capability available to its customers. In economics, capital employed in the acquisition of profits takes many forms, and may be both tangible and intangible in nature.

3.20 The Capital Asset Pricing Model (CAPM) is an established and widely accepted model for determining the price of an asset or portfolio of assets, based on the risk characteristics of the asset. It provides a theoretical approach to the pricing of risk in contracts. This works on the analogy that a contract is equivalent to an asset for the purchaser, or a liability for the supplier. The CAPM assumes that there are two types of risk:

- Systematic or non-diversifiable risk. This risk cannot be mitigated by diversification and CAPM assumes that investors will demand compensation (i.e. higher expected returns) for holding assets which have more systematic risk; and
- Specific, or diversifiable risk which should not be factored into the asset price.

Regulated pricing methods

3.21 The Regulations permit the use of six regulated pricing methods which determine whether the Allowable Costs used in the contract price are those estimated at the time of agreement or the actual Allowable Costs determined during the contract or after contract completion.

3.22 Under the firm, fixed and volume-driven pricing methods, the contract is priced on estimated Allowable Costs. There is the potential in these contracts for the estimate used in pricing the contract to differ from the actual Allowable Costs incurred in performing the contract. Where actual costs exceed the estimate, and in the absence of further contractual changes, the contractor earns a lower amount of profit (lower profit rate) than expected at the time of agreement. Where the actual costs are less than the estimate, the contractor earns a higher amount of profit (higher profit rate) than expected at the time of agreement. This creates a performance incentive structure, which offers contractors who choose to take on the risk of

cost variance the opportunity to earn higher rewards, within prescribed limits (Box 7), by, for example, successfully managing risks or innovating to improve efficiency.

**Box 7: Final price adjustment**

Section 21 of the Act and Regulation 16 provide for a final price adjustment to be made after contract completion in contracts using firm, fixed or volume-driven pricing methods where the contractor earns excessive profit or makes an excessive loss due to, respectively, cost saving or cost over-run. The contractor may increase the expected profit rate by up to 5 percentage points or earn zero profit before any price adjustment is made. Beyond these points differential price adjustments are made depending on the scale of any additional profit or loss which the contractor would otherwise incur.

- 3.23 From the MOD's perspective, transferring cost risk to contractors partly insulates it from exposure to cost over-runs while retaining cost risk may reduce the price it pays for contracts, through a lower contract profit rate. The latter may allow it to place contracts which may not have been possible given high levels of risk; subject to being able to manage its requirements and suppliers in order to contain costs.

## 4. The principles informing profit rates

- 4.1 In this section we consider the concepts of ‘value for money’ and ‘fair and reasonable prices’ and the implications of the principles underpinning these concepts for the approach to determining profit in QDCs and QSCs.

### Value for money in government expenditure

- 4.2 The UK government’s use of resources is guided by the principles set out in HM Treasury’s *Managing Public Money*. These include an expectation that a decision to procure goods or services should deliver value for money for the Exchequer as a whole. For the government, value for money ‘means securing the best mix of quality and effectiveness for the least outlay over the period of use of the goods or services bought’.<sup>23</sup> It requires the purchasing organisation to have a clearly specified requirement which can be met cost effectively and affordably. The Treasury’s *Green Book* and the MOD’s guide to investment appraisal and evaluation<sup>24</sup> provides specific direction and guidance on the assessment of value for money in the pursuit of policy objectives.
- 4.3 The MOD’s guide defines value for money as the optimal combination of economy, efficiency and effectiveness (Box 8), in keeping with the National Audit Office’s criteria for assessing this.<sup>25</sup>

#### Box 8: The MOD’s view of value for money

The MOD defines value for money as the optimal combination of:

- a. Economy – i.e. Cost of Inputs (I/M – Inputs/Money)
- b. Efficiency – i.e. Ratio of Output to Inputs (O/I – Outputs/Inputs)
- c. Effectiveness – i.e. Value of Outcomes from Outputs (V/O – Value/Outputs)

Hence, value for money (VfM) = I/M x O/I x V/O = V/M (Value/Money)

It notes that value for money is a relative concept which involves the comparison of potential and actual outcomes of alternative procurement options.

*‘VfM is only meaningful where options exist. Where there is only one option then there is no real way of assessing VfM and in these circumstances the key is to achieve the most acceptable cost.’<sup>26</sup>*

- 4.4 Value for money is not just about securing the lowest possible price. Best value for money is achieved when both quality of outcome (value) is maximised and price (money) is minimised. Whether something is good value for money is a matter of judgement, to be considered with reference to the value derived and the price to be paid, and only discernible relative to alternative comparators representing different value/price combinations.

<sup>23</sup> HM Treasury (2013, rev. 2018) *Managing Public Money*.

<sup>24</sup> Ministry of Defence (2014) *JSP507 Part 1 (Version 6)*.

<sup>25</sup> National Audit Office (unknown) ‘Assessing Value for Money’ in *Successful Commissioning Toolkit*, available at <https://www.nao.org.uk/successful-commissioning/general-principles/value-for-money/assessing-value-for-money/>

<sup>26</sup> Ministry of Defence (2014) *JSP507 Part 1 (Version 6)*.

- 4.5 In practice, the value that may be obtained through the MOD's procurement of contracts may be constrained by budgetary considerations and the requirements that have been determined through strategic defence and security reviews.<sup>27</sup> Value is also constrained by the technological and other capabilities available to purchase.
- 4.6 The price at which a contractor is willing to contract to provide goods or services will be determined, ultimately, by its need to earn a sufficient return for the providers of capital which supply the firm with the financial capacity to deliver the contract outcomes.
- 4.7 The application of cost-benefit analysis in the evaluation of value for money for contracts to procure defence goods and services is problematic, as the value derived from a particular contract in delivering defence outputs is not readily measurable. It is easier to assess the achievement of efficiency and cost-effectiveness but, as Lord Currie noted in his review, efficiency and value for money may not always be aligned.

*'Firstly, profit may be above market rates, so the MOD pays a high price despite the contractor being efficient. Secondly, the MOD may specify its requirements poorly so that, despite the contractor being efficient (and not making high profits), the overall price represents poor value for money. For example the MOD might provide a poor initial specification, or make frequent changes that result in rework and delays.'*<sup>28</sup>

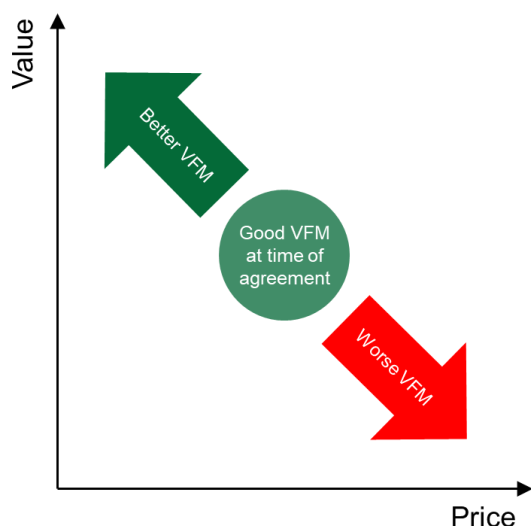
- 4.8 Assessing value for money from defence procurement is a matter for the MOD to consider as part of its investment appraisal and approvals process. The MOD is the organisation best placed to judge whether the equipment and support to be provided through a particular contract delivers the capability (value) required by the UK's armed forces at an acceptable price. As it has recognised, for the purpose of determining whether good value for money is obtained, value/price combinations resulting from competitive processes will be easier to assess as they can be compared to other value/price combinations.
- 4.9 HM Treasury guidance notes the need for business cases for spending proposals to offer best public value for money, subject to affordability.<sup>29</sup> We therefore consider that the MOD's willingness to enter a single source contract for goods or services that deliver an expected level of value at an expected price demonstrates its belief that the contract represents sufficiently good value for money at the time of agreement. It is possible, however, that better value for money may have been achievable. Furthermore, the assessment of whether the contract actually delivers the value for money which was anticipated may change following contract performance. This may occur in two ways.
- 4.10 The first is the result of changes in the value delivered by the contract or its price. In simplified form, where contracts deliver less value than expected without price reduction, or where the price increases beyond what was anticipated without commensurate additional value being delivered, value for money will worsen. Conversely, where greater value is delivered without a price increase, or where the expected value is delivered at lower price, value for money will improve. There will also be many alternative value/price combinations where good value for money continues to be obtained (Figure 3).

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<sup>27</sup> Most recently, HM Government (2015) *National Security Strategy and Strategic Defence and Security Review 2015* (Cm 9161) and HM Government (2018) *National Security Capability Review*.

<sup>28</sup> Lord Currie of Marylebone (2011) *Review of Single Source Pricing Regulations*.

<sup>29</sup> HM Treasury (2018) *Guide to Developing the Project Business Case*.

**Figure 3: Value for money at contract outturn may vary from the time of agreement**

Source: SSRO

- 4.11 The second way that the assessment of whether the contract delivers value for money may change is through the observation of variance in the balance of the cost and profit elements of the contract price. Where a contract priced on estimated Allowable Costs is performed at lower cost than was estimated at the time of agreement, resulting in higher profit for the contractor, the MOD may consider that the price paid was unnecessarily high and that it obtained worse value for money than expected. Conversely, where actual costs exceed estimates without impacting on the price paid by the MOD, it may consider it has obtained better value for money than expected.<sup>30</sup>

#### Fair and reasonable prices

- 4.12 A considerable number and value of QDCs and QSCs have been reported by contractors, providing evidence that the parties to regulated contracts have been able to reach agreement about their pricing (Box 9).

#### **Box 9: QDCs and QSCs agreed**

By 30 April 2019 the SSRO had been notified of 214 contracts which became QDCs or QSCs from 1 April 2015 to 31 March 2019. Of these, contract reports had been submitted for 201 contracts (169 QDCs and 32 QSCs).<sup>31</sup>

The total estimated contract price of these contracts was £26.8 billion (comprised of £24.3 billion of estimated Allowable Costs and £2.5 billion of estimated profit). The mean estimated contract profit rate for these QDCs/QSCs was 9.74 per cent.

By number of contracts, firm pricing was the most common pricing method, used in 147 (67 per cent) QDCs/QSCs. By price, target pricing was the most common pricing method, with £11.2 billion (42 per cent) of total contract price attributed to it.

<sup>30</sup> How cost variances are borne by the parties and how they impact on the price of the contract will be determined by the terms and conditions of the contract and the operation of any final price adjustment.

<sup>31</sup> SSRO (2019) *Annual Qualifying Defence Contract Statistics: 2018/19*.

- 4.13 There continues to be debate between the MOD, suppliers and the SSRO about whether the arrangements for pricing regulated contracts result in prices and, in particular, profits that are fair and reasonable. Suppliers continue to raise questions about the SSRO's methodology for determining the baseline profit rate,<sup>32</sup> which has been accepted by the Secretary of State,<sup>33</sup> and the MOD and suppliers continue to explore potential changes (which would require primary legislation) to the magnitude and application of the cost risk adjustment, which rewards contractors that embrace more cost risk in the delivery of single source contracts.
- 4.14 There is also a more general view expressed by some suppliers that profits earned in the delivery of QDCs/QSCs are not sufficient to satisfy the expectations of their investors for returns on their invested capital. Suppliers also say that if profits in QDCs and QSCs are too low, investors or firms will prioritise other activities where there is opportunity to achieve higher returns. If this were to be the case, it may have a consequential impact on the MOD's ability to procure the goods and services needed for the UK's defence and security.
- 4.15 The Regulations (as with the Yellow Book arrangements which preceded them) aim to provide direction in the pricing of contracts where the absence of a competitive tendering process may result in the sub-optimal pricing of contracts for either the MOD or the contractor. In so far as economic theory can inform this discussion, we consider a fair and reasonable price is one which would have resulted had the contract price been established through competition. For the purpose of this regime, such a price is composed of costs which meet the requirements of Allowable Costs and an expectation of profit (providing a return) consistent with the performance of the relevant economic activities in a competitive market (Box 10).

**Box 10: SSRO definition of a competitive market**

For the purpose of identifying an appropriate pricing outcome for MOD single source contracts, we consider a competitive market for such contracts would be one in which prices for goods and services result from a rivalry between firms to supply their customers. Barriers to entry and exit practically constrain such a market developing in single source defence procurement, giving rise to the need for regulation.

The baseline profit rate methodology supports this outcome as it is an open market benchmark, meaning a representative measure of profit resulting from the interactions of buyers and sellers, constrained only to the extent that local conditions dictate (for example in respect of tariffs, taxes, and other regulatory restrictions that may affect those transactions and other distortions resulting from market failure, such a monopoly)

- 4.16 Fairness, in an economic sense, is concerned with the distribution of resources, and relative equity to all parties in relation to that (Box 11). Treating everyone in the same situation the same is central to this idea of fairness. For example, the distribution of payments from taxpayers across the MOD's single source suppliers given the goods and services each supply in return determines fairness for all involved.

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<sup>32</sup> SSRO (2019) *Single Source Baseline Profit Rate, Capital Servicing Rates and Funding Adjustment Methodology*.

<sup>33</sup> Gavin Williamson, Secretary of State for Defence (2019) *Baseline Profit Rate 2019-20 for Single Source Defence Contracts: Written statement - HCWS1417*.



**Box 11: Fairness**

In accounting terms, 'fair value' is 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date'.<sup>34</sup> Economics extends this idea by recognising that while a buyer and seller may willingly transact (for example, a buyer who pays the monopoly price), the benefits that accrue to either party to such a transaction may need to be redistributed in order for fairness to be achieved; which may be via an ex-ante or ex-post mechanism.<sup>35</sup> Lord Currie's review of the MOD's single source procurement noted that contract prices and profit need to be 'demonstrably fair' to both the contractor and the MOD/taxpayer.<sup>36</sup>

- 4.17 The inherently subjective nature of 'value' in determining a fair share of payments made and goods or services received raises challenging issues around the practical application of fairness. However, we consider that the proper and consistent application across different contracts of the SSRO's statutory guidance on pricing plays an extremely important role in ensuring fairness to both the MOD and contractors; ensuring the equal treatment of equals and the unequal treatment of unequals.

The pricing formula

- 4.18 The Regulations require that the price of a QDC or QSC is determined by applying profit (calculated in accordance with the six-step process) to the Allowable Costs of the contract. We consider facets of the contract pricing formula in more detail below.

*Cost-based pricing*

- 4.19 In competitive markets, contractors may price goods and services in a variety of ways to achieve particular strategic aims. Some of these approaches result in little or no profit for the firm and, given the need to satisfy investors' demands for returns in the long run, would only be sustainable in the short term. For example:
- a. using loss leaders to attract new customers in pursuit of greater market penetration;
  - b. price skimming, where prices are set high at the outset to maximise profits but lower as competitor goods become available; or
  - c. complementary pricing, where one of two or more complementary products is priced low in order to secure a captive market for the complementary products that are priced at a much higher level.
- 4.20 The SSRO considers that such tactical approaches to pricing would be difficult to replicate for the purpose of pricing QDCs and QSCS and unlikely to provide the basis for determining a fair and reasonable contract price. The cost-based approach to pricing is best suited to determining a price that is fair and reasonable, in the absence of competition.

*Allowable Costs*

- 4.21 The Allowable Costs represents the major proportion of the overall price of the contract and is, therefore, of greatest significance with respect to value for money. The Regulations require that the Allowable Costs in the contract price are the costs incurred by the contractor

<sup>34</sup> IFRS 13 *Fair value measurement*, Appendix A.

<sup>35</sup> Moulin (2003) *Fair division and collective welfare*.

<sup>36</sup> Lord Currie of Marylebone (2011) *Review of Single Source Pricing Regulations*.

which satisfy the requirements to be appropriate, attributable to the contract and reasonable in the circumstances. The SSRO provides guidance on the determination of Allowable Costs.<sup>37</sup> This is intended to assist the MOD and contractors to consistently determine the Allowable Costs for a QDC or QSC in a way that supports good value for money in government expenditure and fair and reasonable contract prices. The guidance sets out the typical characteristics of costs that meet the requirements of Allowable Costs, which the relevant parties should consider when evaluating whether a particular cost incurred by the contractor meets the requirements.

### *Profit*

- 4.22 Although profit represents the minor proportion of the overall price of the contract, it is the greatest focus of attention for suppliers because it represents the surplus that provides returns for investors and is a primary source of funds to reinvest in the business. The SSRO considers it is fair and reasonable that contractors expect to earn profit as a result of performing QDCs and QSCs, as they would in a competitive market. Firms exist, in most cases, for the purpose of generating profits to return to their shareholders. The motives which drive the need to provide returns to shareholder were discussed in section 3. It is necessary to the long-term financial sustainability of a firm that it generates returns sufficient to maintain its operations, reinvest profits to support long-term success of the business, service debt and settle other obligations and, lastly, to pay dividends to shareholders or to repurchase shares if there is sufficient distributable reserves after all other claims on the company.
- 4.23 Given that the Regulations require the price to be determined by adding profit to Allowable Costs, we consider it fair and reasonable that contractors should, subject to their satisfactory performance of the contract, expect to earn the profit element of the contract price estimated at the time of agreement. Where contract costs are higher or lower than estimates, contractors should expect to earn a lower or higher amount of profit, subject to the contract pricing method, any compensating factors related to the prospect of profit variance and other contract terms. This may provide an incentive for contractors to control costs.
- 4.24 While firms in competitive markets may make low returns or even losses on some contracts, this may become unsustainable in the long term. We therefore consider that the expectation of earning profit through QDCs and QSCs is consistent with the government's desire to "create an environment that encourages a thriving and globally competitive UK defence sector" and helps ensure its requirements for equipment and support can be fulfilled.<sup>38</sup> Some international single source procurement regimes (see Appendix 1) have explicit aims to support viable and profitable defence industries. The Act and Regulations make no specific mention of this objective. While ensuring contractors are paid an appropriate and reasonable return under QDCs and QSCs will contribute to the long-term financial sustainability of well-performing firms, matters related to defence industrial policy or strategic supplier management are the responsibility of the MOD and other government departments. (We give further consideration to what level of return is appropriate and reasonable in paragraphs 4.30 to 4.44 below.)

### Regulated pricing methods

- 4.25 The six regulated pricing methods establish whether the Allowable Costs used in contract pricing are those estimated at the time of agreement or the actual Allowable Costs determined during the contract or after contract completion. As discussed in paragraph 3.22, there is the potential in contracts priced on the basis of estimated Allowable Costs (firm, fixed

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<sup>37</sup> SSRO (2019) *Allowable Costs Guidance (Version 4)*.

<sup>38</sup> Ministry of Defence (2017) *Industry for Defence and a Prosperous Britain: Refreshing Defence Industrial Policy*.

and volume-driven pricing methods) for the estimate of Allowable Costs to be lower or higher than the actual Allowable Costs incurred in performing the contract.

- 4.26 Consequent to this, some portion of the Allowable Costs element of the contract price may become additional profit (where actual Allowable Costs are lower than the estimate), or some portion of the profit element of the contract price may be used to fund cost overruns (where actual Allowable Costs exceed the estimate). Despite this possibility, we do not consider it would be fair or reasonable for the Allowable Costs to be:
- a. knowingly under-estimated, with the profit element of the price regarded as a contingency to protect against cost overrun (or poor estimating); or
  - b. knowingly over-estimated (or padded), to increase the profit earned by the contractor.

#### Relationship to value for money

- 4.27 The Act does not indicate how, if at all, the concept of a fair and reasonable price relates to the concept of good value for money, for example, whether they are mutually supportive or in opposition. The concepts are, however, clearly related as the 'price' element of a fair and reasonable price is the 'money' element in value for money.
- 4.28 We consider these are, to some extent, mutually supportive concepts, as a price that is fair and reasonable combined with commensurate value delivered to the MOD, supports good value for money. However, this relationship may not always be so as the goods or services provided in a contract whose price was fair and reasonable may not always deliver the value which was anticipated. Conversely, value for money may be enhanced by paying a price below what would be considered fair and reasonable.
- 4.29 We consider that a contract profit rate which provides an appropriate and reasonable return on the fixed and working capital employed by the contractor in performing the contracts (in tandem with the satisfactory determination of Allowable Costs) is supportive of both a fair and reasonable price and value for money. However, the achievement of these pricing outcomes cannot simply be assumed. In particular, the attainment of one cannot necessarily be seen as having delivered the other.

#### **An appropriate and reasonable return**

- 4.30 The total profit earned on the contract represents the return made as a result of performing the contract. The Regulations specify the six-step process for determining the contract profit rate in QDCs and QSCs. The first five steps in the process account for most of the contractor's return. Step 6 allows for an adjustment related to the interest paid on long- and short-term debt (that is, capital servicing costs), adjusted in line with the relative capital intensity of the contract. While the contract profit rate is applied as a mark-up to the Allowable Costs in the contract, the six-step process aims to ensure that the overall return on the fixed and working capital employed to perform the contract is 'appropriate and reasonable'.<sup>39</sup>
- 4.31 We consider that an appropriate and reasonable return is one that provides a sufficient but not excessive reward to the suppliers of capital taking account of the risks they face (Box 12), consistent with what would be achieved in a comparable competitive market. We discuss these considerations below.

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<sup>39</sup> Section 17(2) of the Act and Regulation 11(7).

**Box 12: Risk, reward and incentives**

Microeconomic theory helps describe the behaviour of individuals when faced with uncertainty about getting different outcomes. It offers an explanation as to why individuals may need to be compensated for exposing themselves to risk.

Risk averse individuals are said to prefer getting a particular outcome for certain than accepting a gamble which offers that same expected outcome but which may turn out better or worse than expected. For example, given the choice, a risk averse individual would prefer to be given £50 than given a free bet that offered a 50 per cent chance of winning £100. Central to this is the idea that foregoing the certainty of receiving £50 by taking the gamble and then losing is considered worse than the net gain of an additional £50 if you the gamble is won. The implication of this is that in order to expose themselves to risk individuals will expect a greater payoff or reward than would be case where no risk was taken. Having taken on risk the actual outcome may turn out to be more or less favourable than would have been the case if the risk had not been taken. Risk averse individuals may forego a potential benefit (i.e. pay) to avoid risk; as in the case of insurance.<sup>40</sup>

Sufficient

- 4.32 In competitive capital markets, an appropriate and reasonable return on capital would be that which is sufficient to reward the supplier of capital for the risks to its capital. If investors in a firm are not sufficiently rewarded, they will seek alternative investment opportunities, with an impact on the long-term sustainability of the firm. Accordingly, the return on capital employed for the firm must exceed the cost of raising that capital (debt and equity). The cost of debt is the interest payable on loans (or coupons on bonds). The cost of equity is the return required by equity investors.
- 4.33 The principle that the profit included within the price of a contract should be commensurate with the risk being taken by the contractor is widely accepted and driven by the underlying need to compensate investors for risk they take in financing a firm's activities. We discussed in Box 6 the elements which make up the return required by investors. We consider that benchmarks from the competitive financial markets, as well as from competitive product markets, may provide a useful cross-check when assessing whether profits earned in QDCs and QSCs provide sufficient reward to the suppliers of capital. (Appendix 2 considers related corporate finance matters.)

Not excessive

- 4.34 In determining the contract profit rate for a QDC or QSC the MOD must be mindful of the consequences of paying above the market price, or rate of return, for goods and services. The European Union's rules concerning State Aid (Box 13) are intended to prevent public bodies giving financial advantages to firms in a way which could distort competition. The government's guidance on State Aid notes that:
- 'The ineffective use of State Aid in the long run can lead to a persistence of inefficient and unproductive industries, preventing the emergence of new and more innovative, high growth firms which could deliver better products more cheaply, and so damaging the country's long term prosperity.'*<sup>41</sup>
- 4.35 The absence of State Aid can be demonstrated by applying the Market Economy Operator Principle (MEOP). The MEOP requires a public body to act (and be able to demonstrate that

<sup>40</sup> Hal R. Varian (2014) *Intermediate Microeconomics: A Modern Approach*

<sup>41</sup> Department for Business Innovation & Skills (2015) *The State Aid Manual*.

it is acting) in a way that is consistent with what would be expected of a private investor, motivated by obtaining a return, under market conditions.

**Box 13: State Aid**

Article 107(1) of the Treaty on the Functioning of the European Union prohibits in principle any form of preferential government assistance (State Aid) to commercial undertakings. The purpose is to prevent distortion of competition within the EU. For government assistance to be classified as State Aid four characteristics must be present:

- 1) The assistance is granted by the state or through state resources.
- 2) It favours certain undertakings or the production of certain goods.
- 3) It distorts or threatens to distort competition.
- 4) It affects trade between European Union member states.<sup>42</sup>

If the characteristics are all present it is illegal to provide aid without prior approval from the European Commission, unless an exemption applies.

Comparable with a competitive return

- 4.36 We consider that what is appropriate and reasonable should be determined with reference to returns that would be achieved by firms undertaking comparable economic activities in competitive markets.
- 4.37 In most cases, the decision to procure from a single supplier indicates there is no competitive market for the goods or service being provided. In determining an outcome that might have been achieved under competition it is therefore necessary to consider the outcomes achieved in other competitive markets. It is important, however, that attention is paid to comparability in determining which other markets or entities it is appropriate to benchmark for the purpose of determining and reviewing contract profits in QDCs and QSCs.
- 4.38 Comparability was an underpinning principle of the Government Profit Formula agreed in 1968. At that time, the aim of the comparability principle was 'to give contractors a return on capital employed equal on average to the overall return earned by British industry.'<sup>43</sup> In 2003, the Review Board for Government Contracts recommended that the comparability principle should be amended 'so as to refer to giving contractors a return equal on average to the overall return earned by British Industry having regard to both capital employed and the cost of production. Accordingly, the Review Board recommended that a new profit formula should be adopted which took account of both capital employed and cost of production.'<sup>44</sup>
- 4.39 The SSRO updated the comparability principle in 2016 following a review of the baseline profit rate methodology in 2015.<sup>45</sup> Since then, comparability has been considered with reference to the activities being undertaken in QDCs and QSCs, rather than those undertaken by British industry generally (including non-comparable industries). We have also determined that it is appropriate to make comparisons with companies operating in Western

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<sup>42</sup> Department for Business Innovation & Skills (2015) *The State Aid Manual*.

<sup>43</sup> Lord Currie of Marylebone (2011) *Review of Single Source Pricing Regulations*.

<sup>44</sup> Review Board for Government Contracts (2003) *Report on the 2003 General Review of the Profit Formula for Non-competitive Government Contracts*.

<sup>45</sup> SSRO (2015) *Review of the Single Source Contract Profit Rate Methodology 2015: Consultation Paper*.

Europe and North America, not just to British industry, to reflect the international nature of the defence industrial base and the market for defence equipment and support.<sup>46</sup>

- 4.40 The comparability principle underpins the SSRO's approach to assessing the appropriate baseline profit rate to be used at Step 1 of the six-step process for determining the contract profit rate for a QDC/QSC.<sup>47</sup> The baseline profit rate is set with reference to the returns of a group of companies whose economic activities are included in whole or in part in the activity types that contribute to the delivery of QDCs and QSCs. The SSRO has developed activity type descriptors, informed through observation of the QDCs/QSCs that have been agreed, to guide the selection of comparable companies.
- 4.41 The SSRO has adopted the principles underpinning the Organisation for Economic Co-operation and Development's (OECD) guidelines for transfer pricing<sup>48</sup> – such as the arm's length principle and the principles of comparability analysis – to ensure it considers and takes account, where necessary, of specific factors that may affect comparability in the companies selected for inclusion in the reference group. For example, the assessment of the baseline profit rate excludes loss-making companies to avoid selecting companies that have 'going concern' issues and to reflect the expectation of positive profit in QDCs and QSCs.
- 4.42 The creation of value as a result of economic activity and the associated economic returns are highly important to the consideration of what is fair and reasonable in respect of profit in QDCs and QSCs. We consider that it might be helpful to revise the current articulation of the comparability principle in the SSRO's profit rate methodology document to make clearer how this relates to the determination of contract profit rates, rather than just how the comparability principle informs the determination of the baseline profit rate.
- 4.43 It may also be useful for us to consider how cross-checks related to, for example, the return on capital employed can be used to assess how profit in QDCs and QSCs compares to those available in competitive markets. We discuss this further in section 5.

#### Taking account of differences

- 4.44 We consider it would be fair and reasonable for contract profit rates (and Allowable Costs) to be determined in a consistent manner across different contracts. It would not be fair for contractors or the MOD for prices, or profit, to be determined differently where circumstances were the same.<sup>49</sup>
- 4.45 However, in determining an appropriate and reasonable return it is fair and reasonable that relevant differences between contracts and between the contractors performing them are considered. For example, some contractors may bear more cost/profit risk than others when delivering goods and services or may have more capital-intensive operations with higher costs of capital. These contractors may reasonably expect to earn higher profits as a result.
- 4.46 Under the Government Profit Formula, the standard baseline profit allowance could be varied for other factors, such as the financial risk inherent in the work. Additionally, contractors

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<sup>46</sup> Western Europe is defined as Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Malta, Norway, Portugal, Spain, Sweden, Switzerland and the UK. North America is defined as the USA and Canada.

<sup>47</sup> Described fully in SSRO (2019) *Single Source Baseline Profit Rate, Capital Servicing Rates and Funding Adjustment Methodology*.

<sup>48</sup> OECD (2017) *OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*.

<sup>49</sup> Inconsistent application of the SSRO's guidance is a concern that has been raised by the MOD's suppliers in response to previous consultation exercises.

could get fixed and working capital servicing allowances. Under the Regulations, adjustments to the baseline profit rate are made:

- a. to reflect the risk of the primary contractor's actual allowable costs under the contract differing from its estimated allowable costs (Step 2);
- b. to ensure that profit arises only once in relation to those allowable costs under the contract that relate to the price payable under any group subcontract (including any further group sub-contract) (Step 3);
- c. to give the primary contractor a particular financial incentive as regards the performance of provisions of the contract specified by the Secretary of State (Step 5); and
- d. to ensure that the primary contractor receives an appropriate and reasonable return on the fixed and working capital employed by the primary contractor for the purposes of enabling the primary contractor to perform the contract. (Step 6).<sup>50</sup>

4.47 These adjustments provide the mechanism by which the profit to be earned in a particular contract can be tailored to the circumstances of that contract.

4.48 As well as taking relevant differences into account in determining profit, it is important that irrelevant differences should be ignored. Such differences would include where one contractor performs less efficiently than another due to, for example, poor operational management, inappropriate cost control, or sub-optimal capital structures. They would also include matters not specifically related to the performance of the contract in question, such as the risks presented by the wider portfolio of contracts undertaken by the contractor.

### Profit principles

4.49 The SSRO considers that it would be beneficial to codify, within its pricing guidance and rates methodology documents, a set of principles which pertain to the pricing of QDCs and QSCs and, in particular, the determination of contract profit rates. We have sought to articulate below (Table 4) a set of profit principles drawn from the discussion of matters in this section and highlight the implications of these for determining and monitoring contract prices. We invite stakeholders to share their views with us on these principles and their application to the pricing of QDCs and QSCs.

**Table 4: Profit principles**

Principle	Implications
1. Good value for money and fair and reasonable prices are supported by a contract profit rate that gives the contractor an appropriate and reasonable return on the fixed and working capital it employs in performing the contract (and the satisfactory determination of Allowable Costs).	The SSRO should monitor and evaluate the estimated and actual profits earned by contractors in QDCs and QSCs in order to support its statutory aims.

<sup>50</sup> An adjustment is also made at Step 4, to reduce the contract profit rate by an amount set by the Secretary of State for the purpose of recovering half of the SSRO's running costs each year from contractors with QDCs and QSCs in proportion to the Allowable Costs in those contracts.

Principle	Implications
<p>2. The contract profit rate, when applied to Allowable Costs, should enable the contractor to earn a return commensurate with that achieved by firms in a competitive market for the supply of goods and services which are the product of comparable economic activities.</p>	<p>The contract profit rate (return on cost) will determine the rate of return on capital employed in performing the contract, although the respective rates may differ.</p> <p>Benchmark data related to companies which are comparable in relevant ways to those delivering QDCs and QSCs provides a basis by which to assess the appropriate baseline profit rate and capital servicing rates used in determining the contract profit rate, and to evaluate the functioning of the six-step process for determining contract profit rates.</p>
<p>3. The return on a QDC/QSC is appropriate and reasonable where it fairly contributes to meeting an investor's long-term expectations for returns on capital invested, given the risks to that investment.</p>	<p>Greater uncertainty about the actual contract profit rate to be earned in a QDC/QSC should be reflected in a higher estimated contract profit rate through the application of an appropriate cost risk adjustment.</p> <p>Where contract profit rate uncertainty is lowest (or nil), the largest negative cost risk adjustment should be applied, consistent with the concept of a risk-free rate of return on capital invested.</p> <p>Assessing contract profit with respect to relevant measures of capital provides a basis by which to evaluate if appropriate and reasonable returns are being earned in QDCs and QSCs.</p>
<p>4. Where contractors perform at the expected level of efficiency, they should earn the contract profit rate that was estimated at the time of contract agreement.</p>	<p>The Allowable Costs used in contract pricing should be the total (in some cases, estimated) costs of performing the contract that satisfy the requirements to be appropriate, attributable to the contract and reasonable in the circumstances.</p> <p>The opportunity for actual Allowable Costs to be lower than estimated Allowable Costs should not differ materially from the risk that actual Allowable Costs will be higher than estimated Allowable Costs so that cost control and improvements in efficiency are incentivised.</p>
<p>5. Fairness requires consistency in the determination of contract profit rates (and Allowable Costs) such that relevant differences are consistently considered while irrelevant differences are consistently ignored.</p>	<p>Statutory guidance on the pricing of contracts must be applied with an appropriate degree of consistency if prices are to be fair.</p>



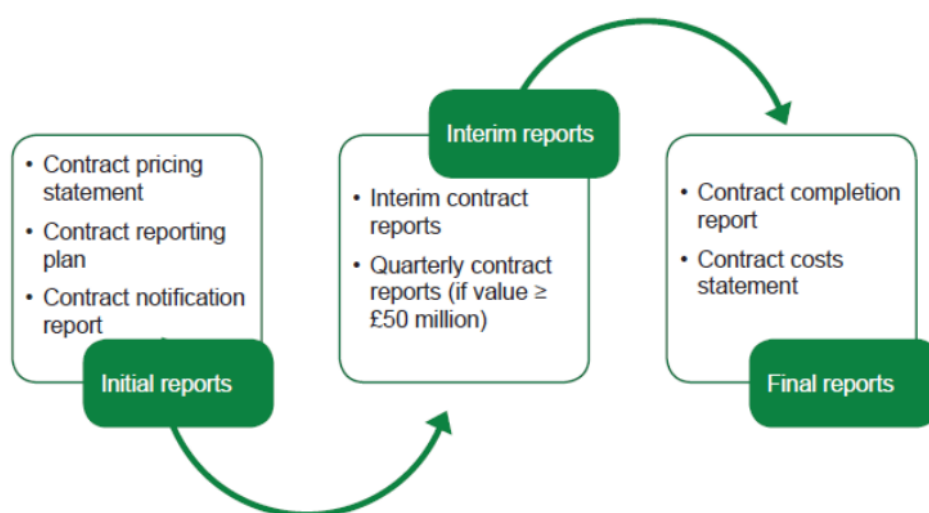
## 5. The SSROs monitoring and review

5.1 We consider below how the principles discussed in the preceding section have informed the SSRO's monitoring and review of the implementation of the Act and Regulations to date, and their implications for future monitoring and review.

### Monitoring contract prices and profit

5.2 Contractors must submit reports about the QDCs or QSCs to which they are party when signed, during contract delivery, and on contract completion (Figure 4). These reports contain a range of data about contract requirements, payments, estimated and actual costs and profit, factors affecting delivery and sub-contracts.

**Figure 4: Contract reports**



Source: SSRO

5.3 The SSRO publishes quarterly and annual statistics related to the number and duration of contracts; the number of contractors and the proportion of these that are classified as small and medium enterprises; contract price and pricing methods; estimated contract profit rates; and sub-contracting.

- a. Our annual analysis of contract price and pricing methods considers the magnitude of contracts; the total amounts of Allowable Costs and profits estimated in contracts agreed each year; the profile of costs and profits for agreed contract in future years; and the number and value of contracts using different contract pricing methods.
- b. Our annual analysis of estimated contract profits considers the average profit rates for contracts agreed each year and the number and magnitude of adjustments made to the baseline profit rate when determining estimated contract profit rates.

5.4 These statistics support our understanding of the population of contracts within the regime and provide a view of the prices and profit expected at the time of agreement. We are, however, also interested in the actual prices paid under contracts and profit earned by contractors, and must consider whether the profits observed provide an appropriate and reasonable return on capital employed given the economic activities being performed.

Actual prices and profit

- 5.5 At present, only a small number of contracts (six) have submitted Contract Completion Reports. The SSRO considers it should introduce statistics related to completed contracts once there is more data available. The SSRO will review this in the 2019/20 financial year and will engage with stakeholders on the development of the statistics.
- 5.6 While there are only a small number of contracts that have so far completed, there is a growing body of contracts for which interim reports have been provided. These reports may include updated forecasts of the Allowable Costs and profits expected at contract outturn. This data has provided the SSRO with the opportunity to consider variances in Allowable Costs and profits since the time of agreement as part of its current review of contract profit rates.
- 5.7 The SSRO expects to continue monitoring reported variances in cost and profit in support of its statutory functions as these may provide an early indicator of systematic contract pricing issues. We will be interested to observe, for example, whether contractors do, in general, earn the profits that they expected to earn at the time of agreement. Care is needed, however, to discern whether variances are due to matters of contract performance, reporting issues being corrected or variations in the scope or requirements of contracts.

Comparing contract profit with competitive benchmarks

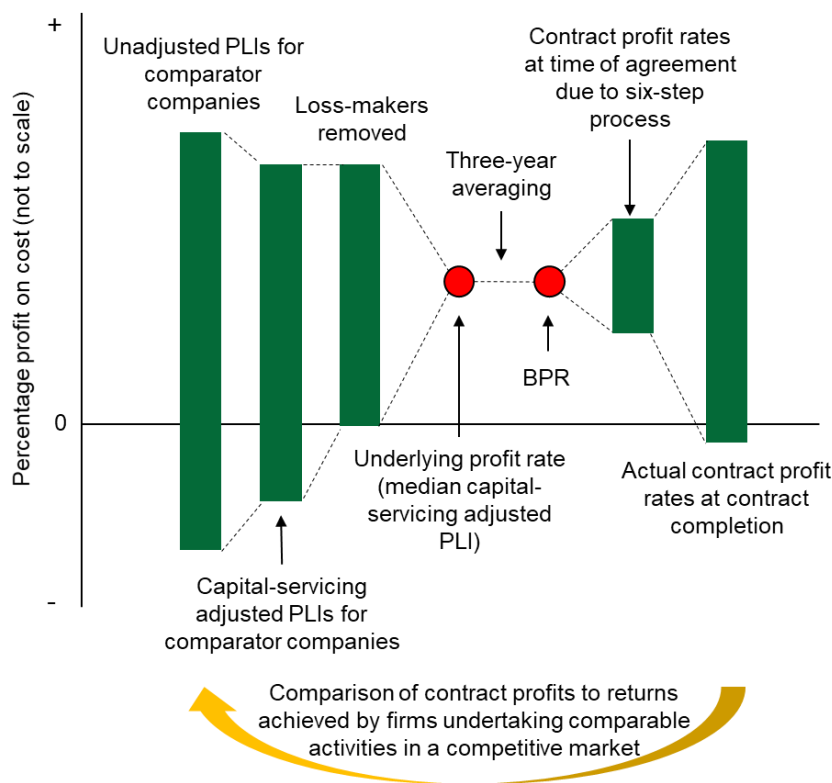
- 5.8 The SSRO's baseline profit rate recommendation is informed by data on actual profits earned by companies that undertake comparable economic activities in competitive markets. The SSRO's published methodology<sup>51</sup> describes the process by which these comparable companies are selected and the way that data is used in the assessment of the rates recommended to the Secretary of State.
- 5.9 To support its recommendation to the Secretary of State the SSRO undertakes a range of analysis comparing the profits earned by the companies in the baseline profit rate comparator groups, the profits earned by the MOD's main suppliers, the profits earned by QDC/QSC contractors and their global ultimate owners (GUOs), and the profits expected or achievable in QDCs and QSCs. This is helpful to assess whether the profits expected in QDCs and QSCs are commensurate with the profits earned by the contractors or their GUOs more generally, or with the profit earned by companies undertaking comparable activities in competitive markets. We will continue to undertake such analysis for presentation to the Secretary of State with our rates recommendation and will consider further how we might also make this available to industry stakeholders.
- 5.10 As indicated in our 2017 discussion paper on calibrating profit rates,<sup>52</sup> in time the SSRO will seek to compare the actual profits earned in QDCs and QSCs to the profits earned by the companies in the comparator group which informed the baseline profit rate used in determining the contract profit rate for the contract (Figure 5). We consider this will help to expose any systematic positive or negative biases affecting the profits earned in QDCs and QSCs.

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<sup>51</sup> SSRO (2019) *Single Source Baseline Profit Rate, Capital Servicing Rates and Funding Adjustment Methodology*.

<sup>52</sup> SSRO (2017) *Developing the SSRO's Approach to Calibrating Profit Rates in Single Source Contracts: Discussion Paper*.

**Figure 5: Illustration of how profits earned in QDCs and QSCs are determined and might be monitored**



Source: SSRO

Notes:

- PLI (profit level indicator) in the SSRO's methodology is net cost-plus margin, given by the formula: operating profit/loss / (operating revenue – operating profit/loss). This is the closest equivalent to the return on Allowable Costs used to determine profit in QDCs and QSCs.
- The BPR may be higher, lower or the same as the underlying profit rate derived from the latest year's data, depending on the underlying profit rates derived in the preceding two years.
- The contract profit rates estimated at the time of agreement are reported in the SSRO's annual statistics bulletins.

5.11 As it may be many years before a sufficient numbers of contracts have reached completion to support such analysis, the SSRO will consider how updated forecasts of contract profit rates provided in interim contract reports might be used to provide an early view of the comparability of actual profit rates to comparable companies' profits.

5.12 The SSRO's discussion paper on calibrating profit rates in QDCs and QSCs<sup>53</sup> highlighted that there are a number of technical and other factors that need to be considered when relating contract profit rates to indicators of corporate profitability, whether of the contractors, their GUOs or other companies in the comparator groups. These include:

- a. the need to take account of the level of risk borne by contractors and comparator companies;
- b. the choice and derivation of appropriate profit indicators; and

<sup>53</sup> SSRO (2017) *Developing the SSRO's Approach to Calibrating Profit Rates in Single Source Contracts: Discussion Paper*.

- c. the need to take account of the normal variation in profit that occurs over time as a result of, for example, cyclical factors.

5.13 The SSRO continues to welcome representations from stakeholders on how these matters might usefully be addressed for the purpose of comparing contract profit with competitive benchmarks.

#### **Financial market indicators and the industrial landscape**

5.14 The SSRO prepares supporting analysis to support its baseline profit recommendation. This considers a number of financial market indicators for the MOD's main single source contractors. We examine the total shareholder returns earned by investors in defence contractors, including dividends paid to shareholders and changes in share prices (this analysis also takes into consideration the effect of new share issuance as well as share repurchases by companies). We perform an impact analysis to consider the theoretical impact of a change in the baseline profit rate on share prices (at a constant earnings multiple valuation) and we perform event analysis to consider movements in share prices either side of the day on which the Secretary of State announces the baseline profit rate for the following financial year. As with our profit analysis, we will consider further how we might also make this analysis available to industry stakeholders. It may also be possible for the SSRO to contribute to the MOD's own analysis to track changes in the defence industrial landscape.

5.15 We consider there are additional areas where analysis of financial market indicators may be desirable to assess the extent to which the principles discussed in the previous section are being met. We might, for example, extend our analysis of financial market indicators to QDC/QSC contractors or their GUOs, rather than restricting this to the MOD's main suppliers. We might also use financial market data to compute the cost of capital and return on capital for QDC/QSC contractors or their GUOs and consider how these compare to each other or to the return on capital earned in associated QDCs or QSCs. However, as we noted in our discussion paper on calibrating profit rates that there are a number of technical considerations in undertaking such analyses which make them difficult in practice.<sup>54</sup> (Related issues are considered in Appendix 2 of this paper.)

#### **Other analysis**

5.16 Some other analyses that we have undertaken on an *ad hoc* basis but which might be undertaken more routinely include examination of:

- a. the proportion of MOD contract spending that occurs in contracts regulated under the Framework;
- b. differences in character between the population of QDCs/QSCs and other MOD contracts (both competitive and non-competitive);
- c. differences in character between the population of QDC/QSC contractors and other MOD contractors; and
- d. industry structure, supplier concentration and dependence of suppliers on the MOD single's source contracts.

5.17 We welcome stakeholders' views on aspects of the SSRO's current or future monitoring of profits in QDCs and QSCs and the extent to which these profits are consistent with competitive benchmarks.

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<sup>54</sup> SSRO (2017) *Developing the SSRO's Approach to Calibrating Profit Rates in Single Source Contracts: Discussion Paper*.

## 6. Questions for stakeholders and next steps

- 6.1 The SSRO is seeking views and evidence from stakeholders in response to the discussion of key principles identified in this working paper. The specific questions on which we welcome feedback are:
- a) For each of the principles identified in Table 4, do you agree or disagree that the principle is relevant to the achievement of good value for money and fair and reasonable contract prices in QDCs and QSCs? (For any that you do not agree are relevant, please explain why this is.)
  - b) For each of the principles identified in Table 4, do you agree or disagree with the SSRO's assessment of the implications for determining and monitoring contract prices? (For any where you do not agree with our assessment, please explain why this is.)
  - c) What, if any, other principles do you consider to be relevant to contract pricing? (Please explain why you consider these principles to be relevant to the achievement of good value for money and fair and reasonable contract prices in QDCs and QSCs.)
- 6.2 Stakeholders can comment on this working paper via email to [consultations@ssro.gov.uk](mailto:consultations@ssro.gov.uk) by 16 August 2019. The SSRO also invites stakeholders to discuss any of the issues raised in this working paper on an individual basis. To arrange a discussion please contact David Pottruff via [david.pottruff@ssro.gov.uk](mailto:david.pottruff@ssro.gov.uk).
- 6.3 Comments on the issues raised in this paper will inform the SSRO's further thinking on the principles relevant to the determination of contract profit rates and the development of its approach to monitoring and review of the implementation of the Act and Regulations. In particular, responses will help inform:
- a. the development of a working paper on the consideration of risk in determining the contract profit rate for a QDC or QSC (due in September 2019); and
  - b. the consideration of any potential recommendations for legislative change to be made by the SSRO to the Secretary of State in June 2020 to inform her next review of the legislation.
- 6.4 The SSRO will prepare a summary of the responses to this working paper for publication in due course.

## Appendix 1: International comparisons

A1.1 Below for reference is a summary of international guidance related to principles relevant to the determination of profit in contracts.

A1.2 We welcome stakeholder views on how the principles identified below might inform the development of principles relevant to the determination of profit in QDCs and QSCs.

### Australian Government Department of Defence: Capability Acquisition and Sustainment Group (CASG) Profit Principles

A1.3 The CASG Profit Principles clarify how profit is determined for Department of Defence (DoD) contracts to which the Principles apply. The Principles operate within an overarching framework of legislative and policy requirements concerning the proper management of public money and public property and rules for achieving value for money with procurements.

#### Extracts from CASG Profit Principles<sup>55</sup>

##### **Aim**

*1. The aim of the CASG Profit Principles is to provide guidance in the determination of Defence contract pricing where market competition does not occur. This is achieved by setting a standard approach for the determination of a fair and reasonable profit for sole source procurement and to provide transparency and clarity to all stakeholders. The Principles provide guidance rather than regulation in regards to profit determination.*

##### **Objectives**

*The objectives of the Profit Principles are to:*

- reward contractors fairly and reasonably commensurate with risk;*
- treat all contractors equitably and in a consistent manner;*
- in conjunction with the Cost Principles, pay reasonable prices (allowable cost + profit) for procurement;*
- incentivise and sustain a viable and profitable Defence Industry; and*
- achieve value for money for sole source procurements.*

##### **Risk Reward**

*11. Risk Reward is the profit return that industry should expect for the additional risk they accept. The assessed level of risk for the contract will be a major influence on the application of the Profit Principles as there is a direct correlation between the level of risk and the level of profit required to compensate for the risk.*

*12. When determining the level of profit there needs to be a clear understanding of the types of risks evident in the various types of contracts. The greater the risk accepted by the contractor the greater the profit reward. CASG will have regard to representations made by the contractor when making the risk assessment for determining profit.*

*13. The risks in sole source defence procurements are those broadly represented by **contractual risk**, **activity risk**, and **general business risk**. These are the risk factors are specific to the contract and specific to the company and its ability to deliver the capability or service and they are an integral part of the methodology.*

<sup>55</sup> [http://www.defence.gov.au/casg/Multimedia/CASG\\_Profit\\_Principles-9-9036.pdf](http://www.defence.gov.au/casg/Multimedia/CASG_Profit_Principles-9-9036.pdf)

14. An important consideration is to what degree the risk is shared between the company and the Commonwealth in the contractual arrangements. This level of risk sharing will determine the residual risk that the contractor bears and therefore the return, in the form of profit that should be awarded.

...

#### **Contractual risk**

16. Fundamental to the determination of a fair profit is the type of contract and the cost risk it represents to the contracting parties. Firm price contracts can potentially result in contractors incurring significant losses and inherently carry a high level of risk... Cost Plus Margin Contracts where all incurred allowable costs are paid plus an agreed profit, are considered low risk.

...

#### **Activity Risk**

25. Higher profit levels are assigned for acquisition contracts for more complex activities....

26. Lower profit levels are assigned for a sustainment contract, for a very mature product line with extensive cost history or where there is a well-defined specification and a comprehensive SOW...

27. Routine activities such as facility support and preventative maintenance have a much lower risk profile and associated risk reward...

...

#### **General business risk**

29. ...The award of profit for General Business Risk recognises the level of effort or value-add that a contractor makes in the management of resources required to perform the contract...

30. The return for General Business Risk should be commensurate with the level of effort, responsibility and risk that the contractor has to bear in managing all the various cost elements in the contract.

A1.4 Note that unlike the UK SSCRs and some other international regimes, the CASG Profit Principles do not include an allowance for capital servicing because this is dealt with elsewhere.

Extract from CASG Profit Principles<sup>56</sup>

#### **Proposed Payment Regime and Capital Servicing**

14. The ideal payment regime for Defence contracts is one that provides a neutral cash flow to the contractor so that revenue derived from the contract offsets the contract cost outlays. Normal operating working capital requirements will be satisfied from contract profit.

15. However, in some contracts, there is a requirement for significant capital to be employed by the contractor and therefore in these circumstances a fair return on their capital outlay should be provided as part of the contract price. Any specific or special requirements regarding servicing capital, is to be included in the contractor's costs and is allowed for in the CASG Cost Principles. Accordingly, there is no allowance for capital servicing in the Profit Principles.

<sup>56</sup> [http://www.defence.gov.au/casg/Multimedia/CASG\\_Profit\\_Principles-9-9036.pdf](http://www.defence.gov.au/casg/Multimedia/CASG_Profit_Principles-9-9036.pdf)

## Public Works and Government Services Canada: Standard Acquisition Clauses and Conditions (SACC) Manual

A1.5 Section 10.65 *Calculation of profit on negotiated contracts* of the SACC Supply Manual sets out policy and guidelines for the calculation of the amount of profit. The Manual contains policies and procedures, as well as references to acts and directives, for the procurement of goods, services and construction. It is intended primarily for the use of Public Works and Government Services Canada (PWGSC) contracting officers acting in PWGSC's capacity as a common services provider, when it undertakes procurements on behalf of other Government of Canada organizations.

### Extracts from 10.65 Calculation of profit on negotiated contracts<sup>57</sup>

*10.65.b ...The object of price negotiation is to duplicate a fair market price, while establishing a realistic division of responsibilities and risks between the contractor and Canada.*

*A fair market price for non-competitive contracts for the procurement of goods or services (other than commercial goods or services) must be negotiated. The object of such negotiation is to arrive at a price which is considered to be fair and reasonable in the circumstances based upon an estimate of the costs, to be incurred in the performance of the contract, computed in accordance with the Contract Cost Principles 1031-2, plus a fair profit.*

...

*10.65.c Profit levels will vary:*

- (i) to recognize the cost of money associated with the capital employed by the contractor in performance of the contract;*
- (ii) to recognize the levels of general business and contractual risk assumed by the contractor in performance of the contract.*

...

*10.65.15 The provision of a return on fixed capital employed is intended not only to compensate contractors for the cost of money associated with the fixed capital employed on the contract but also to encourage investment in new capital equipment, the result of which is generally greater productivity and consequently reduced costs to Canada.*

*... fixed capital employed is calculated as...overhead recovery base allocated to the contract...[divided by]... total budgeted amount of recovery base...[multiplied by]... net book value of fixed assets...*

*The rate of return to be applied to the fixed capital employed ...will be 1.7 times the corporate bond rate*

...

*10.65.20 During negotiations, a schedule of the estimated net working capital for the contract... on a month-by-month basis, will be determined and agreed to between the contracting officer and the contractor...The rate of return [is] applied to the cumulative monthly amounts of working capital.*

...

*10.65.25 General Business Risk: The award of profit under this factor is intended to recognize the level of effort a contractor makes in the management of all the resources required to perform the contract in an efficient and economical manner.*

<sup>57</sup> <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/10#section-10.65>



...

*10.65.30 Contractual Risk: The rates of profit to be paid for contractual risk will depend upon the basis of payment selected for each individual line item of the contract, or part thereof, and the cost base associated with each distinct basis of payment.*

### United States of America: Federal Acquisition Regulation (FAR)

A1.6 The Federal Acquisition Regulation (FAR) is the principal set of rules for government procurement in the United States. The purpose of the FAR is to provide "uniform policies and procedures for acquisition." It is the uniform, government-wide regulation governing executive agency procurement contracts. The Department of Defense (DOD) FAR Supplement (DFARS) is a subset of the FAR that deals with procurement for the DOD.

A1.7 The FAR and DFARS apply broadly and also have provisions that are specifically relevant to non-competitive procurement.

#### Extract from the Federal Acquisition Regulations<sup>58</sup>

##### *15.404-4 Profit*

*(1) Profit ... represent[s] that element of the potential total remuneration that contractors may receive for contract performance over and above allowable costs.*

*(2) It is in the Government's interest to offer contractors opportunities for financial rewards sufficient to stimulate efficient contract performance, attract the best capabilities of qualified large and small business concerns to Government contracts, and maintain a viable industrial base.*

A1.8 The FARs require that agencies making non-competitive contract awards normally use a "...structured approach for determining the profit". For defence procurement, the DFARS incorporate three structured approaches; the weighted guidelines method is most commonly used for contracts with profit-making organisations that are not for construction activities.

#### Extract from the Defence Federal Acquisition Regulations Supplement<sup>59</sup>

##### *215.404-71 Weighted guidelines method.*

*The weighted guidelines method focuses on four profit factors—*

- (1) Performance risk;*
- (2) Contract type risk;*
- (3) Facilities capital employed; and*
- (4) Cost efficiency*

...

*Performance risk... addresses the contractor's degree of risk in fulfilling the contract requirements. The factor consists of two parts:*

- (1) Technical--the technical uncertainties of performance.*

<sup>58</sup> <https://www.acquisition.gov/browse/index/far>

<sup>59</sup> <https://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>

*(2) Management/cost control--the degree of management effort necessary to ensure that contract requirements are met and to reduce and control costs.*

...

*Contract type... focuses on the degree of cost risk accepted by the contractor under varying contract types.*

...

*The working capital adjustment is an adjustment added to the profit objective for contract type risk. ... Its purpose is to give general recognition to the contractor's cost of working capital under varying contract circumstances, financing policies, and the economic environment.*

...

*Facilities capital employed... focuses on encouraging and rewarding capital investment in facilities that benefit DoD. It recognizes both the facilities capital that the contractor will employ in contract performance and the contractor's commitment to improving productivity.*

...

*Cost efficiency factor... provides an incentive for contractors to reduce costs. To the extent that the contractor can demonstrate cost reduction efforts that benefit the pending contract...*

## Appendix 2: Corporate finance considerations

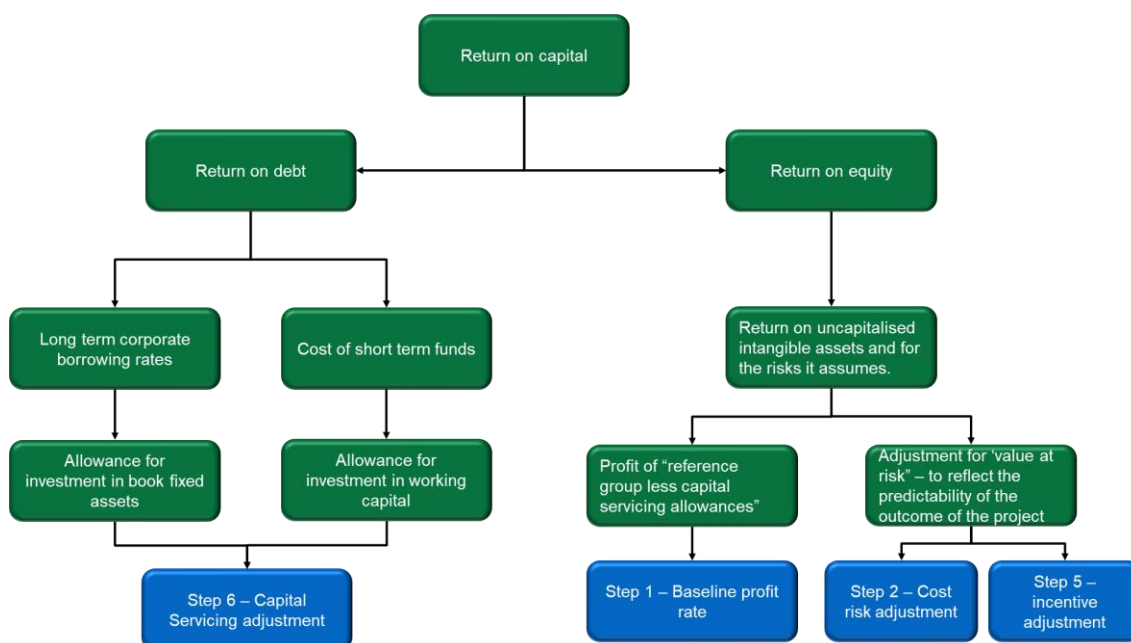
### Corporate finance and return on capital regulation

- A2.1 A well-established approach to economic regulation is to derive a cost of capital and apply it to a regulated capital base to determine an appropriate return on capital for investors. This requires working up through the cost structure to determine a price that monopoly firms are allowed to charge customers for goods and services. This approach has been applied to network and utility businesses such as water, gas, electricity and telecommunications for several decades by independent sector regulators in the UK, to remedy competition issues.
- A2.2 The Capital Asset Pricing Model (CAPM), is generally the preferred approach to estimate an allowed return on regulated assets. CAPM is widely used in corporate finance as a means to derive discount rates and may be used to perform business valuations and measure shareholder value.
- A2.3 While there are several similarities between the regulation of single source defence contracts and that of network infrastructure businesses, a number of key differences exist. Prominently, the Regulations are applied to individual contracts that have defined characteristics, rather than to business divisions, entire firms or all market participants in a given industry. By contrast, some economic regulation is applied to the entirety of a firm's business operations, or to specific activities (for example, the provision of network infrastructure) while other activities may be un-regulated or subject to other forms of regulation to make them more contestable (for example, the introduction of competition into retail and customer-facing activities).
- A2.4 Economic regulators also apply a variety of approaches to assess the efficiency of costs, including a requirement for companies to submit business plans for review and approval, and the operation of various regulatory incentives. This form of economic regulation is typically applied over multi-year periods, for example, 3 or 5 years, with additional mechanisms for in-period review and end-of-period resetting or adjustment.
- A2.5 Under current statutory arrangements, a contract profit rate for a QDC or QSC is derived using the six-step process and this is applied to Allowable Costs for the life of the contract. The contract profit rate takes into consideration an estimate of capital intensity for a given contract. The capital employed itself may be limited, or employed simultaneously in regulated and unregulated contracts, leading to further challenges in identifying an appropriate capital base.
- A2.6 Despite these differences, CAPM may represent a useful analytical framework which may be adapted to cross-check the profits being earned in single source contracts against a return which might have arisen in a regime adopting return on capital regulation.

### The components of contract profit

- A2.7 The Review Board for Government Contracts' 2003 general review of the Government Profit Formula set out how the components of contract profit in regulated contracts relate to returns to the providers of debt and equity. The factors which give rise to investors' desire for a return on their invested capital are reflected in a number of ways in the six-step process for determining the contract profit rate for a QDC or QSC (Figure 6). For example, the need to compensate providers of debt and equity for risk to their investments is reflected in the adjustments at, respectively, Step 2 and Step 6.

Figure 6: The components of profit in QDCs and QSCs



Source: Review Board for Government Contracts and SSRO

### Risk and capital servicing rates

A2.8 While the cost risk adjustment (Step 2) provides for a specific adjustment in relation to the risk of variance between estimated and actual Allowable Costs, the capital servicing adjustment (Step 6) is also an important factor in compensating contractors for risk. As noted in section 3 compensation for risk is a factor leading investors (specifically lenders in the case of the capital servicing rates used for the capital servicing adjustment) to seek particular returns.

A2.9 The capital servicing rates recommended by the SSRO and set by the Secretary of State are direct measures of return on debt. The risk that corporate bonds may not be repaid in full and that this risk may crystallise over the life of the bond comprise the element of the spread related to credit risks. This credit risk arises as a result of uncertainty in the future financial performance of the company in which the investment is held. Cost risk, which also features at Step 2, is part of this. The credit risk associated with corporate bonds is denoted by a credit rating and may be measured.<sup>60</sup>

### Evaluating a company's cost of capital

A2.10 Evaluating the cost of capital to a firm is key to understanding if the returns it is making are sufficient to meet the demands of investors. The cost of capital is often evaluated as a weighted average.

$$\text{Weighted average cost of capital (WACC)} = r_d(1 - t) \frac{D}{V} + r_e \frac{E}{V}$$

A2.11  $r_d$  and  $r_e$  are the expected rates of return of debt and equity, the “cost of debt” and the “cost of equity” respectively. The weightings  $D/V$  and  $E/V$  are the proportions of the market value of debt and equity relative to the total market value of the firm.  $t$  is the marginal rate of corporation tax. This formula is appropriate to the ‘average’ project for that firm, and further

<sup>60</sup> Credit ratings are opinions issued by ratings agencies on the likelihood that providers of debt capital to companies will be repaid. Higher grades are intended to represent a lower probability of default.

adjustment may be required where a project would cause changes in the firm's capital structure or diverges materially in terms of asset risk.

A2.12 The cost of debt ( $r_d$ ), the tax rate, debt and equity can be directly observed in a relatively straightforward fashion. The cost of equity ( $r_e$ , the expected rate of return demanded by investors in a firm's shares) must be estimated. This is often done using stock market data and approaches such as the CAPM.

A2.13 The CAPM model sets out the following relationship, which may be estimated using market data to ascertain a measure of the cost of equity:

$$\text{Expected return on equity } (r_e) = r_f + \beta(r_m - r_f)$$

A2.14  $r_f$  and  $r_m$  are the risk-free rate of interest and the return on the market portfolio respectively.  $\beta$  measures the proportion of the market risk premium ( $r_m - r_f$ ) that is captured in the expected return on equity. This reflects the risk in the individual stock.

A2.15 The components of this formula can be obtained from a range of sources

Component	Data source
Risk-free rate ( $r_f$ )	Risk free rates of return can be observed in the market for sovereign debt.
Beta ( $\beta$ )	<p>The defence sector contains many listed companies. Their share price data may be used in the calculation of <math>\beta</math>. The SSRO has published analysis on the <math>\beta</math> of the MOD's single source suppliers in its <a href="#">Annual report on the single source regime 2017</a>.</p> <p>Ofgem has published an independent Beta Study which explores approaches to calculating and using equity <math>\beta</math>. <a href="#">OFGEM Beta Study</a></p>
Equity risk premium ( $r_m - r_f$ )	<p>The UK Regulators Network publishes annual equity risk premia for a range of sectors.</p> <p><a href="#">Cost of Capital – Annual Update Report</a></p>