



# Cost orientation

Review

Consultation

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## Section 1

# Introduction and summary

## Introduction

- 1.1 Under the Common Regulatory Framework (CRF), Ofcom, as national regulatory authority for telecommunications regulation, is obliged to conduct periodic market reviews, and determine whether particular markets are effectively competitive. Where Ofcom finds that the market is not effectively competitive, it must identify the undertakings with significant market power (SMP) on that market and impose appropriate ex ante obligations on such undertakings to address the competition problems identified. Where the market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level, or may apply a price squeeze, to the detriment of end-users, such remedies may include price remedies.
- 1.2 Since the CRF was implemented in the UK in 2003, Ofcom has undertaken a significant number of market reviews, and has imposed price remedies, including for example charge controls and cost orientation obligations, in all of them. We have recently published a statement in the Business Connectivity Market Review and our programme of market reviews continues.
- 1.3 In light of our experience of the effectiveness of these price remedies, and in particular cost orientation obligations, we have considered afresh in general terms the way in which we might use them in the future. This document focuses on the cost orientation obligations we impose in SMP conditions in fixed telecommunications, as there are no cost orientation SMP obligations in place in mobile markets.
- 1.4 While we will consider what remedies are appropriate, and the form that such remedies should take, in each market review, here we set out at a general level the factors we are likely to consider in deciding whether and which price remedy is appropriate, and if we consider a cost orientation obligation is necessary, the form this obligation should take. We consider in particular how the use of a cost orientation obligation may relate to our use of charge controls.
- 1.5 This document does not affect cost orientation obligations set in past market reviews and compliance with such obligations. Cost orientation obligations which have been set previously have been set in the particular context of individual market reviews and therefore impose particular obligations. We cannot, and do not seek to use this document to have any effect on the nature of those obligations or the construction of the SMP conditions which have previously been set in relevant markets. Any references to existing cost orientation conditions are therefore purely indicative and do not affect the operation of those conditions.
- 1.6 In November 2011, we published a call for inputs through which we sought stakeholders' views on setting and monitoring cost orientation obligations<sup>1</sup>. In light of the responses to that call for inputs, we are now publishing this consultation. We

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<sup>1</sup> We also sought stakeholders' opinions on a review of regulatory financial reporting obligations, in relation to which we published a consultation in September 2012.

welcome stakeholders' views on the thoughts set out in this document. We do not anticipate following this consultation with a statement; instead it will be more appropriate for us to take views into account as we work through our programme of market reviews. We will, however, publish a summary of responses later in 2013.

## Outline and summary

- 1.7 The remainder of this section discusses the legal framework for imposing pricing remedies, and in particular, the limitations to imposing such remedies. We also provide an overview of how we have used cost orientation in past market reviews.
- 1.8 Section 2 then discusses how we may use cost orientation obligations in the future. We consider that different market conditions may give rise to different competition concerns and hence, different types of price remedies. In general terms, we look at which pricing remedies may be appropriate in markets for key wholesale inputs, markets for new services, markets for declining services and prospectively competitive markets.
- 1.9 Section 3 sets out the form such cost orientation obligations may take where we determine that a cost orientation obligation is appropriate. We discuss in particular the different cost standards, and how one can approach changes in cost over time. For example:
  - Where we use a cost orientation obligation in conjunction with a charge control, it is likely to be appropriate to continue to use distributed stand-alone cost (DSAC) to establish or set the price ceiling in advance for the duration of the market review period.
  - In those more limited circumstances where cost orientation is being used as a fallback for a charge control, it may be more appropriate, depending upon the circumstances, to use a 'FAC+' approach – i.e. fully allocated costs plus a small factor to allow for uncertainty of costs from year to year.
  - In other situations, such as cost orientation in a prospectively competitive market, the details of the condition might be specified somewhat differently (e.g. there might be a stronger argument to use DSAC instead of FAC+).

## Legal framework

- 1.10 Under the framework harmonised across the European Union ("EU") for the regulation of electronic communications by the Member States (known as the Common Regulatory Framework or the 'CRF')<sup>2</sup> and the Communications Act 2003 (the 'Act'), Ofcom is obliged to conduct periodic market reviews in the telecommunications sector. In doing so, Ofcom needs to define relevant product and geographic markets and carry out an analysis of the relevant markets in order to determine whether particular markets are effectively competitive.

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<sup>2</sup> The applicable rules are contained in five Directives, of which the Directive 2002/21/EC of 7 March 2002 on a common regulatory framework for electronic communications networks and services (the "Framework Directive") and Directive 2002/19/EC of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (the "Access Directive") are of particular importance here.

- 1.11 As set out above, where in the course of a market review Ofcom finds that a market is not effectively competitive, it must identify the undertakings with SMP in that market and impose appropriate ex ante obligations on such undertakings to address the competition problems identified. These remedies include, amongst others, access remedies and non-discrimination. They also include pricing remedies.
- 1.12 However, Ofcom's powers to impose SMP obligations are subject to certain limitations. First, when imposing SMP conditions, Ofcom needs to consider its general duties under Section 3 of the Act and the six European Community requirements for regulation under Section 4 of the Act (which give effect, amongst others, to the requirements of Article 8 of the Framework Directive).
- 1.13 In addition, any SMP obligation needs to satisfy the test that the obligation is: (a) objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates; (b) not such as to discriminate unduly against particular persons or against a particular description of persons; (c) proportionate to what the condition or modification is intended to achieve; and (d) in relation to what it is intended to achieve, transparent<sup>3</sup>.
- 1.14 Further, pricing obligations imposed under Section 87(9) of the Act cannot be imposed unless certain conditions are fulfilled. In particular, under section 88 of the Act, first, the market analysis must indicate that there is a risk of adverse effects arising from price distortion, and, second, the pricing obligation must be appropriate to promote efficiency, to promote sustainable competition, and to confer the greatest possible benefits on the end-users of public electronic communications services. There is a risk of adverse effects arising from price distortion, where the operator concerned might sustain prices at an excessively high level, or apply a price squeeze, to the detriment of end-users.
- 1.15 In setting the pricing obligation, Ofcom must take into account the investment made by the operator and allow him a reasonable rate of return on adequate capital employed, taking into account the risks involved, as well as ensure that any cost recovery mechanism or pricing methodology that is mandated serves to promote efficiency and sustainable competition and maximise consumer benefits<sup>4</sup>.

### **Cost orientation obligations in past market reviews**

- 1.16 Since the entry into force of the CRF, Ofcom has undertaken a number of market reviews and has imposed cost orientation as an SMP remedy in a number of cases. Figure 1 below provides an overview showing the markets in which cost orientation currently applies.

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<sup>3</sup> Section 47(2) of the Communications Act

<sup>4</sup> Section 88 of the Communications Act. This section implements article 13(1) and (2) of the Access Directive.

**Figure 1 Summary of cost orientation obligations currently imposed on BT**

Market review	Market	Key services (list not fully exhaustive)	Cost orientation	Charge control	Safeguard cap	
Business Connectivity	Retail – Traditional Interface	Traditional Interface – Retail analogue circuit Very low b/width TI leased lines	✗	✗	✓	
	Wholesale – Traditional Interface	Traditional Interface Symmetric Broadband Origination Low <=8Mbit/s	✗	✓	✗	
		Traditional Interface Symmetric Broadband Origination Med: >8, <=45Mbit/s (excl. WECLA)	✗	✓	✗	
		Traditional Interface Symmetric Broadband Origination High: >45, <=155Mbit/s (excl. WECLA)	✗	✓	✗	
		Traditional Interface – Trunk Regional	✗	✓	✗	
		Alternative Interface Symmetric Broadband Origination Low bandwidth <=1,000Mbit/s (in WECLA)	✗	✗	✓	
	Wholesale – Alternative Interface	Alternative Interface Symmetric Broadband Origination Low bandwidth <=1,000Mbit/s (excl. WECLA)	✗	✓	✗	
		Wholesale – Multiple Interface	Multiple Interface Symmetric Broadband Origination Single service, b/width > 1,000Mbit/s Ethernet (excl. WECLA)	✗	✓	✗
	Fixed narrowband	Wholesale analogue exchange lines	Analogue WLR	✓	✓	✗
		Wholesale ISDN2 exchange lines	ISDN2 WLR	✓	✗	✗
Wholesale ISDN30 exchange lines		ISDN30 WLR	✗	✓	✗	
Call origination		CPS, Indirect access, NTS retail uplift	✓	✓	✗	
Geographic call termination			✓	✓	✗	
Single transit			✗	✗	✗	
Wholesale Local Access	Wholesale local access	LLU Excl. MPF rental, MPF transfer, SMPF connection	✓	✓	✗	
		MPF rental	✗	✓	✗	
		SLU	✓	✗	✗	
		PIA	✓	✗	✗	
		VULA	✗	✗	✗	
Wholesale Broadband Access	Wholesale broadband access	Market 1	✓	✓	✗	
		Market 2	✓	✗	✗	

1.17 As Figure 1 shows, we have imposed cost orientation obligations as part of a package of remedies both with and without a charge control, in light of the particular competition concerns identified in the relevant market. Generally, where we have imposed a cost orientation obligation alongside a charge control, cost orientation has been used to allow the SMP operator a degree of freedom to vary the charges of individual services within the basket, provided the charges for such individual services remain orientated to costs and the control on average charges for the basket of services as a whole is complied with.

1.18 Where we have imposed a cost orientation obligation without a charge control, cost orientation has been used to control the level of individual charges within a group of services. In particular, in prospectively competitive markets, cost orientation

constitutes a less restrictive form of price remedy than a charge control to provide a backstop to protect purchasers if effective competition does not emerge as expected.

- 1.19 Typically, when imposing the cost orientation obligation, we have done so on a disaggregated basis and on a forward-looking long-run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed<sup>5</sup>.

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<sup>5</sup> See, for example, Condition AAAA3 - Basis of charges in our Review of the wholesale fixed analogue exchange lines markets – Statement on market definition, market power determinations and remedies, at: <http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf>



## Section 2

# Uses of price remedies

- 2.1 As highlighted in the previous Section, a cost orientation obligation is only one of a selection of possible types of price remedies that we may impose following a market review. Which remedies we put in place, and what precise form they take, are matters to be considered in the course of the relevant market review, since remedies should be an appropriate and proportionate response to the competition concerns we identify in the market review. However, through this work we have considered in general terms what factors we are likely to consider in deciding whether and which price remedy is appropriate, taking account in particular of different market conditions.
- 2.2 The discussion set out in this Section and in Section 3 relates to possible future obligations – it is not intended to provide any comment on existing obligations.
- 2.3 In fixed telecoms markets, we currently impose cost orientation obligations on both Kcom and BT, as operators with significant market power in various markets in Hull and the rest of the UK respectively. Given the relative sizes of the markets in Hull and the rest of the UK, and the nature of responses to our Call for Inputs, we focus in this document on BT, but many of the principles might apply to any firm with SMP.

## Structure of this section

- 2.4 This section is set out as follows:
- Summary of responses to the Call for Inputs
  - Explanation of the range of forms of price remedies
  - Exploration of different market circumstances
  - Likely concerns in different market circumstances
  - Our views on likely suitability of different remedies for different market circumstances

## Responses to our Call for Inputs

- 2.5 Responses differed significantly between BT, as the main regulated firm, and other CPs, which buy regulated products from BT.
- 2.6 The thrust of BT's response, together with its earlier submission from October 2011, was that cost orientation interacted with other regulatory remedies placed upon it to limit unduly the amount of flexibility it has in setting prices. It felt that regulation had increasingly been applied at too granular a level, and in a way that did not adequately consider the likely effects of particular behaviour by BT.
- 2.7 BT felt that:

“once there has been a clear policy choice to adopt cost orientation as the primary remedy as opposed to the imposition of a charge

control, it is uncontroversial to note that the cost orientation remedy must by its nature be used as a more flexible remedy than a charge control”<sup>6</sup>.

- 2.8 BT raised concerns about the additional ‘layer of regulatory control’ where cost orientation is used with a charge control, and asked us to reconsider whether cost orientation should be used alongside charge controls<sup>7</sup>.
- 2.9 Others, including C&WW, Verizon, MBNL, Level 3, EE, TalkTalk and UKCTA all considered cost orientation to be an important remedy.

C&WW: “Cost orientation is a very important SMP remedy that can be, and is, used by Ofcom to constrain prices in order to avoid distortion of competition and prevent excessive or undesirably low charges; it is quite different to all the other remedies, including charge controls, and is complementary to many of them. It would be both too complicated and too intrusive to attempt to use sub-caps within charge controls in place of a cost orientation obligation”<sup>8</sup>.

UKCTA: “Cost orientation is the core economic constraint for operators with SMP because [...] It is the remedy that Ofcom has currently put in place in order to limit charges generally and to constrain the movement of individual charges within the scope of a wider charge control remedy”<sup>9</sup>.

## Different forms of price remedies

### The purpose of price remedies

- 2.10 In competitive markets, competition in the marketplace will constrain the prices which can be charged by a company. However, in markets which are not effectively competitive, this may not be the case. BT does not have a dominant position in all the fixed telecommunications markets in which it operates, since it faces competition in some areas, but it does have entrenched SMP in a number of markets. Kcom also has market power in a number of markets in the Hull area.
- 2.11 In markets that are not competitive, firms with SMP would sometimes have the incentive and ability to set their prices excessively and/or engage in anti-competitive practices such as margin squeeze or predatory pricing. Hence, one of the main roles of the regulator will often be to impose rules to prevent margin squeeze and/or limits on the prices for services supplied by the companies it regulates.
- 2.12 When regulators limit prices they want to ensure that these prices send the ‘correct’ signals to market participants – in other words, that the prices set will incentivise efficient behaviour. Efficient behaviour across all markets would result in the economy getting the greatest value from its resources and would benefit consumers.

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<sup>6</sup> BT response to Call for Inputs, page 9.

<sup>7</sup> BT November 2011 Submission, page 11.

<sup>8</sup> C&WW response to Call for Inputs, page 3.

<sup>9</sup> UKCTA response to Call for Inputs, page 6.

2.13 Generally we talk about three different types of economic efficiency<sup>10</sup>:

- productive efficiency – ensuring there is no inefficiency or waste in production so that goods are produced as cheaply as possible;
- allocative efficiency – ensuring that the right combinations of goods and services are produced given the tastes and preferences of consumers; and
- dynamic efficiency – improvements in efficiency which occur over time as investment and innovation, for example arising from increased competition, result in the development of new goods and services, and technological advances that make the production of current and future goods and services less costly.

2.14 Appropriate price remedies can promote economic efficiency, relative to a situation where an operator with SMP is unregulated, or when compared to other types of regulation such as rate of return control, in which prices may be adjusted to achieve a given rate of return once the firm's actual costs are known.

2.15 However, there are often trade-offs between different types of efficiency. Hence, some forms of price remedy may give more emphasis to one type of efficiency over another. For example, RPI-X regulation (in which price caps are based on inflation minus a margin for efficiency savings and the elimination of excess profits, 'X') encourages productive efficiency as the firm will be incentivised to 'beat' the efficiency assumptions (which will increase productive efficiency), as it will be able to take any efficiency gains as 'extra' profits in the price control period. But there may be a trade-off with reduced allocative efficiency if the price cap results in a greater divergence between prices and incurred costs<sup>11</sup>. Another example is that in some circumstances, such as at an earlier stage of the development of a market, less tight regulation of prices could promote dynamic efficiency by enhancing the prospects for new entry and growth in competitive forces, but this may involve a trade-off with allocative efficiency in permitting the incumbent to set higher prices.

2.16 In theory, allocative efficiency is supported by prices that reflect the additional resources used to provide the service in question, as this ensures that the value to consumers of the services they buy must be at least as great as the cost of producing them. We will also be concerned that regulated prices should be set at a level which is sustainable over time, allowing for necessary investment. This means that a long-run view of costs will usually be appropriate when setting prices. For this reason, long run incremental cost (LRIC) is usually used to measure the additional resources used to provide a telecoms service. LRIC includes the service-specific fixed costs needed to produce a service which, in telecoms, can be significant. For example, a large proportion of the costs of BT's network might be considered fixed in the short run. However, LRIC does not include the – also often substantial – common

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<sup>10</sup> See paragraph 9.91 in the Ethernet Determinations, 20 December 2012 ([http://stakeholders.ofcom.org.uk/binaries/consultations/ethernet-services/annexes/Ethernet\\_FD.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/ethernet-services/annexes/Ethernet_FD.pdf)).

<sup>11</sup> It should be noted that regulatory certainty can encourage productive and dynamic efficiency. For example, productive efficiency can be encouraged by providing the regulated firm with confidence that the regulator will not significantly change the price control during the price control period. Without this certainty, regulated firms would have little incentive to 'beat' the control in the interim (i.e. further improve productive efficiency), as they could never be sure that they would keep the gains from this for the rest of the price control period. Allowing cost increases to be rapidly passed through in prices would similarly reduce the incentive to operate efficiently.

costs which a service may share with other services. Recovery of common costs in prices through mark-ups over incremental cost is usually seen as necessary for sustainability but it results in a reduction in allocative efficiency (compared to prices at incremental cost).

- 2.17 In some circumstances, a short-run perspective may be relevant. The costs of using existing equipment might not then feature, and it may be appropriate to compare prices to marginal costs<sup>12</sup>. However marginal cost pricing is unsustainable where there are economies of scale and/or scope because the firm would not be able to recover fixed costs, i.e. those costs which do not vary with output over the specified period.
- 2.18 The costs that are only incurred once by a given operator and are not recoverable on exit from the market are called sunk costs. Apart from sunk costs, all costs are considered variable in the long run<sup>13</sup>, including some costs that appear as fixed in the short run. As noted above, when setting prices, for sustainability, we look at these long run costs<sup>14</sup>.
- 2.19 The inefficiency caused by the need to recover common costs by setting prices at above incremental cost can be minimised (but not eliminated) by setting prices on the basis of willingness to pay, specifically the sensitivity of the quantity demanded to an increase in price, which is called the elasticity of demand<sup>15</sup>. A regulated firm is typically much better placed to understand the nature of demand for its products than the regulator, so that there may be a high risk of regulatory failure if the regulator seeks to set allocatively efficient prices itself. As a result, it can be more efficient to allow the firm to decide how it should recover its common costs, at least where incentives to set prices to disadvantage rivals are absent or can be controlled, for example through the use of appropriate sub-caps. By allowing it to reflect the underlying market demand elasticities in this process, the regulator can allow the firm to act in a way that minimises the impact on demand from the mark-up over LRIC.
- 2.20 While pricing flexibility can be used to improve economic efficiency, where a firm has SMP it can also be used in an anti-competitive manner. For example, rather than pricing to improve the efficiency of common cost recovery, the firm could manipulate its prices to ensure that any potential market entry is suppressed through relatively low prices, while recovering its costs through services where entry is much less likely and other competitive constraints are weaker.
- 2.21 Therefore we need to strike a balance between allowing flexibility to recover common costs in a manner that may promote allocative efficiency, but with sufficient constraints to prevent the abuse of SMP. Other considerations may also be relevant, including productive and dynamic efficiency and the risk of regulatory failure from tight limits on regulated prices. Constraints on individual charges (either in the form of

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<sup>12</sup> Marginal cost is a special case of incremental cost where the increment is one additional unit of output. Incremental cost is the cost of producing a specified additional product, service or increment of output over a specified time period.

<sup>13</sup> In economics, the long run is defined as the time period over which all costs that are not sunk can be considered as variable, i.e. are dependent on the level of output.

<sup>14</sup> We may also allow recovery of sunk costs for dynamic efficiency reasons, that is, to maintain incentives to invest in other assets which may become sunk in future.

<sup>15</sup> The elasticity of demand is defined as the ratio of the percentage change in volume demanded to the percentage change in price which causes that effect on demand.

cost orientation or sub-caps, for example) may be needed even if average charges are also subject to an RPI-X constraint, because there may still be incentives to distort competition by raising or lowering individual charges which are of particular importance to competitors.

## The range of forms of price remedies

2.22 A cost orientation obligation is just one of a range of possible forms of price remedies. The various forms of price remedies in the widest sense – i.e. regulation imposing some constraint on the regulated firm’s pricing policy – in the manner typically imposed by Ofcom are shown in the table below<sup>16</sup>.

**Figure 2 Possible forms of price remedy**

Remedy	Description	Example applications to BT as at April 2013
<b>Charge control</b>	<ul style="list-style-type: none"> <li>RPI-X price cap, with an ‘X’ factor based on forecast efficient costs</li> <li>Costs usually interpreted to mean fully allocated cost</li> <li>Can include a downward adjustment to starting prices</li> <li>Set on a ‘basket’ of a number of products, or in some cases on an individual service</li> </ul>	<ul style="list-style-type: none"> <li>LLU</li> <li>WLR</li> </ul>
<b>Sub-cap</b>	<ul style="list-style-type: none"> <li>RPI-X cap on individual prices within a charge control basket</li> </ul>	<ul style="list-style-type: none"> <li>TISBO 45-155 Mbit/s</li> </ul>
<b>Cost orientation</b>	<ul style="list-style-type: none"> <li>Bounded flexibility on individual prices</li> </ul>	<ul style="list-style-type: none"> <li>SLU</li> </ul>
<b>Safeguard cap</b>	<ul style="list-style-type: none"> <li>Cap on permitted increase from current price, e.g. RPI+0</li> <li>Not based on modelling costs</li> </ul>	<ul style="list-style-type: none"> <li>Retail very low bandwidth analogue TISBO</li> </ul>
<b>Non-discrimination / equivalence</b>	<ul style="list-style-type: none"> <li>The SMP operator must supply internal and external customers on the same terms</li> </ul>	<ul style="list-style-type: none"> <li>LLU</li> </ul>
<b>“Fair and reasonable”</b>	<ul style="list-style-type: none"> <li>Covers all T&amp;Cs, not just prices</li> </ul>	<ul style="list-style-type: none"> <li>GEA / VULA</li> </ul>

2.23 A cost orientation obligation may be used with or without a charge control. The cost orientation requirement will usually place bounds on individual charges, while the RPI-X cap on a basket of services controls the average charge for that basket. Cost orientation used together with an RPI-X cap can be a good way of promoting pricing efficiency. As the regulator is unlikely to have good information about the way demand responds to price changes, the best way to achieve efficient prices which reflect elasticities of demand is likely to be to allow the firm to set relative prices

<sup>16</sup> Other forms of price remedy include rate of return control. However Ofcom does not favour this, in particular because of its weaker incentives for productive efficiency compared to price caps.

within an overall basket control on average prices, subject to appropriate bounds on individual charges<sup>17</sup>.

- 2.24 A cost orientation obligation may also accompany other remedies such as non-discrimination. In this document, we consider in general terms when it may be appropriate to impose cost orientation, and how it may relate to our use of charge controls. As set out above, the position set out in this document is without prejudice to the approach taken in previous market reviews which have resulted in the imposition of cost orientation obligations. Those market reviews have carefully considered the nature of the competition problems in relevant markets and the appropriate regulatory response to them. This is also without prejudice to specific remedies we may impose in future market reviews in light of our duties to impose conditions which are objectively justifiable, non-discriminatory, proportionate and transparent.

### **Different market conditions**

- 2.25 There are a range of different market conditions that we are likely to encounter, as we consider whether to impose regulation on the SMP operator and if so what form that regulation should take.
- 2.26 We believe two important dimensions to these different market conditions are the state of and prospects for competition and the maturity of the product or technology. This is set out in Figure 2 below. The two-dimensional approach is likely to be a simplified representation of a more complex reality but it is potentially informative in a wide range of situations. While considering where on this diagram a market or product sits is no exact science, we can identify a number of indicators as to where this might be.

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<sup>17</sup> For an example of a large number of services that may be included in a single charge basket, see the TISBO and trunk basket in Annex 9 of the 2009 Leased Lines Charge Control Statement at: <http://stakeholders.ofcom.org.uk/binaries/consultations/lcc/statement/lccannex.pdf>

**Figure 3 Summary of different market conditions**

<b>State of and prospects for wholesale competition</b>	Very little competition	Uncertainty over demand, costs or level of competition	Costs and demand relatively stable over time	Costs - demand well understood, but possible uncertainty over timing of move to newer technology		
	Limited competition					
	Prospective competition					
	Competitive					
		New	Maturing	Mature	Mature but on a downward trend	In decline
<b>Maturity of product / technology</b>						

**The state of and prospects for competition**

2.27 As set out in Section 3, when we carry out a market review we define relevant markets and assess whether any firms have SMP in those markets. Under the CRF, a market where no SMP is found is deemed to be effectively competitive.

2.28 However, even where a finding of SMP is made, there may be different levels of competition and different degrees of market power for the firm with SMP, which could lead us to different conclusions on the appropriate form of regulation, if any. The different degrees of competition shown in Figure [2] have the following broad meanings:

- By “very little competition”, we mean markets with both very few competitors and high barriers to entry both now and in the future, which may be reflected in very high market shares for the firm with SMP.
- By “limited competition”, we mean markets with some competition, perhaps in some parts of the market, and a relatively weak threat of effective entry, which may be reflected in somewhat lower market shares for the firm with SMP than markets with very little competition.
- By “prospective competition”, we mean markets where we expect competition to develop to a level where we might not find significant market power in the future, even if significant market power is present within the duration of the current market review.
- By a competitive market, we mean one in which rivalry between firms tends to keep prices in line with costs and ensure that costs are at an efficient level. A market is likely to be competitive where entry barriers are low, there are a number of firms in the market and none has the ability to act independently of its competitors. In a competitive market, no firm has SMP.

## Stages of maturity of a product or technology

- 2.29 In new markets, there is likely to be uncertainty over a number of factors that would be clearer in a mature market:
- **Demand:** before a service has been tested in the market, it may be difficult to predict the likely level of demand with confidence. It may not be valued by customers; alternatively it could be much better received than expected, once customers are able to see the benefits of the new service. This may be influenced by the pricing structure set by the provider. There could also be additional levels of complexity, in that there may be multiple variants of the new service – such as different speeds of internet access service, for instance – and it may be difficult to predict accurately the relative success of different variants.
  - **Costs:** costs may also be unpredictable. This might be because the technology used to deliver the service is itself new. Unit costs might also be uncertain if a large part of the costs of the service are fixed (i.e. do not vary with volumes in the short run) and demand is uncertain.
  - **Level of competition:** at the stage where one operator has invested in a service based on new technology, and when the market for this service is in the early stages of its development, it may be unclear how competition is likely to develop over time. If a product shows signs of taking off, this may encourage other operators to enter the market.
- 2.30 In the case of mature products, costs, demand and levels of competition are likely to be more stable than in new markets.
- 2.31 In declining markets, underlying costs are likely to be well understood. However, where a market or product is in decline, that may well be due to a transition to a newer technology. In these circumstances the major uncertainty is likely to be the timing of the transition to that newer technology, and as a result the steepness of the drop in customer numbers for the existing service.
- 2.32 There may be some customers who will find it costly to make the transition to the newer service, who may therefore remain as users of the existing service even when it has passed into obsolescence for other customers.

## What are the likely regulatory concerns in each case?

- 2.33 Our overall objective is usually to set regulation which ‘mimics’ a competitive market as far as possible to encourage the most efficient outcomes for consumers. As we set out above, this may involve trade-offs including between the different forms of efficiency.
- 2.34 We are required to assess the extent and nature of any specific competition concerns during the course of a market review, however it is possible to indicate in general terms what the most likely concerns are in each set of market circumstances. A summary of this is set out in the diagram below. Again, we are aware that this is a simplified representation of reality, but we believe this diagram is helpful and informative of presenting and discussing potential competition concerns.



**Figure 4** Likely regulatory objectives in different market conditions

State of and prospects for wholesale competition	Very little competition	<b>New services:</b> • Provide long-term incentives for investment and innovation	<b>Key wholesale inputs</b> • Protect against exploitation of SMP through high prices • Promote downstream competition by mimicking the conditions of a competitive market as far as possible			<b>Declining products:</b> • Protect against exploitation of SMP through high prices • Send appropriate signals for investment in newer technologies
	Limited competition	• Protect against exploitation of SMP through high prices • Encourage the development of competition				
	Prospective competition	<b>Prospective competition:</b> • Protect against exploitation of SMP through high prices • Protect against anti-competitively low pricing foreclosing competitive entry		• Avoid over-tight controls which could discourage competition and entry		
	Competitive	<b>Competitive markets:</b> no need for ex ante regulation				
		New	Maturing	Mature	Mature but on a downward trend	In decline
Maturity of product / technology						

### Competitive markets

2.35 In effectively competitive markets, we would not set ex ante regulation – instead we would rely on ex post competition law to address any anti-competitive behaviour that may arise.

### Likely concerns arising in the case of key wholesale inputs

2.36 We characterise some services as being ‘key wholesale inputs’, in the centre of the diagram, where the underlying technology is mature and levels of competition are low. These are services which are likely to be critical to the ability of competitors to operate effectively in downstream markets. LLU services would be one example.

2.37 In these markets, without regulation, an SMP operator would be able to set its prices at excessive levels or engage in anti-competitive practices which would squeeze out downstream competitors. One of our main concerns will be to avoid this exploitation of SMP through high prices, and we may also be concerned to prevent margin squeeze. This is not to say that, in principle, we would have no concerns about low prices (below an appropriate measure of cost) which were anti-competitive. One way of addressing such concerns would be by imposing a cost-orientation requirement. However, such concerns have arisen only rarely.

### Likely concerns in new products

2.38 A slightly different set of concerns may be relevant in the case of services which are truly new and based on new technology. We may be concerned about the potential for excessively high prices, but this may not be as important for consumers initially as seeking to ensure that the right incentives exist for investment, innovation and the development of competition. Giving incentives for innovation may mean allowing high returns to be earned on new products that are very successful. Returns on unsuccessful products may be low or even negative. The key point is that the firm should be allowed what we call a “fair bet” on its investment.

- 2.39 We explained the ‘fair bet’ concept in our consultation on the charge control for wholesale broadband access in the following way:

“An investment is a “fair bet” if, at the time of investment, expected return is equal to the cost of capital. This means that, in order to ensure that an investment is a fair bet, the firm should be allowed to enjoy some of the upside risk when demand turns out to be high (i.e. allow returns higher than the cost of capital) to balance the fact that the firm will earn returns below the cost of capital if demand turns out to be low. This issue is particularly important where there is significant uncertainty around demand (or other factors that affect returns), and so is particularly relevant to NGA”<sup>18</sup>.

- 2.40 In markets for new products there may be relatively less concern about excessive pricing initially, because customers are better off with the new service being available (even if prices are ‘high’). It is also possible that the SMP operator may charge relatively low prices to try and stimulate take-up; and identifying what price is too high may in any case be difficult. Excessive pricing may be more of a concern as the market moves from being ‘new’ to ‘maturing’, but we should be careful to ensure that we do not discourage innovation by regulating prices too tightly or prematurely.

### **Likely concerns in declining markets**

- 2.41 In declining markets we are again concerned about the ability of the SMP operator to exploit its market power by charging excessive prices. This concern is particularly acute here given that new entry into the market is less likely (even in the absence of specific barriers to entry) as it is less attractive to enter a declining market.
- 2.42 Where relevant, we would also be concerned with ensuring that the SMP operator is able to set prices to encourage timely and efficient migration from legacy services in declining markets to new services, and with sending efficient signals for investment in new technologies as set out above.

### **Likely concerns in prospectively competitive markets**

- 2.43 One objective in prospectively competitive markets is seeking to ensure that the market becomes effectively competitive, because at that point competition should deliver the maximum benefits for consumers without the need for further regulation.
- 2.44 In this context we would be concerned if the SMP operator were to price at such a low level as to foreclose new entry and wholesale competition.
- 2.45 It could however transpire that wholesale competition might not emerge to the extent expected, or as quickly as expected. In the absence of stronger competition to constrain the SMP operator’s behaviour, there would be likely to be an ongoing concern about the SMP operator continuing to exploit its dominant position by pricing excessively high with adverse effects on downstream competition.

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<sup>18</sup> Wholesale broadband access charge control consultation, January 2011, paragraph A8.27. <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/summary/condoc.pdf>. We further explain the relevance of the fair bet to NGA regulation in section 5 of “Future Broadband: policy approach to next generation access”: [http://stakeholders.ofcom.org.uk/binaries/consultations/nga/summary/future\\_broadband\\_nga.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/nga/summary/future_broadband_nga.pdf)

- 2.46 However, this must be balanced against the risk of discouraging entry into the wholesale market by new competitors, for example by setting very stringent price ceilings on the SMP operator, which may constrain the price a new entrant could charge, restricting their margin and making it difficult for them to compete.
- 2.47 We also need to take into account the risks of inefficient entry and competition. For example, if we set an artificially high floor which is above actual costs, we may encourage entry into the wholesale market by competitors with higher costs than the incumbent. In a static analysis, this would be inefficient and undesirable. However, in the longer run, such entry might be desirable as, although it could raise costs in the short-run, in the long-run such inefficiencies could be more than offset by the likely dynamic benefits of greater competition.

**What are the possible ways of dealing with these concerns?**

- 2.48 We consider the appropriate form of any remedies when we carry out a particular market review. We therefore cannot determine at a general level what will be the appropriate remedy for a specific market. However, we believe it is helpful to set out the types of circumstances where cost orientation or other forms of price remedy may be appropriate.
- 2.49 Figure 4 below summarises in highly simplified form which remedies may be appropriate faced with different market conditions. This in no way constitutes the only possible solution to a particular set of circumstances, but we believe it is a useful reference framework. Further explanation and detail is provided below the table.

**Figure 5 Possible approach to setting remedies in different market conditions**

State of and prospects for wholesale competition	Very little competition	New services: • No charge control • Potentially no price remedies at all • Could rely on anchor pricing (of the legacy product)	Key wholesale inputs • Charge control is the primary remedy • Cost orientation limits flexibility on individual prices within a basket, while allowing allocative efficiency. Not used on single products, where it would duplicate a charge control		• Sub-caps could be an alternative to general CO, if used across all products where there is a specific concern	Declining products: • Safeguard caps may well be more appropriate than general CO alone
	Limited competition					
	Prospective competition	Prospective competition: • Consider whether charge control proportionate to level of concern • Safeguard caps protect against high		prices • Non-discrimination can protect against low prices in some cases		
	Competitive	Competitive markets: no need for ex ante regulation				
		New	Maturing	Mature	Mature but on a downward trend	In decline
Maturity of product / technology						

**Likely remedies on key wholesale inputs**

- 2.50 In the markets where the level of wholesale competition is lowest, and where the services concerned are some of the most critical to downstream competition – LLU for example – our main objective is to promote competition downstream by ensuring that SMP is not exploited through excessive (or discriminatory) pricing. These are therefore the markets where it is likely to be appropriate to take the strictest approach to price remedies.

- 2.51 It is likely to be appropriate to set charge controls in these markets, in order to ensure that other operators can make effective use of wholesale products, and to ensure that the SMP operator does not exploit its market power by raising prices.
- 2.52 Where charge controls are set for groups of services, or 'baskets', it may also be necessary to constrain the levels of individual prices as well as groups of services. Without this constraint, the SMP operator could comply with the basket control at the aggregate level by pricing some services too low and other services too high, potentially disadvantaging particular groups of customers or harming competition.
- 2.53 There are a number of ways in which we could seek to impose a constraint on individual prices. One is to impose sub-caps on individual services, in the form of additional RPI-X controls covering smaller groups of services – either on all services within the basket or on a selection, if there are only a few services where there is a concern about likely anti-competitive effects. We have used this approach in our recent Business Connectivity Market Review<sup>19</sup>.
- 2.54 Another alternative, which is the approach we have taken in a number of markets, is to impose a general cost orientation obligation on all services within a charge control basket. This may remain a suitable approach in future market reviews. The question then becomes what precise form the cost orientation obligation could take; this is something we consider in Section 3.
- 2.55 Sub-caps and a cost orientation obligation do different things. A cost orientation obligation typically constrains the level of the charge by explicitly linking prices to cost, whereas a sub-cap typically controls the rate of change of prices of certain products within a basket where there may be specific competition concerns. Which we use will depend on the particular concern identified. Typically, using sub-caps is likely to be more effective in addressing specific competition concerns in the context of wider baskets even though it could theoretically lead to prices not accurately reflecting costs by the end of a charge control period.
- 2.56 However, if at the point we carry out a market review, the product only exists in concept and has not yet been provided to the market, with volumes very uncertain, it may be difficult to set an ex ante price with a sufficient degree of confidence. In these circumstances, it may be necessary to use a cost orientation obligation, under which prices are compared to costs after the product has been in the market for a while. As above when we use cost orientation with a charge control, we then need to consider what form the obligation could take, according to the circumstances.
- 2.57 In some cases, it may be appropriate to use a cost orientation obligation to constrain the difference between the charges for two services to reflect the difference between the (incremental) costs of providing them. This may be a useful approach where a new service is introduced which shares important cost components with an existing regulated service and which could be used as an alternative way of producing a given downstream service. We examine this in Section 3.
- 2.58 In its response to the CFI, BT stated that it saw "limited additional benefit in imposing the cost orientation remedy alongside RPI-X charge controls", for a number of

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<sup>19</sup> Business Connectivity Market Review, March 2013, <http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/>

reasons, among them that it appeared to favour sub-caps, and believed that equivalence of inputs (EOI) and non-discrimination should achieve the same benefit<sup>20</sup>. As we set out in this Section, we see it as possible to use sub-caps rather than general cost orientation obligations. However, we disagree that non-discrimination/EOI can always be fully effective in constraining the levels of individual prices within a charge control basket. A non-discrimination obligation can ensure that prices to internal and external customers are equal for a given service. However, as Openreach is still part of BT, the level of the “internal” price does not affect the total amount of BT’s profits but only their distribution between Openreach and BT’s downstream businesses. By contrast, the “external” price paid to BT by another CP is a real cost to the latter, rather than a notional transfer charge, and has a direct effect on the CP’s profits.

- 2.59 This difference can distort incentives on BT to price efficiently where BT consumes different proportions of products in a single charge control basket, compared to its competitors. There could then be an incentive for discrimination, with BT’s competitors facing higher prices, relative to costs, for the products they purchase in proportionately higher quantities. This is because raising the price paid by external customers will directly benefit BT, even though, within the charge control basket, price increases to external customers must be offset by reductions in other prices. If the reductions can be concentrated on services used by BT itself, the effect of these reductions may largely be to transfer money from one part of BT to another, leaving BT with a net gain at the expense of its competitors.
- 2.60 C&WW took issue with the notion of using sub-caps in its response to our Call for Inputs:
- “It would be both too complicated and too intrusive to use sub-caps within charge controls in place of a cost orientation obligation”<sup>21</sup>.
- 2.61 We do not believe that this is necessarily the case – the degree of complication and intrusion depends on the nature of the sub-caps that we might apply. They could, in some cases, apply only to a sub-set of services within a charge control basket, if those were where we had the biggest concerns over the prices of individual products. They could also be set tightly relative to the main basket RPI-X control, or they could be set more loosely, as a backstop.
- 2.62 Three believed that:
- “Great care needs to be taken in using cost orientation as a substitute to charge controls, however. Where there is an absence of effective competition in an input market due to SMP, a charge control is likely to be required and cost orientation should only substitute it where there are strong and compelling reasons to do so”<sup>22</sup>.
- 2.63 We agree with parts of this statement – generally we do not see cost orientation as a substitute for a charge control. As set out in this Section, there are different circumstances where the one will be more appropriate than the other. However, there

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<sup>20</sup> BT response to Call for Inputs, page 5.

<sup>21</sup> C&WW response to Call for Inputs, page 3.

<sup>22</sup> Three response to Call for Inputs, page 4.

may also be a limited set of circumstances where a charge control may at first pass appear to be desirable, but it may be impossible to forecast future costs with enough confidence to put a full charge control in place. This risk of regulatory failure in setting a charge control can be a very relevant consideration. In appropriate circumstances, this could be one of Three's "strong and compelling reasons" to use a cost orientation obligation rather than a charge control.

### **Likely remedies on new services**

- 2.64 In considering the most appropriate remedies on services based on new technology, we need to be mindful of providing long-term incentives for innovation and investment in new services, by allowing a reasonable reward for innovation. In light of this, it may be appropriate, when in doubt, to hold back from regulating prices.
- 2.65 However, concerns about pricing may still exist and may merit some form of regulation. Price remedies imposed on new services are likely to take slightly different forms than on other services, particularly due to the likely relationship between the new service and legacy technologies.
- 2.66 In some cases, a new wholesale product may provide the basis for competing in the retail market with another service that is based on legacy technology. In these circumstances, it may be possible to rely on competition between the two retail services to constrain the retail price of the service based on the new technology. This could be backed up by 'anchor pricing', where we regulate the price of the legacy wholesale service, thereby helping to enable retail competition between the older and newer service (as the new regulated service competes with a price-regulated older service). The underlying principle of anchor pricing is that customers for an existing service should not be made worse off by the introduction of new technology<sup>23</sup>.
- 2.67 We may however still be concerned at the possibility of insufficient margins between the wholesale price of the new service and the price of downstream services. We could thus require a reasonable margin to be maintained between wholesale prices and retail prices, in order to promote effective downstream competition. This is a similar approach to the one we took on the pricing of VULA (virtual unbundled line access) in the wholesale local access market review 2010<sup>24</sup>, through an obligation on BT to provide VULA and any ancillary services on fair and reasonable terms, conditions and charges.

### **Likely remedies on declining products**

- 2.68 Where demand for a product is in long-term decline, price remedies may need to accommodate two opposing objectives. Firstly, it may still be appropriate to protect against exploitation of SMP through high prices. At the same time, it may be appropriate for there to be some increase in prices in order to signal that migration to newer services would be efficient.

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<sup>23</sup> For a discussion of anchor pricing see for example "wholesale ISDN30 price control", March 2012 paragraphs 4.49 onwards at [http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30\\_Statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_Statement.pdf)

<sup>24</sup> See paragraphs 8.123 to 8.136 of our statement: [http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA\\_statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf)

- 2.69 One way of protecting consumers in declining markets is by putting in place an RPI-X charge control. However, this may not always be proportionate. The main alternatives to a charge control are likely to be a cost orientation obligation or a safeguard cap. An “anchor pricing” rule may also be appropriate in order to protect customers where migration between technologies is expected to occur during the period covered by a control.
- 2.70 Pressure for prices to rise may emerge where fixed costs, on an accounting basis, are high, but volumes are decreasing rapidly as a service reaches the end of its life, resulting in increasing unit costs. If a cost orientation obligation were interpreted in a way which allowed prices simply to follow these increasing unit costs, the result could be high prices for the decreasing numbers of customers that are still using the service, some of whom may face significant costs in order to switch to an alternative. This could be unfair and also inefficient, because efficient prices should reflect forward-looking costs, not the fixed costs of existing assets which will not need replacement.
- 2.71 However, a constraint on prices in a declining market should be consistent with encouraging efficient migration from a declining product to a newer replacement, and with sending appropriate signals for investment in new technologies. This may mean that some increase in the price of the declining product should be permitted, so that prices are able to reflect any increases in the forward-looking unit costs of the product which may occur as volumes decline.
- 2.72 Where the service is based on infrastructure which can continue to be used to generate value but is unlikely to need replacement, the costs of this infrastructure are not part of forward-looking costs. It would be harmful to allocative efficiency for prices to rise to recover costs like these from an ever smaller group of customers. However, an important consideration is that the firm should have the opportunity to recover costs which it has incurred in the past, so that it will retain an incentive to make similar investments in future. This is a question of dynamic efficiency. There may therefore be some tension here, between, on the one hand, a desire that prices should not rise and, on the other hand, the opportunity for cost recovery.
- 2.73 Either of these two effects may conflict with our policy objectives. One way of balancing these concerns would be a safeguard cap. This could be a direct way of achieving the policy objective of protecting against high prices.
- 2.74 In its response to the CFI, BT stated that it saw “scope for using the cost orientation remedy as an alternative to charge controls”, particularly in “nascent” or “mature markets, approaching end of life”<sup>25</sup>. While this is a possibility, as we set out in this Section, whether this is likely to be an appropriate approach depends on the circumstances and on the cost standard used (which we address in the following Section). A cost orientation condition, used on its own with a DSAC ceiling, could allow the SMP operator to price a complete set of services up to DSAC – depending on the circumstances and the policy objectives, this might or might not be desirable. Where it is not desirable, it might be more appropriate to use a more specific price control such as a safeguard cap or RPI-X charge control, or to rely on other remedies as in the case of VULA.
- 2.75 TalkTalk considered that:

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<sup>25</sup> BT response to Call for Inputs, page 5.

“remedies such as inertia clauses or safeguard caps [do not] provide protection against excessive prices or reduce the need for effective cost orientation obligations. They merely slow the rate at which prices can become more excessive – they do not stamp out existing excessive prices and nor do they prevent excessive prices in the future. They also prevent legitimate price changes by BT. They are blunt, crude and ineffective instruments”<sup>26</sup>.

- 2.76 We would agree that safeguard caps are not as effective at “stamping out” excessive prices as some other forms of regulation, in particular full cost-modelled charge controls. This is because they start from the level of current prices, and may therefore be more suitable where we have a degree of confidence that current prices are not likely to be excessive.
- 2.77 They are however a potentially lighter-touch form of regulation than a charge control, which may be proportionate in some circumstances. Equally, a safeguard cap could be more effective than a very flexible cost orientation obligation. TalkTalk’s response indicates that it believes cost orientation obligations, when used on their own, should use a much tighter ceiling than DSAC – we address this question in the next Section.
- 2.78 Everything Everywhere disliked safeguard caps for different reasons:
- “[When used without a charge control], a safeguard price cap would only be an inferior substitute for a cost orientation remedy. A safeguard cap has less flexibility and would, by definition, not take account of technological and efficiency advantages over the period for which it was set. It would therefore need to be assessed on a more regular basis and, EE suspects, would end up being far more intrusive and require more intervention and regulatory resource than a properly functioning cost orientation remedy”<sup>27</sup>.
- 2.79 So while TalkTalk felt that a safeguard cap would be too lax, EE felt that it would be too intrusive. The merits of these arguments depend to a large extent on the form of any safeguard cap and on the circumstances in which it was imposed. The fact that a safeguard cap could be more binding than a DSAC-ceiling-based cost orientation condition might be a reason for using it rather than for not using it, if that were to meet the competition concern more effectively. Conversely, we might decide that a safeguard cap would be too loose a constraint, which would perhaps point us towards a full charge control.

### **Likely remedies in prospectively competitive markets**

- 2.80 In prospectively competitive markets, we would expect competition to exert increasing downward pressure on prices. However, there may be uncertainty over the timing of the emergence of competition.
- 2.81 In prospectively competitive markets, we may wish to send signals on future deregulation, or apply less onerous remedies, avoiding over-tight controls which could discourage competition and entry.

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<sup>26</sup> TalkTalk response to Call for Inputs, page 14.

<sup>27</sup> EE response to Call for Inputs, page 5.



- 2.82 However, even though the level of competition may be increasing, we are likely to continue to need some form of price remedy, in order to protect consumers from the effects of exploitation of that SMP.
- 2.83 As we set out above when identifying the likely regulatory concerns, there are likely to be two problems that we may need to protect against – high prices and low prices.

### High prices

- 2.84 The emergence of competition should over time increasingly protect against high prices, as greater competitive pressure is brought to bear on the incumbent. However, there may be considerable uncertainty over the timing of competition emerging.
- 2.85 We should consider whether it might be appropriate to deregulate more fully, but where there is uncertainty over the timing of competition emerging, it may be more important to continue to have some ongoing protection against exploitation of SMP through high prices.
- 2.86 The strongest form of price remedy would be a charge control. Particularly where the emergence of competition is very uncertain, or where there are some parts of the market where competition is likely to remain at a low level, this may still be appropriate.
- 2.87 It may well be more proportionate, however, in light of increasing levels of competition, to put in place a form of price remedy which is less burdensome than a full charge control and leaves more room for competition, which may encourage greater development of competitive pressures. This could take one of two forms: a cost orientation obligation, or a safeguard cap.
- 2.88 A cost orientation obligation applied to the whole market would impose a ceiling on all prices within the group of regulated products in that market. The charge ceilings would then provide some protection to customers in the event that competition did not emerge as expected. However, setting ceilings which were well above existing prices could mean that those prices would be allowed to rise, perhaps significantly, if the market turned out to be less competitive than expected, and in the absence of other controls.
- 2.89 A safeguard cap could be a more direct way of achieving the objective of protecting against high prices. A safeguard cap will typically require prices to be kept at their initial levels, or limit the rate at which they can increase to the rate of inflation or a little more. It is therefore most likely to be appropriate where we are confident that starting prices are already broadly in line with costs.

### Low prices

- 2.90 In markets where competition is likely to emerge, it may be necessary to protect against the SMP operator damaging emerging competition by pricing at anti-competitively low levels.
- 2.91 In such circumstances, we have a choice of whether to put ex ante regulation in place, or whether to rely on ex post competition law. If using ex ante regulation, one option would be to impose a floor, which in practice we have generally set at DLRIC.

- 2.92 We can consider, however, whether there are other options that may be less burdensome. For instance, we could make use of non-discrimination obligations to ensure that any low prices that the SMP operator offers are matched to all its customers. In this example, if the SMP operator offers low prices to particular customers in parts of the market where competition is strongest, it will be forced to do so in other areas as well, raising the cost to it of offering those low prices – potentially high enough to deter such low pricing. On the other hand, in doing so, it could go too far and deter the SMP operator from setting beneficial lower prices to specific sets of customers.

## Conclusion

- 2.93 When the market is not effectively competitive, we have to consider what remedies to set. These may include various pricing remedies, of which a general cost orientation obligation is one form. Whether we choose a cost orientation obligation or another remedy is likely to vary depending on the circumstances of that market.
- 2.94 In this Section we have set out in general terms how our approach might vary based on how mature the product or technology is, and the state of and prospects for competition in the market. It is important to note however that the decision on which remedies are appropriate takes place as part of each specific market review.
- 2.95 We have discussed two broad scenarios – in some circumstances we may want to use a cost orientation obligation in tandem with a charge control (although there may be other approaches that could be more appropriate, including sub-caps). In other circumstances, we may prefer to use cost orientation without a charge control, although these circumstances may not arise very often.
- 2.96 The question of what form a cost orientation obligation might take in different circumstances, and how much certainty different forms of obligation can offer, is the subject of the next Section.

## Section 3

# The cost orientation obligation

## Introduction

- 3.1 In Section 2 we set out a number of market circumstances, and a range of price-related remedies that we could use to address likely competition concerns in different circumstances. This section focuses on the cost orientation obligation.
- 3.2 We discussed two broad scenarios – in some circumstances we may want to use a cost orientation obligation in tandem with a charge control (although there may be other approaches that could be more appropriate, including sub-caps). In other, probably more limited, circumstances, we may see fit to use cost orientation without a charge control.
- 3.3 The specifics of any regulation are something we consider when we carry out a market review. However, it is relevant to set out some of the issues we would consider when setting a cost orientation obligation.
- 3.4 An obligation to derive prices from costs could take a number of forms, depending on what is meant by costs, which may in turn depend on the particular competition concerns identified.
- 3.5 In this Section we address four points:
- What we mean by ‘cost’.
  - How the obligation could apply over time – price ceilings set in advance or assessed after the event.
  - Where we might use different options.
  - Other points we might consider when setting a cost orientation obligation.
- 3.6 Before that, however, we set out a summary of comments made by stakeholders on these points in response to our Call for Inputs.

## Stakeholder responses to our Call for Inputs

- 3.7 Several stakeholders introduced their view on cost orientation through general comments on the remedy and its implementation.
- BT’s initial submission of 28 October 2011 presented our approach as too rigid and too dependent on the DSAC ceiling<sup>28</sup>. In its response to our Call for Inputs of 6 December 2011, BT developed that argument, warned against a risk of over-regulation and emphasised the importance of proportionality, suggesting a more market-specific assessment approach<sup>29</sup>.

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<sup>28</sup> ‘BT’s initial submission’ of 28 October 2011, page 3.

<sup>29</sup> BT response of 6 December 2011, pages 4, 10, 12, 13.

- By contrast, other respondents supported a formal compliance assessment. CWW found our approach clear<sup>30</sup>. Three considered that our basis of charges condition was appropriately based on cost indicators<sup>31</sup>. EE emphasised that the margin of flexibility for prices should relate to the possible allocations of common costs<sup>32</sup>. Overall, UKCTA members found that our approach, while generally appropriate, needed to be updated to take account of relevant precedents and to reduce BT's discretion in the application of the condition<sup>33</sup>. Verizon criticised the current regime for being too "vague", giving too much control to BT<sup>34</sup>.
  - SSE mentioned that it found the 'basis of charges' obligation unclear and complex<sup>35</sup>.
- 3.8 On cost standards, BT<sup>36</sup> and TalkTalk<sup>37</sup> expressed doubts about the economic relevance of DSAC but recognised it was a pragmatic approach to cost orientation. UKCTA felt that DSAC was a clear test but with an excessively high threshold:
- "The current guidelines are overly generous to BT, with a potentially generous DSAC ceiling being referenced in overcharging cases, while a much lower cost floor could be referenced in margin squeeze cases. This gives BT the benefit of the doubt at both ends of the spectrum and doesn't act in the consumer interest"<sup>38</sup>.
- 3.9 BT argued for more flexibility and for using combinatorial tests rather than a DSAC ceiling<sup>39</sup>. UKCTA members also saw utility in using other tests, perceiving DSAC/DLRIC as an appropriate "first order test", but said that it should be possible for further analysis to contradict the "first order test", in either direction<sup>40</sup>.
- 3.10 CWW took the view that, rather than using the same form of the remedy in different circumstances, as is the case today:
- "It may be appropriate to adopt different approaches to cost orientation in different circumstances. Overall the approach taken should be one that attempts to achieve similar circumstances as may be expected in a competitive market"<sup>41</sup>.
- 3.11 On the use of the test in different circumstances, BT argued for a market-specific application, with more or less flexibility depending on the degree of information

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<sup>30</sup> CWW response, page 3.

<sup>31</sup> Three response to Call for Inputs, pages 4-5.

<sup>32</sup> EE response to Call for Inputs, pages 4-5.

<sup>33</sup> UKCTA response to Call for Inputs, pages 4 and 8-9.

<sup>34</sup> Verizon response, page 2.

<sup>35</sup> Appendix to SSE's response, pages 1-2.

<sup>36</sup> BT response to Call for Inputs, pages 4 and 12. Initial submission, page 4.

<sup>37</sup> TalkTalk response to Call for Inputs,

<sup>38</sup> UKCTA response to Call for Inputs, page 4.

<sup>39</sup> BT response, pages 4 and 10. Initial submission, page 10.

<sup>40</sup> UKCTA response, page 9.

<sup>41</sup> C&WW response to Call for Inputs, page 3.

available on costs<sup>42</sup>. EE felt that the optimal approach to setting the obligation would depend on the circumstances, depending on the purpose of the remedy, the degree of current and potential competition, and the likely extent of the impact of prices on downstream markets<sup>43</sup>. UKCTA said that cost orientation must be applied in a fair and transparent manner and that BT must be held to account for it<sup>44</sup>.

- 3.12 On the question of aggregation, BT suggested that cost orientation should be verified at market level, or at a higher level than currently, to take account of usual combinations of products<sup>45</sup>. By contrast, UKCTA members defended an application of cost orientation to “each and every charge”<sup>46</sup>.

## What we consider when setting a cost orientation obligation

- 3.13 We have already set out, in section 3, the conditions that must be satisfied when imposing SMP obligations, and pricing obligations in particular. This includes satisfying ourselves that any regulation we put in place is proportionate and appropriate to remedy the competition issues associated with that SMP. In carrying out this assessment in the case of potential cost orientation obligations, there are a number of issues we are likely to consider, including the following:
- How well **targeted** the obligation is to the competition concern identified.
  - How effectively it promotes **economic efficiency**. There may however be a trade-off, such as between dynamic and allocative efficiency. Setting the bounds on prices in advance would provide maximum certainty, and certainty encourages dynamic efficiency as it is likely to stimulate competitive entry and investment. On the other hand, setting the ceiling before costs are known may mean that prices cannot change to reflect later cost changes fully, which could compromise allocative efficiency, or that BT has too much or too little freedom to vary prices.
  - The **certainty** that an obligation gives, both to the regulated firm and to the firms that stand to benefit from the regulation. This might manifest itself in a number of ways, from the clarity of understanding that the obligation provides, to the ease with which compliance with the obligation can be understood, to the certainty it gives to all parties when making investment decisions.
  - The **cost and practicality** of application of the remedy.
- 3.14 We now set out two main dimensions for considering possible cost orientation obligations – first, what we mean by ‘cost’, and second, whether specific price ceilings are set in advance or assessed after the event.

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<sup>42</sup> BT’s initial submission, page 8.

<sup>43</sup> EE response, pages 6-7.

<sup>44</sup> UKCTA response, page 12.

<sup>45</sup> BT response, page 14.

<sup>46</sup> UKCTA response, page 13.

## What we mean by ‘cost’

- 3.15 When conducting a market review, if we find SMP and conclude that a cost orientation remedy is required to address the competition issues raised, there are a number of different cost standards that might be appropriate. This sub-section looks at some of these cost concepts, beginning with long run incremental and stand-alone cost, then considering DSAC and DLRIC. We then compare these to concepts based on fully allocated cost (FAC).

### Long run incremental cost and stand-alone cost (LRIC and SAC)

- 3.16 Incremental cost is the cost of producing a specified additional product, service or increment of output over a specified time period. In many cases, the relevant increment may be the entire output of a particular service or group of services. The incremental costs of a service are then those costs which are directly caused by the provision of that service in addition to the other services which the firm also produces. Another way of expressing this is that the incremental costs of a service are the difference between the total costs in a situation where the service is not provided and the costs in another situation where the service is provided.
- 3.17 Long run incremental cost – or “LRIC” – is a forward-looking approach to costing that values assets on the basis of the cost of replacing or providing them today<sup>47</sup>. In other words, LRIC treats the cost of a product as the sum of strictly product-specific fixed and variable costs, and looks to the cost of replacement or provision in assessing cost. Ofcom has long considered that a measure of forward-looking costs such as LRIC is the appropriate basis for assessing and, where appropriate, setting charges.
- 3.18 Incremental cost can be contrasted with the stand alone cost (SAC) of a service, which is the cost of providing that particular service on its own. Where there are common costs, which arise from the provision of a group of services but which are not incremental to the provision of any individual service, these costs are included in the stand-alone costs of an individual service. If the incremental costs of each service are removed from the total cost of providing all services, what are left are the common costs. The stand-alone cost of a service is the sum of the incremental cost of the service plus all of the costs which are common between that service and other services. As with many other network industries, the telecommunications industry is characterised by very significant common costs.
- 3.19 If a firm is pricing in such a way as to cover only the incremental costs of the product (i.e. the product LRIC), it will not be recovering any of its common costs from a product. If a firm was to price below LRIC, it would incur losses on the product in the long run, effectively resulting in a negative contribution to recovery of common costs – the firm would be better off if it did not produce the service at all.

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<sup>47</sup> When considering allocative efficiency, it is important to only consider future or forward-looking costs. In other words, costs which occur in the past or do not contribute to present or future production should not be included in a cost calculation for pricing purposes, if the goal is to achieve allocative efficiency. This is essentially because past costs are not relevant for future decision making (i.e. as expended costs, they cannot be influenced by future production and so future decisions on production should not take them into account). To describe a cost as “forward-looking” is therefore to make a statement about cost causation, not one simply about its timing. See also pages 8-9 for a discussion of trade-offs between allocative efficiency and other types of economic efficiency (productive and dynamic).

- 3.20 On the other hand, where a firm prices one of its products at SAC, then if the firm were to charge more than LRIC for any of the other products, it would potentially over-recover its common costs, and so earn profits in excess of its cost of capital.
- 3.21 Because of the existence of significant common costs, the SMP operator will only recover costs overall if at least some of its charges are above LRIC. However, there may be many different ways of attributing these common costs to different services, none of which may be uniquely correct or uniquely reasonable.
- 3.22 The concept of SAC has its origins in the theory of contestable markets<sup>48</sup>. A contestable market is one in which the complete absence of barriers to entry means that incumbent firms, even monopolists, are constrained to price no higher than cost by the threat of entry. The highest price that a multi-product firm could charge for any individual product or service in a contestable market is given by the efficient SAC of that good or service. This is because a price above this level would, if the market were contestable, attract entry by a single product firm which would compete the price down to this level. A price above SAC could therefore only be sustained if there were barriers to entry. In the multi-product context, a price (significantly and persistently) above SAC might therefore be regarded as overcharging.

### **‘Distributed’ LRIC and SAC (DLRIC and DSAC)**

- 3.23 We have commonly used an adapted form of SAC and LRIC when interpreting cost orientation – “distributed stand-alone cost” and “distributed long run incremental cost” or DSAC and DLRIC.
- 3.24 The substantial divergence between the SAC and LRIC at the individual product level provides a high degree of flexibility in how common costs can be allocated and recovered. This is particularly the case for a multi-product firm, such as BT, in an industry where there are substantial common costs which are incurred to provide a range of different products.
- 3.25 While some pricing flexibility can enable a firm to recover common costs efficiently and earn a reasonable rate of return on capital, and is therefore beneficial, too much flexibility could also provide scope for a firm to act in an anti-competitive or exploitative manner.
- 3.26 A price by a dominant firm below LRIC is normally regarded as being suggestive of anti-competitive behaviour<sup>49</sup>. This presumption arises because the firm could increase total profits (in the long run) by ceasing production of the service (since the costs saved would exceed the reduction in revenue). As it would not be rational for the firm to continue producing a product which could not generate sufficient revenue to cover the costs incurred to produce it, the motive for such pricing is presumed to

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<sup>48</sup> See Baumol, W., J. Panzar and R. Willig (1982), *Contestable Markets and the Theory of Industry Structure*, New York: Harcourt Brace Jovanovich.

<sup>49</sup> In most markets, charges are not usually considered to be anti-competitive unless they are below (short run) marginal or average variable cost. The Competition Act guidelines “*The Application in the Telecommunications Sector, Competition Act Guidelines*”, OFT 417, March 2000, explain that LRIC is the usual cost standard in the telecoms sector where service-specific fixed costs are important. This is because “*in telecommunications, the short run marginal cost...could even be as low as zero. Setting prices in relation to short run marginal cost would therefore tend to underestimate the costs of supplying telecommunications services, whereas prices that are derived from incremental costs reflect the actual costs of supply*” (paragraph 7.9).

be anti-competitive, that is with the aim of driving competitors out of the market in order to raise prices later<sup>50</sup>.

- 3.27 In addition, where two services share common costs and are both priced at LRIC, these common costs will not be recovered. So, even if each product were covering its own incremental costs, the firm would then be better off if it stopped producing both services and this again may mean that pricing of this combination of services is anti-competitive, because it is below the incremental cost of the combination of the two services. Under the theory of contestability price flexibility is therefore allowed subject to a floor of incremental cost, but this floor needs to be applied not just to individual services in isolation but also to combinations of services which share common costs.
- 3.28 Similarly, when considering whether a price is unreasonably high, it is also necessary to consider prices for combinations of services which share common costs. If all common costs are recovered from a single service which is priced at stand-alone cost, total costs will be over-recovered if any other service is priced above LRIC. Again, where two services share common costs, even if both are priced below SAC, the firm could still be over-recovering its costs if revenue from the two services combined is above the stand-alone cost of the combination of the two services.
- 3.29 Therefore, in deciding the reasonableness of a particular charge using LRIC and SAC, it is likely to be necessary also to consider whether the prices for different combinations of services are between the incremental and stand-alone costs of those combinations of services (the so-called 'combinatorial tests'). Where all the different combinations satisfy the test then there is no over-recovery of common costs. Depending upon the size of the product portfolio and the types of common costs, the number of combinatorial tests could be very significant. The total number of combinatorial tests in relation to an individual service can be calculated by the formula  $2^{n-1}$ , where  $n$  is equal to the number of services that share common costs (including the individual service in question). For example, if 21 individual products shared a common cost, the number of combinatorial tests would be just over a million. The number of combinatorial tests increases to over a billion if 31 products share a common cost. In addition, there are a number of problems with applying and interpreting combinatorial tests, as set out in the PPC Determination<sup>51</sup>.
- 3.30 Therefore, an alternative, more practical methodology is needed to determine the appropriate degree of bounded flexibility the SMP operator should be afforded in how it sets regulated prices to recover common costs.

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<sup>50</sup> See paragraph 7.15 of *The Application in the Telecommunications Sector, Competition Act Guidelines*, OFT 417, March 2000.

<sup>51</sup> The PPC Determination, 5.71, points to the following, non-comprehensive, list of difficulties:

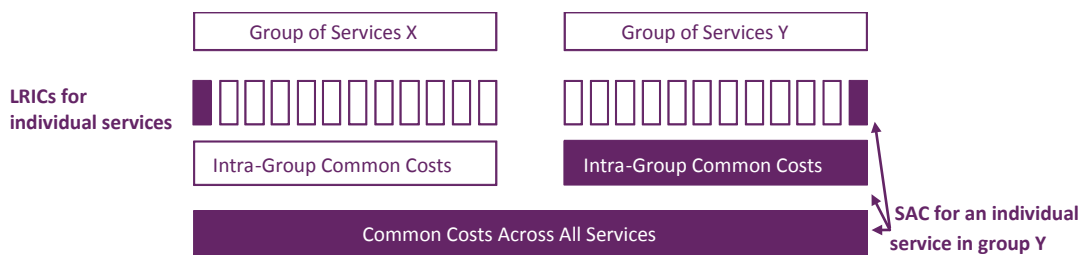
- service identification;
- incentive implications when service combinations span charge-controlled and non-charge controlled markets;
- implications of combinations that span competitive and SMP markets;
- risk of rate of return regulation;
- equity/distributional implications of flexibility in cost recovery.

The CAT agreed that combinatorial tests were generally an inappropriate methodology. In its judgment on BT's appeal of Ofcom's decision, paragraph 254, the CAT states "*The drawback of combinatorial testing, as we have also noted, is the number of permutations or combinations that may have to be undertaken where a firm sells a large number of products/services that share common costs. In some cases...this purely practical difficulty may render combinatorial testing inappropriate*".

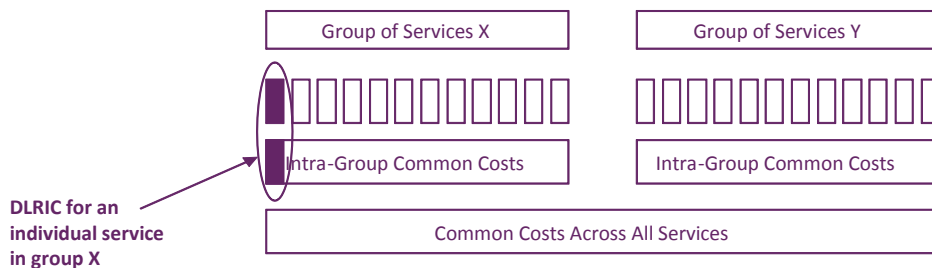


3.31 In the past, the approach that has been adopted by Ofcom (and Oftel previously) is the use of the distributed stand alone cost (“DSAC”) and distributed long run incremental cost (“DLRIC”). DSAC and DLRIC provide cost measures at the level of individual services without the need for combinatorial tests. They are based upon “broad increments” in the products or services sold by the firm, much wider than any individual product or service. LRIC and SAC are then calculated by reference to that broad increment and such costs are distributed between the services in the broad increment to derive the DLRICs and DSACs of individual services. LRIC and SAC are illustrated in Figure 6; DLRIC is illustrated in Figure 7; and DSAC is illustrated in Figure 8.

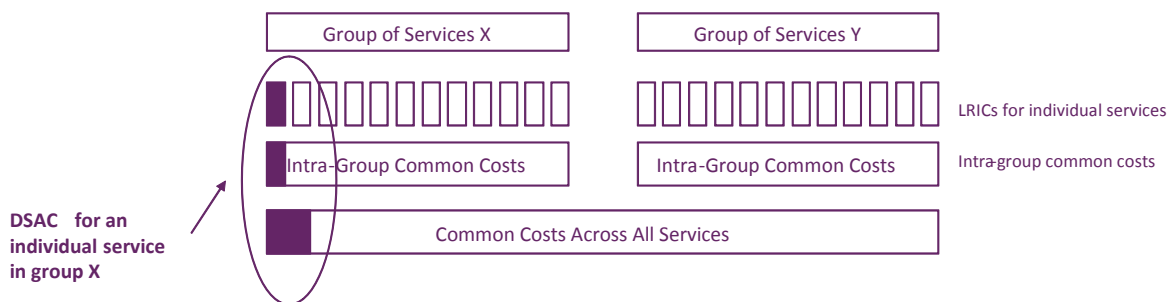
**Figure 6 LRIC and SAC**



**Figure 7 Calculation of DLRIC**



**Figure 8 Calculation of DSAC**



3.32 The DLRIC of each product or service within the broad increment is thus its LRIC plus a share<sup>52</sup> of the fixed common costs between the services in that increment (which form part of the LRIC of the broad increment). As a consequence, the DLRIC is normally above the ‘pure’ LRIC for an individual product.

<sup>52</sup> In the case of BT this share of common costs has traditionally been determined using equi-proportionate mark-ups.

- 3.33 The DSAC of a product equals its DLRIC plus a share of common costs across all increments. As for DLRICs, the common costs included in the SAC of the broad increment are allocated among the services in that increment (the 'Group of Services X' in Figure 8). Reflecting the allocation of only a proportion of the full common costs shared by the service, the DSAC is normally below the 'pure' SAC.
- 3.34 An important feature of DLRIC and DSAC is that there is a link to the LRIC and SAC of economic theory at the level of the large increment. Thus the sum of the individual service DLRICs within the group of services is equal to the LRIC of the group of services taken as a single increment. Similarly, the sum of individual service DSACs within the service group is equal to the SAC for the service group taken as a single increment.
- 3.35 As noted above, we applied the DSAC ceiling in resolving the 2009 dispute over BT's PPC charges. On appeal the CAT found that DSAC was an appropriate ceiling to use in the circumstances of the case. In particular, the CAT found that in the case of PPCs, combinatorial testing was not practical and using FAC would have been inflexible. At paragraph 307 of the judgment, the CAT therefore stated:
- "In this case, DSAC represented the best single measure for assessing whether the [cost orientation] condition had been satisfied and so marked the upper limit or ceiling on the permissible mark up of prices".
- 3.36 The CAT further considered that this should be assessed in a non-mechanistic way<sup>53</sup>.

## **FAC**

- 3.37 FAC is an accounting concept designed to ensure that all of a firm's relevant costs (both incremental and common) are attributed to its activities. If a firm set all its charges equal to FAC for each unit, all things being equal, it would be expected to recover (but not over-recover) all its costs, including all of its common costs. These costs typically also include an allowance for a return on capital which is measured at the firm's cost of capital (i.e. its WACC).
- 3.38 There are numerous methods for generating FAC estimates, although typically firms use some form of activity-based costing. This form of analysis involves allocating all costs (both incremental and common) to individual activities and services. Other approaches can involve simply allocating common costs to services in line with the incremental or variable costs incurred. BT's approach to calculating FAC is therefore only one approach. Other methods may also be reasonable and could produce different views of BT's rate of return on individual services.

## **Relationship between DLRIC, DSAC and FAC**

- 3.39 As FAC involves allocating all the firm's common costs across all products, the costs for individual products would normally be above the LRIC and below SAC for the product. Furthermore, where FAC and DSAC are both derived on the basis of a consistent set of models, we would normally expect FAC also to lie in between the

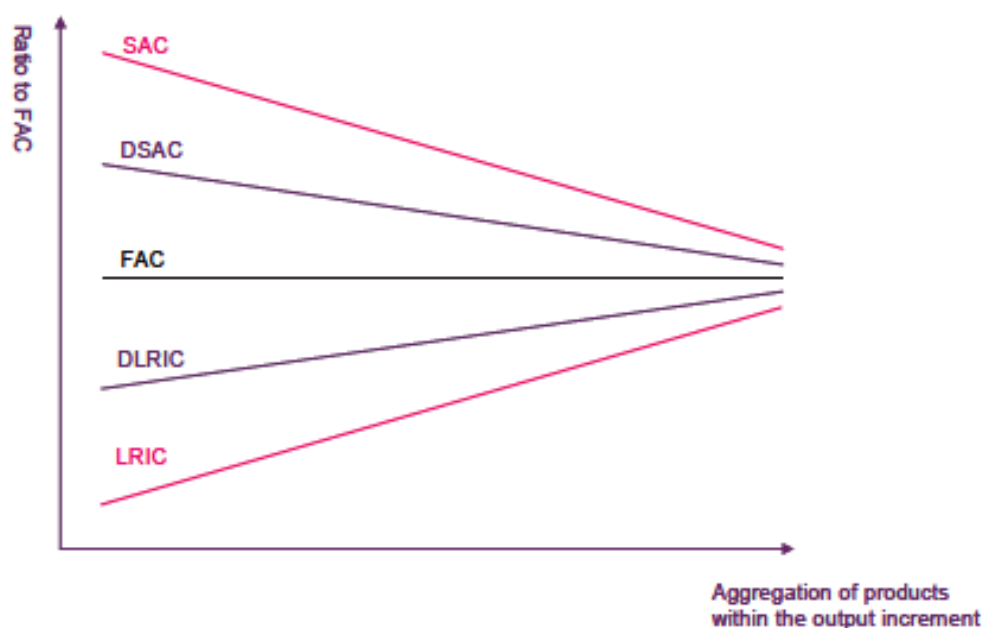
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<sup>53</sup> CAT PPC Judgment, paragraphs 296 and 304-327.

DLRIC and DSAC. However, the extent to which the measures diverge depends upon a number of factors including the size of the output increment being considered.

- 3.40 Where the relevant increment of output is the entire output of the firm, then the entire firm's costs are incremental, including costs that may be common to groups of individual services. As such, the LRIC / DLRIC / FAC / DSAC / SAC measures all converge.
- 3.41 Conversely, where the output increment is much smaller than the entire output of the firm, a single product of a multi-product firm for example, the existence of significant common costs will result in a divergence between the cost measures<sup>54</sup>.

**Figure 9: Convergence of DSAC and DLRIC with FAC**



### FAC+

- 3.42 Here we consider the merits of using 'pure' FAC as a cost standard in setting a cost orientation obligation, before considering other FAC-based alternatives.
- 3.43 Setting a condition limiting all prices to 'pure' FAC will usually be too rigid to allow the bounded flexibility we consider desirable. Where the provision of services is characterised by high fixed common costs which have to be recovered through charges, efficient recovery of total costs will require prices to be set taking account of the responsiveness of demand to changes in price.
- 3.44 Simply setting all prices equal to a measure of accounting cost such as FAC therefore has the potential to be very inefficient where there are significant common costs. In addition, as the regulator is unlikely to have good information about the way demand responds to price changes, the best way to achieve efficient prices which reflect elasticities of demand is likely to be to allow the firm to set relative prices

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<sup>54</sup> This is true provided in all cases only forward-looking costs are included. See footnote 47 above for a discussion of forward-looking costs.

within an overall basket control on average prices, subject to appropriate bounds on individual charges.

- 3.45 An alternative would be to allow prices to be set within a range around FAC – i.e. FAC plus Y% and / or FAC minus Z%. We refer to this as ‘FAC+’. The ‘+’ might be used to achieve a number of different things, which we will look at in turn, before considering whether there are some types of services where setting prices effectively at FAC might still be relevant.
- **A – Price elasticities and extent of relevant common costs.** FAC+ would increase the degree of flexibility allowed in pricing compared to FAC and this could allow the SMP operator to reflect relative elasticities in setting prices<sup>55</sup>. Where the extent of common costs relevant to the service is larger, efficient prices might lie in a wider range. Exactly how much flexibility is allowed would depend on the ‘+/-’ range allowed.
  - **B – Uncertainty around costs in setting prices.** Setting prices in advance but assessing these against costs identified after the event involves some level of estimation. One way of guarding against this forecast error would be to use a FAC+ approach, but with a relatively small ‘+’. Where it is possible to predict FAC with a good level of confidence, using a high ‘+’ could allow the operator to exploit this flexibility to the detriment of consumers. However, the precise level of the ‘+’ would need to be determined through the course of a market review, and could potentially depend on a judgement on the level of uncertainty around costs involved.
  - **C – Adaptation to competitive conditions.** Another way of setting a ‘+’ would be to amend the ‘+’ to suit the competitive conditions in the market – for example setting a tighter ‘+’ where competition is weaker, and vice versa. This is an approach suggested by some stakeholders – e.g. Everything Everywhere and UCKTA<sup>56</sup>.
- 3.46 As a whole, any obligation based on FAC moves further from the underlying theory of contestable markets and encouraging allocative efficiency than one based on DSAC and DLRIC. However, this divergence from the underlying theory is potentially different for the three versions of FAC+ set out above.
- 3.47 Arguably, (A) above is still relatively close to the underlying objective of promoting efficiency, since it would aim to reflect the levels of common costs and / or price elasticities. However, if we were to follow this approach, we might ask ourselves why we would not simply use a DSAC / DLRIC method instead, since that is intended to relate to the level of common costs.
- 3.48 (B) and (C) are further from the underlying theory, so there would need to be different reasons for preferring them. We can think of this as a trade-off between the theoretical concepts and justification underlying the intervention and the practicality of implementing it.

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<sup>55</sup> Price elasticities are relevant because it is efficient to recover proportionately more common costs from those services with the least elastic demand. This is because doing so will minimise the reduction in demand caused by the need to raise prices above marginal or incremental cost in order to recover fixed and common costs.

<sup>56</sup> EE response to Call for Inputs, page 6. UKCTA response to Call for Inputs, page 11.

- 3.49 As described above, the implementation of the theory of contestable markets through combinatorial tests is often likely to be impractical. DSAC is derived from the concepts of the underlying contestable market theory but it is a simpler and more practical alternative to combinatorial tests. DSAC is therefore already a modification moving away from the 'pure' theory due in part to practical constraints.
- 3.50 FAC+ is a further movement along this trade-off, having some practical advantages over DSAC but with less theoretical justification. As noted above, DLRIC and DSAC are tied to the theoretical LRIC and SAC concepts at the level of the broad increment, but this would not be true of FAC+.
- 3.51 Finally, as explained below, there are some circumstances in which the most appropriate interpretation of the cost orientation requirement is that a charge should be equal to the cost of providing a service. This may be referred to as "FAC", although in the absence of relevant common costs, it may in fact contain no allocation of overhead costs and be indistinguishable from incremental costs.
- 3.52 In Section 2, we said that regulators generally set charges with three types of efficiency in mind. It is often concern for allocative efficiency, and the objective of allowing common costs to be recovered in an efficient way, which leads us to allow bounded flexibility for BT to set relative charges. Large common costs are a feature of services provided over BT's network but some non-network services may not share any costs with the rest of BT's output. If recovery of common costs is not relevant, then allocative efficiency can be promoted simply by setting the charge equal to the cost of provision<sup>57</sup>.
- 3.53 We also noted that RPI-X regulation is generally used to give incentives for productive efficiency. But if these incentives are also not important, for example because the costs of a bought-in service (for example electricity) are simply passed through to customers, then setting charges equal to cost may well be the best option.

### **How the obligation could apply over time – price ceilings set in advance or assessed after the event**

- 3.54 We can see two different ways of setting a cost orientation obligation to take account of the fact that such an obligation will be for the period of the market review. One is to consider prices annually in light of actual costs. However, there is an alternative, in which we could set a price ceiling<sup>58</sup> in advance for the duration of the market review. For ease of further discussion, we assume this period to be three years<sup>59</sup>.
- 3.55 To date we have followed the former approach – BT's obligation is to ensure that its prices are oriented to the costs in the year in which the price applies. This should ensure that prices follow actual costs, which in principle promotes allocative efficiency. However, there are difficulties inherent in such an obligation: prices are set

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<sup>57</sup> Other situations may also justify a different approach to cost recovery. Where a service is used only by BT's competitors, it may be appropriate to set charges to recover LRIC only, without a contribution to recovery of BT's common costs. Leased line points of handover are an example of such a service. Where there are (positive) externalities in relation to a service, the price of that particular service can legitimately be set below its LRIC. Migration charges may be an example of such a situation.

<sup>58</sup> We also discuss the question of imposing a price floors at paragraphs 3.98 and following.

<sup>59</sup> This does not necessarily need to be the case. See Section 84A(7) of the Communications Act / Article 16(6) of the Framework Directive.

in advance for the year, whereas true costs will only become apparent in hindsight. This raises the need to ensure non-mechanistic use of ex post cost information to assess compliance of prices with the obligation<sup>60</sup>.

- 3.56 The alternative would be to take a year 0 number (based on whatever cost standard we saw as appropriate) and set ceilings in advance for years 1 to 3 of the three-year obligation from that starting point. This would make the cost orientation obligations more certain and more predictable, both for the regulated firm and for its customers. We would need to consider how to project the year 0 number forward; but if we were to use this approach in tandem with a charge control, we should be able to use the charge control modelling process to help do this. By contrast, using actual costs, assessed after the event, is less certain and predictable, but is more closely linked to actual costs.
- 3.57 In setting the 'X' in an RPI-X charge control, we generally include two main components: an allowance for expected cost reductions, which may be due to a number of factors including efficiency gains and growth in the volume of services sold, and a downward adjustment to remove any super-normal profits present in year 0 prices. We could use the cost forecast component of the 'X' to generate the year 1 to 3 figures in the cost orientation obligation. As with a charge control, we could set the actual pounds sterling ceiling figure in real terms, but then update this each year once inflation data become available.
- 3.58 The chart below shows an illustrative example of the two different approaches. Line 1 shows the DSAC ceiling set in advance, starting with the year 0 DSAC and setting the DSAC ceiling for the next three years by projecting the year 0 figure forward in line with a forecast of the rate of unit cost reduction. Where cost orientation is used with an RPI-X charge control, we can use the same forecast rate of cost reduction as we use to set the value of X in the RPI-X charge control. This is as opposed to line 2, which uses actual out-turn DSAC, assessed after the fact, to set the ceiling. As shown, actual DSAC can fluctuate year on year.
- 3.59 Lines 3, 4 and 5 are included for comparison purposes<sup>61</sup>. Line 3 shows the timepath of average basket prices over the period of the control as determined by the RPI-X formula. In year 0 these prices are above the average unit costs of the basket services (calculated on an FAC basis) shown by line 4, indicating that the firm is earning some supernormal profit. Line 4 shows the projected timepath of unit costs on an FAC basis over the control period. These are projected to fall over time as the firm becomes more efficient, eliminating the inefficiency existing in year 0 which is

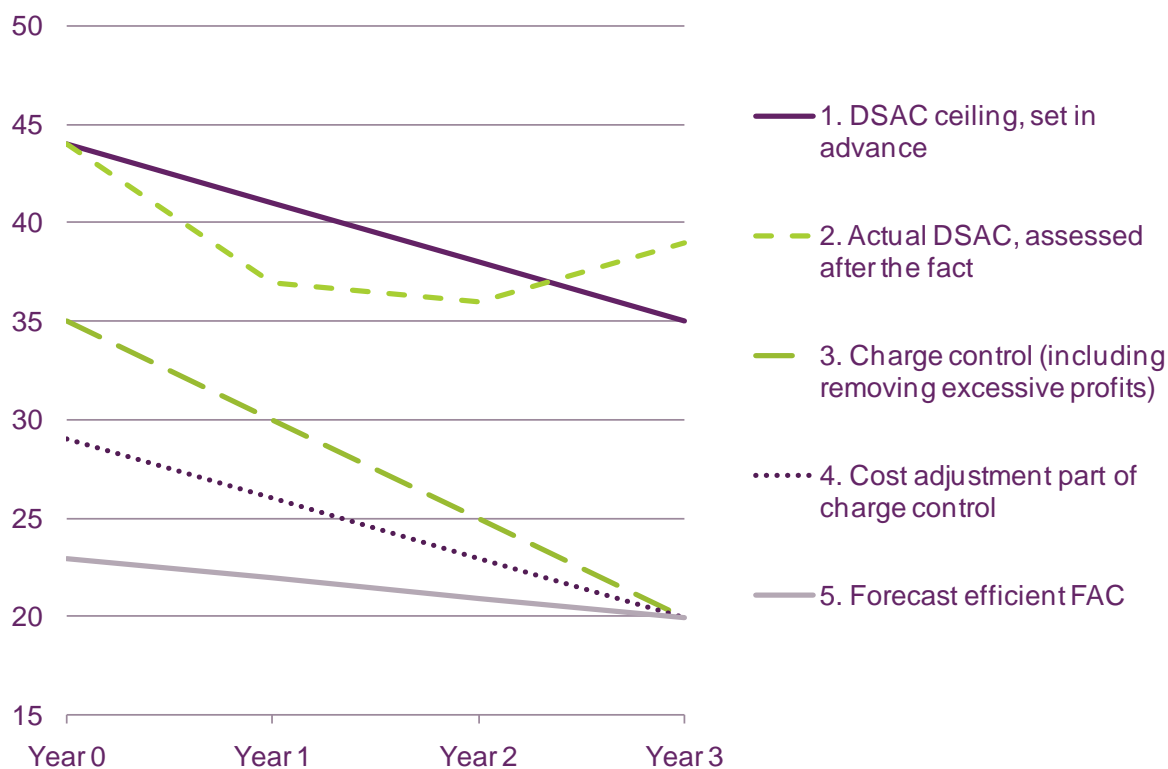
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<sup>60</sup>This is consistent with the PPC Judgment. The CAT said "Accordingly, when retrospectively seeking to determine compliance with Condition H3.1, it would not be right for OFCOM to apply DSAC...in a mechanistic way. That would overlook the fact that it is hard in practice for the regulated firm to comply absolutely with whatever test is being used to determine the appropriate allocation of common costs" (Judgment, paragraph 304). The factors which the CAT considered relevant to the non-mechanistic application of the test included the magnitude and duration of the amounts by which charges exceeded DSAC, whether, and the extent to which, charges exceeded FAC; and the rate of return on capital employed (Judgment paragraph 305). <http://www.catribunal.org.uk/238-5136/1146-3-3-09-British-Telecommunications-Plc-.html>.

<sup>61</sup> The chart is for illustration and care is needed about the interpretation of lines 3-5 in the same diagram as lines 1 and 2. This is because lines 3-5 refer to the average level of a basket of services to which the charge cap applies, whereas lines 1 and 2 may relate to an individual service (within the basket).

shown by the fact that line 4 is above line 5. Line 5 shows the projected efficient level of unit cost, itself falling over time due to technical progress. The cap is set to remove the initial supernormal profit and bring prices into line with projected efficient unit costs by the end of the control period. This is shown by the convergence of lines 3, 4 and 5 in year 3. In the diagram, the slopes of lines 1 and 4 are the same to reflect the method of setting the DSAC ceiling described above.

**Figure 10** Illustrative example of different approaches to setting cost orientation obligations



3.60 Setting a ceiling in advance has the disadvantage of relying on a forecast, as the range is based on a projected estimate, derived from past cost figures rather than on the actual cost values in years 1-3. However, this approach could potentially provide greater certainty – to the regulated firm as to what it has to do in order to meet the obligation; and to the firms that use the regulated product as to what the maximum price will be over three years for the service it is buying. Setting ceilings in advance would mean that we could avoid the complications in assessing compliance which can be caused by unpredictable cost changes.

3.61 There is a trade-off between certainty of compliance and precision of the price range values, given that the range set in advance is a projection of costs based on past values and so can never be completely accurate. A less precise cost orientation test such as this may inefficiently constrain the operator’s prices, i.e. restrict prices too much or not enough, which could lead to some loss of allocative efficiency. On the other hand, the greater certainty could enhance dynamic efficiency by creating a more favourable environment for entry and investment. Charge controls now typically apply for a period of three years; therefore if either the core charge control or the DSAC forecasts turned out to be incorrect, there is the possibility of addressing this within a relatively short time frame.

## Where we might use different options

### Stakeholder views on approaches to setting cost orientation obligations

3.62 TalkTalk took issue with our use of DSAC to date:

“Ofcom often simplistically assumes that as long as the charge is below DSAC, it passes the cost-orientation obligation. We consider this situation highly unsatisfactory”<sup>62</sup>.

3.63 In a subsequent meeting, TalkTalk argued that DSAC has no economic basis and allows BT more flexibility than is necessary. TalkTalk suggested that a more appropriate standard could be FAC+, but applied at different levels, with smaller ‘+’ factors as the group of products over which cost orientation is assessed gets larger.

3.64 We disagree that DSAC has no basis in economics – we set out in paragraphs 3.22-3.34 that DSAC/DLRIC is a practical application of contestable market theory and the concepts of SAC/LRIC. The approach set out below allows the degree of flexibility in the cost orientation condition to be set differently in different market reviews depending on the circumstances in the market. While we can understand TalkTalk’s intention in suggesting a ‘tiered’ FAC+ approach (with a different ‘+’ applied on different groups of products), it appears this would risk becoming a rate of return control (particularly as larger output increments are considered), imposing a greater constraint (and providing fewer efficiency incentives) than an RPI-X charge control. In addition, there is a risk that such a system could become excessively complicated.

3.65 Others also disagreed with the use of DSAC / DLRIC, including Three:

“Stand-alone cost concepts (such as SAC and DSAC) are generally inappropriate as benchmarks in cost orientation. They provide BT with too much discretion in terms of how to allocate its common costs when used as a ceiling in cost orientation. In Three’s view, any “appropriate mark up” for common costs must be more narrowly defined and be explicitly set out in the cost orientation condition”<sup>63</sup>.

3.66 This criticism of DSAC / DLRIC was also echoed by MBNL. However, despite criticising DSAC as a standard, neither Three nor MBNL put forward a view as to a more appropriate standard.

3.67 In general, there was consensus among CPs that the range between the DLRIC floor and DSAC ceiling is too great<sup>64</sup> but there was less consensus on an alternative cost standard and several CPs did not offer any alternative proposals.

3.68 UKCTA suggested that:

“A more dynamic approach to cost orientation, with different cost standards set for different markets based on the level of current or prospective competition (with a lower cost ceiling set for markets where competitive entry is unlikely and a higher benchmark for

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<sup>62</sup> TalkTalk response to Call for Inputs, page 12.

<sup>63</sup> Three response to Call for Inputs, page 9.

<sup>64</sup> UKCTA’s response, page 4 and page 10. Verizon’s response, page 7. EE’s response, page 5.



markets where competitive entry remains a possibility) may be worth investigating”<sup>65</sup>.

- 3.69 We agree that it may be appropriate to use different standards in different circumstances, depending potentially on a number of factors, including whether we were setting a cost orientation obligation alongside or without a charge control. As regards the set of price remedies, to some extent we already follow UKCTA’s approach of varying the remedies in different markets when we use light touch regulation in prospectively competitive markets and a charge control where SMP is more entrenched. A drawback of UKCTA’s suggested extension of this principle to the cost orientation obligation itself is that it would mean that the amount of price flexibility was no longer related to the amount of common costs to be recovered, and that could reduce allocative efficiency.
- 3.70 Our approach to the design of price baskets is relevant to UKCTA’s point, however. We have consistently considered that, where practical, baskets should not mix competitive and non-competitive services, as this can distort pricing incentives. Price reductions are likely to be concentrated on the most competitive services, offset by price rises elsewhere. Where there are marked differences in the competitiveness of two services which we propose to subject to charge control, it will generally be appropriate to place them in separate baskets. Where differences are less marked, sub-caps may be used to limit changes in relative prices within a single overall basket.
- 3.71 BT believed that:
- “Once there has been a clear policy choice to adopt cost orientation as the primary remedy as opposed to the imposition of a charge control, it is uncontroversial to note that the cost orientation remedy must by its nature be used as a more flexible remedy than a charge control. It should not, for instance, be interpreted in a way that requires prices to equate to FAC either at the level of individual services or at the overall regulated market level”<sup>66</sup>.
- 3.72 While in the past we have typically used cost orientation as a more flexible remedy, that may not necessarily be appropriate in every case. As we have explained in this section, there may be circumstances where the underlying objectives for the two types of remedy (i.e. a charge control and cost orientation) are similar – i.e. constraining prices as close as possible to a particular measure of cost such as FAC.
- 3.73 Several stakeholders have suggested that DSAC is not a robust approach to costs, because DSAC values in BT’s RFS fluctuate too much from year to year. However, comparable variation is also often observed in the RFS’s FAC values, which may be explained by the fact that BT’s LRIC model, used to calculate DSACs, uses the FAC values as inputs. This is therefore not a criterion that would clearly justify selecting FAC over DSAC.
- 3.74 The chart in Figure 11 below shows the variation of the different unit cost measures over seven years of data. The bars represent the standard deviation of each series of figures, expressed as a percentage of the series’ mean. This presentation makes it

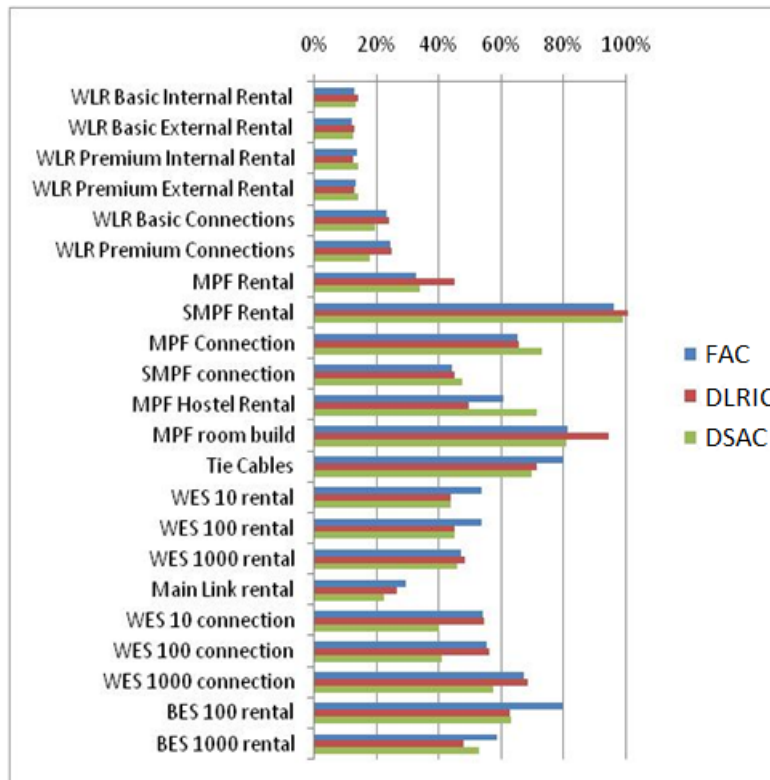
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<sup>65</sup> UKCTA response to Call for Inputs, page 11.

<sup>66</sup> BT October 2011 Submission, paragraph 18.

possible to compare the variations of the unit cost measures (FAC, DLRIC and DSAC), even though their means differ widely. The higher the percentage, the greater the variation in data across the time period considered. The chart shows that the variation in cost measures is largely similar for a given product.

**Figure 11 Coefficient of Variation over 7 years in a sample of BT’s wholesale product prices, based on RFS values (2005-2011)**



**Our analysis on the approach to setting cost orientation obligations**

- 3.75 In the previous sub-section, we set out two dimensions for a possible cost orientation obligation – the cost standard, and whether the obligation involves price limits set in advance for the duration of the market review period or assessed each year after the event. Combining these two dimensions gives a number of possible options. We now set out some views on how these options might apply in different circumstances.
- 3.76 As we set out above, there are broadly two types of circumstance where we might put in place a cost orientation obligation: with or without a charge control. We consider these in turn.

**With a charge control**

- 3.77 With a charge control, as we set out in the previous Section, the broad purpose of a cost orientation obligation is likely to be to give a level of bounded flexibility on individual prices within the charge control basket. We therefore need to consider the trade-off between promoting efficiency and maximising certainty.
- 3.78 As set out in the subsection on cost standards, we see DSAC as a way of remaining fairly close to the underlying objective of maximising efficiency, while at the same time being more practical than SAC and combinatorial tests. If a cost orientation

obligation based on DSAC were the only constraint, and depending on precisely how it is implemented, DSAC can allow a great deal of flexibility.

- 3.79 With a charge control, however, DSAC is still likely to be an appropriate cost standard for cost orientation. It is not expected, in this case, to constrain the level of prices overall, as that is the job of the charge control – all it does is provide bounded flexibility on individual prices. As a practical way of reflecting the extent of common costs attributed to a given service, it may well be a good way of doing that, so long as the price basket is properly designed, for instance not mixing non-competitive and competitive services. (On the other hand, sub-caps could also achieve similar results if designed appropriately.)
- 3.80 We also believe that in such cases the price ceiling set in advance could represent a good complement to the charge control, which itself is set at the beginning of the period for the duration of the market review period. Compared to the current approach based on an annually updated DSAC ceiling, it potentially sacrifices an element of efficiency promotion, as it would not reflect changes in cost during the period; but the same is true of the charge control itself. However, we see as potentially outweighing this the likely benefits to all concerned from certainty over the level of the ceiling. In any case, the benefits from basing prices on year-on-year DSAC figures may not be as great as first impressions suggest – actual costs are not reported until some time after the relevant period, due to the complexity of calculating them, with the result that some of the immediacy is lost.

### **Without a charge control**

- 3.81 We said above that we might use a cost orientation obligation where we do not set a charge control, but that this might be in fairly limited circumstances. One possibility is imposing cost orientation in the context of a prospectively competitive market (see paragraph 2.88 above). A second possibility, which we focus on below, is the case of cost orientation as a “fallback”, where the circumstances suggest a charge control is appropriate in principle but we believe that there is sufficient uncertainty over costs that to do so would risk regulatory failure through setting a control that was too tight or too loose.
- 3.82 In this second set of circumstances, we might want the cost orientation obligation to take a slightly different form compared to the situation where we do have a charge control (as described above).
- 3.83 Firstly, if uncertainty over costs were to prevent us from setting a charge control with confidence, it would also make it difficult for us to set a cost orientation obligation based on a price ceiling set in advance.
- 3.84 Secondly, we might want to use a different cost standard to DSAC. Where we apply charge controls across baskets of services, we usually set them to bring projected revenues for the basket into line with projected costs, with CCA FAC as our cost standard. The reasons for doing so are set out in various Ofcom documents, including for instance the WBA Market 1 charge control statement<sup>67</sup>.

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<sup>67</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf> - paragraphs 5.61-5.64:

- 3.85 Where we are using a cost orientation obligation as a fallback from a charge control, therefore, we may consider it more appropriate for prices across the group of services within the control to be close to FAC rather than all being able to be set at DSAC. This approach is likely to be appropriate in those atypical situations where a key wholesale input in a market with limited or very little competition is not charge-controlled, even though the circumstances suggest a tight restriction on prices is warranted.
- 3.86 We might therefore prefer an approach of using FAC+, with the '+' being set to allow for the uncertainty of setting prices in advance against unknown out-turn costs. In doing so, we would consciously be restricting the SMP operator's pricing flexibility. Using DSAC in these circumstances would have the practical advantage of not requiring decisions on the '+' factor, but would risk allowing prices that are too high given the objective of the price remedy.
- 3.87 With a FAC+ approach, a price ceiling set in advance could be envisaged as in the case where there is a charge control. However, given that the allowed price range in this case is not intended to be wide, there is probably less room for the additional approximation caused by the forward projection. With a FAC-based approach, an annually updated ceiling, assessed after the event, therefore seems desirable. An alternative to setting prices upfront based on forecast FAC figures could be to require the SMP operator to set prices based on the last available year's FAC figures.
- 3.88 There may be a limited set of circumstances in which it will be appropriate to set charges equal to cost using a cost orientation requirement – not as a fallback from a charge control, but because the nature of the service means it does not share common costs with other BT services. In this case, a FAC+ approach with a relatively small '+' to allow for the uncertainty involved in setting prices before costs are fully

*“ . . . A charge control based on CCA FAC data can be reconciled more easily to BT's regulatory financial statements, which are audited and are in the public domain. We are also of the view that CCA FAC and LRIC+EPMU should provide reasonably similar results, particularly at more aggregate levels, since the overall total of costs to be recovered is the same.*

*The use of CCA FAC is consistent with the approach we have adopted for other recent charge controls. It is our view that a consistent approach amongst various charge controls on BT is desirable as many of the common costs under consideration are 'common' across a wide portfolio of services in different markets. Consistency will enable systematic over- or under-recovery of costs to be avoided.*

*Moreover, it is only at the level of the basket that charges are brought into line with costs, whether this is set on an FAC or a LRIC+EPMU basis. Within the basket, BT has freedom to vary individual prices which therefore do not have to equal either FAC or LRIC+EPMU.*

*Our use of CCA FAC to set the current controls was scrutinised by the Competition Commission in the LLU Appeal Determination and the WLR Appeal Determination. In its determination, the Competition Commission found that we were not in error in our use of CCA FAC to check that the price differentials between MPF and SMPF+WLR were at least equal to LRIC differentials. It also found that we had given sufficient weight to allocative and dynamic efficiency factors in adopting a CCA FAC approach to cost allocation” (Paragraph numbering removed for the sake of clarity).*

The last paragraph refers to:

Competition Commission determination in “The Carphone Warehouse Group plc v Office of Communications”, 31 August 2010, cases 1111/3/3/09

[http://www.competitioncommission.org.uk/appeals/communications\\_act/llu\\_determination.pdf](http://www.competitioncommission.org.uk/appeals/communications_act/llu_determination.pdf) (the “LLU Appeal Determination”);

Competition Commission determination in “The Carphone Warehouse Group plc v Office of Communications”, 31 August 2010, cases 1149/3/3/09 (the “WLR Appeal Determination”)

[http://www.competition-commission.org.uk/appeals/communications\\_act/wlr\\_determination.pdf](http://www.competition-commission.org.uk/appeals/communications_act/wlr_determination.pdf).

known may be appropriate. In this case, however, we would sacrifice little in the way of efficiency promotion, because of the lack of common costs.

- 3.89 For the different situation of cost orientation being imposed in a prospectively competitive market we would need to form a view in the relevant market review on the most appropriate details for the obligation, taking into account the particular market circumstances. For example, on the question of the appropriate cost standard, there might be a stronger case for using DSAC (than for the different situation of cost orientation as a fallback for a charge control), depending on the view taken of the best way to make the potential trade-off between allocative and dynamic efficiency in the light of the scope for the greater development of competition with price ceilings at DSAC than at FAC+.

### **Other points we may consider when setting a cost orientation obligation**

- 3.90 There will be a number of factors to consider when setting the cost orientation condition, and those may well be specific to each market. However, it is possible to identify at this stage some factors that are likely to be relevant for a number of markets:
- Aggregation – whether the obligation applies at the level of an individual service or across a group of services.
  - Whether to impose a floor.
  - Consistency between price differences and cost differences.

### **Aggregation**

- 3.91 We can apply price controls at an aggregated level or a much more disaggregated level. For instance, we sometimes apply RPI-X charge controls at the level of a basket of services. We might however apply a sub-cap on an individual service.
- 3.92 Where we set cost orientation obligations, we will need to consider, in the context of the competition concerns identified, the extent to which cost orientation should apply on a more or less aggregated basis. This might take the form of specified individual services being subject to cost orientation or might apply across a group of services within a relevant market.

### **Stakeholder views on aggregation**

- 3.93 We have in the past imposed a cost orientation obligation in relation to ‘each and every charge’.
- 3.94 BT expressed strong views on aggregation. It felt that we have applied our DSAC test too rigidly at too disaggregated a level, and it made particular reference to the issue of rental and connection charges. BT proposed that the cost orientation obligation should:

“look at not only individual DSACs and prices but consider the position across combinations of related prices purchased together by

CPs – e.g. connections and rentals and other instances where up-front charges are paid followed by related ongoing charges”<sup>68</sup>.

- 3.95 BT made a case to remove the ‘each and every charge’ element of the obligation stating:

“overall pricing viewed at the aggregated level would be in line with taking the narrower view of DSAC at the level of individual pricing and this should itself provide comfort that customers are no worse off from conducting the assessment at the more aggregated level”<sup>69</sup>.

- 3.96 UKCTA also expressed concerns about the level of aggregation, but to the opposite effect to BT. UKCTA queried how BT can demonstrate compliance with its obligation for “each and every charge” to be cost orientated if this level of information is not provided in BT’s regulatory financial statements.

- 3.97 UKCTA commented that it is appropriate for the condition to require each charge to be individually oriented to the costs of providing the relevant service. It did not support the alternative of applying the condition at a more aggregated level to the combined costs and revenues of a group of services. UKCTA stated:

“In order to provide the crucial certainty and transparency of an effective cost orientation remedy, it is necessary to maintain a disaggregated approach”<sup>70</sup>.

## Deciding whether to impose a floor

### Stakeholder views on floors

- 3.98 Some stakeholders presented the view that the main concern is likely to be prices that are too high rather than too low. For example, TalkTalk noted:

“Ofcom (and Oftel before it) has historically used a first-order test of cost-orientation of whether the charge is below DSAC (and indeed above DLRIC). We focus here on the ceiling since the primary problem is BT charging too much”<sup>71</sup>.

### Our analysis on floors

- 3.99 It is relevant to consider whether we should continue to assess cost orientation by reference to both a ceiling and a floor.
- 3.100 In general, low prices are beneficial for customers and consumers. Prices equal to marginal cost supports allocative efficiency<sup>72</sup>. Moving prices closer to marginal cost therefore represents an improvement to allocative efficiency. However, pricing too

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<sup>68</sup> BT’s response, page 11.

<sup>69</sup> BT’s response, page 14.

<sup>70</sup> UKCTA response to Call for Inputs, page 13.

<sup>71</sup> TalkTalk response to Call for Inputs, page 11.

<sup>72</sup> In the absence of externalities.

low (below marginal or incremental cost<sup>73</sup>) by an SMP operator can undermine competition by forcing competitors out of the market, leaving the incumbent free to abuse its market power. A price floor could therefore be imposed in order to prevent the incumbent operator from setting prices which are so low that other CPs are prevented from entering the market and competing with it.

3.101 In wholesale markets, there may be trade-offs between effects on competition in the wholesale market in question and effects in the downstream markets in which that wholesale input is used. Depending on the circumstances, a low price could adversely affect wholesale competition but promote downstream competition.

3.102 As noted in Section 2 above, we have a choice of whether to put in place a floor on prices using ex ante regulation or whether to rely on ex post competition law.

### Factors to consider in determining whether a floor is justified

3.103 A floor using ex ante regulation may be justified where the long-term benefits from entry and competition are likely to outweigh the short-term loss of benefits from preventing lower prices. These points help to bring into focus what factors should inform whether a floor is justified in a particular case. Factors to consider include the following:

- Likelihood of entry by competitors in the wholesale market and downstream markets.
- Likely scale of benefits from entry.
- The risk that the floor is above the efficient price level. As noted above, economic theory tells us that a price as low as marginal cost may support allocative efficiency.
- The likelihood of anti-competitive pricing in the wholesale market<sup>74</sup>. Where an operator retains a position of dominance in markets subject to ex ante regulation, it is often likely to be subject to some form of price remedy and this is likely to limit the potential for recouping the cost of predation. Recoupment also partly depends on the long-term effect on the competitiveness of the market. The likelihood that profits will be restricted by subsequent price remedies if predation is successful in maintaining a position of dominance, or by entry if it is not, may reduce the expected profitability of predatory strategies in practice. But there may be additional possibilities in some specific cases, for example that a reduction in competition in the wholesale market might also lead to a reduction in competition in downstream markets.
- Whether there are alternative remedies which could address the concerns more proportionately – e.g. a non-discrimination rule requiring BT to charge the same

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<sup>73</sup> In telecoms, as noted earlier, LRIC, which includes service-specific fixed but not common costs, may be preferred to marginal cost in assessing anti-competitive low pricing.

<sup>74</sup> Fair and reasonable obligations can also be used to ensure that there is neither a margin squeeze nor predatory pricing. See the statement from our Business Connectivity Market Review, end of paragraph 9.119: <http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/statement/Sections8-16.pdf>

price to all customers could make predation more expensive by preventing targeted price cuts. We can also use our powers under the Competition Act to intervene ex post. Such an intervention is likely to be effective in a situation where a dominant operator unexpectedly prices excessively low, to the detriment of competition.

### Implementing a floor

- 3.104 As with setting ceilings, where we do decide to use a floor, we would need to decide what we see as an appropriate floor.
- 3.105 Where a floor is needed, which cost standard we use may depend on which ceiling we use. Ex ante regulation allows us to set a floor which is tailored specifically to the circumstances of the specific market in question. We could use Average Variable Cost (AVC) or Average Avoidable Cost (AAC) (typically used as a starting point in competition law cases which consider predation), or LRIC (considered by the OFT as a more appropriate test in telecommunications). But we might prefer a floor based on a higher cost standard (e.g. DLRIC), given the specific circumstances<sup>75</sup>.
- 3.106 Where we use DSAC and decide to impose a floor as well as a ceiling through cost orientation, DLRIC may be more appropriate as this could represent a “safe harbour” and a suitable balance between the theory of pricing in contestable markets and the practicality of actually undertaking the test, and also maintains internal consistency in the approach to floors and ceilings.

### **Consistency between price differences and cost differences**

- 3.107 In some circumstances it may be relevant to consider whether there is an argument for linking the price differences between two products to the differences in their incremental cost. This has been an issue in the determination of SLU (sub-loop unbundling) charges relative to LLU (local loop unbundling) charges, or of MPF (metallic path facility) charges relative to the sum of WLR (wholesale line rental) and SMPF (shared metallic path facility) charges, for example<sup>76</sup>. These cases were about non-discrimination, but similar economic issues should also be useful to consider under cost orientation.
- 3.108 For example, where two upstream products are very close substitutes in producing a given retail service, we want users to have price signals to allow them to choose the one which minimises total costs. The choice users make is determined by the sum of the price paid for the wholesale input and the costs they need to incur in their own networks, but the efficient choice is the one that minimises the sum of the costs (not the price) of the wholesale input and the user’s own network costs. Hence, to encourage users to make the correct cost-minimising choice, the difference between the prices of the products should be equal to the difference in incremental costs. This will then encourage CPs to choose the input which minimises overall cost.

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<sup>75</sup> For an explanation of the relationship between variable, avoidable and incremental costs (LRIC), see “Assessment of Conduct”, draft competition law guideline OFT414a, paragraphs 4.6 – 4.10 at [http://www.ofst.gov.uk/shared\\_ofst/business\\_leaflets/competition\\_law/ofst414a.pdf](http://www.ofst.gov.uk/shared_ofst/business_leaflets/competition_law/ofst414a.pdf)

The relationship between LRIC and DLRIC is described above in paragraphs 4.26 – 4.41.

<sup>76</sup> As discussed in Annex 1 to the charge control review for LLU and WLR services <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/annexesMarch12.pdf>



- 3.109 In these circumstances, setting relative prices to recover different amounts of common costs from each service is unlikely to enhance allocative efficiency as the two inputs are used in producing the same retail service, and so there would not be differences in the price elasticity of demand for the end service. This can be contrasted to a situation where two upstream services are used to provide two different retail services in different markets. In this case, there may be differences in the elasticity of demand for the retail services, which would all else equal imply different mark-ups for common costs would be appropriate for each wholesale input.
- 3.110 In a market review we could consider whether there are any services where we should require the difference in the price of two wholesale services to be related to the difference in their LRICs. As part of this we might consider a number of factors:
- Whether there are strong dynamic efficiency arguments in favour of promoting upstream investment by setting price differentials between the substitute services which are larger than the difference in incremental costs.
  - We would also need to consider how prescriptive the requirement is, e.g. whether it is appropriate for a condition to prescribe that a precise differential between charges should be maintained at all – or any – points in time, and how large that differential is.
  - We would also need to consider whether, in the particular case, cost orientation is the best remedy to use to implement this requirement, compared to other remedies such as non-discrimination.
- 3.111 In December 2001, prior to the coming into force of the general authorisation regime, OfTel issued Guidelines on the Operation of the Network Charge Controls (the “Guidelines”)<sup>77</sup>. These Guidelines revised and updated the original guidelines, which were published in October 1997. The Guidelines give guidance on the structure and operation of the network charge controls, and include guidance on the analysis OfTel would undertake to verify whether a charge is unreasonable or otherwise anticompetitive. The Guidelines continue to exist today.
- 3.112 As we have set out above, where we consider it appropriate to impose a cost orientation obligation in the future, we intend to be as specific as possible as to the terms of such an obligation and the manner in which we may assess compliance with such an obligation.

## Conclusion

- 3.113 When we decide to impose cost orientation obligations on an operator with SMP, we must define those obligations in light of our regulatory objectives and of the other price-related remedies we put in place, if any. Our objectives may vary in different cases, leading to different approaches to the preferred cost standard, the setting of price ceilings in advance or their calculation after the event, the approach to low prices, and other characteristics of the obligation.
- 3.114 In this Section we have set out how the two scenarios outlined in Section 2 may require different approaches to the cost orientation remedy:

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<sup>77</sup> [http://www.ofcom.org.uk/static/archive/oftel/publications/ind\\_guidelines/pcr1201.htm](http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/pcr1201.htm)

- We have identified that, in the situation where we impose a cost orientation obligation alongside a charge control, it should set bounded flexibility for prices, while still providing a sufficient level of certainty. This could be achieved with DSAC ceilings set in advance for the period of the market review, beginning at the same time as the charge control.
- In the more unusual situation where cost orientation is imposed without a charge control, there are different possible situations. One case is where cost orientation is used as a “fallback” for a charge control (e.g. where the circumstances suggest a charge control is appropriate in principle but we believe that there is sufficient uncertainty over costs that the risk of regulatory failure in setting the level of charge control is too high). In such circumstances we might well aim to offer only limited flexibility, in order to prevent prices being significantly above FAC, but without being too stringent if there is some uncertainty about costs. This could be achieved with a ‘FAC+’ ceiling, assessed annually after the fact, when the year’s accounts are available. In other cases, such as the use of cost orientation in a prospectively competitive market, the details of the condition might be specified somewhat differently (e.g. there might be a stronger argument to use DSAC instead of FAC+).

3.115 We have also discussed the desirability of price floors. They should be imposed only where there is a concern about low prices, and provided that the long-term benefits of entry and competition are likely to outweigh the short-term loss of benefits from preventing lower prices. It may also be possible to address concerns over anti-competitive low pricing through other remedies, particularly those which prevent selective price cuts, without the need for a cost orientation obligation, and possibly via our powers under the Competition Act.

3.116 Finally, we have discussed other issues that should be addressed by the market reviews where applicable. For example we discussed the potential to require a link between price differences and cost differences, for products that are very close substitutes, or are at different levels of the same value chain.

## Annex 1

# Responding to this consultation

## How to respond

- A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on Wednesday 17 July**.
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <https://stakeholders.ofcom.org.uk/consultations/cost-orientation/howtorespond/form>, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email [william.hayter@ofcom.org.uk](mailto:william.hayter@ofcom.org.uk) attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.
- William Hayter  
Competition Group  
Floor 4  
Riverside House  
2A Southwark Bridge Road  
London SE1 9HA
- Fax: 020 7981 3333
- A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex X. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact on you.

## Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact William Hayter on 020 7981 4197.

## Confidentiality

- A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, [www.ofcom.org.uk](http://www.ofcom.org.uk), ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether

all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/accoun/disclaimer/>

## Next steps

- A1.11 Following the end of the consultation period, Ofcom intends to publish a summary of responses.
- A1.12 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: [http://www.ofcom.org.uk/static/subscribe/select\\_list.htm](http://www.ofcom.org.uk/static/subscribe/select_list.htm)

## Ofcom's consultation processes

- A1.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A1.14 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at [consult@ofcom.org.uk](mailto:consult@ofcom.org.uk) . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.15 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Graham Howell, Secretary to the Corporation, who is Ofcom's consultation champion:

Graham Howell  
Ofcom  
Riverside House  
2a Southwark Bridge Road  
London SE1 9HA

Tel: 020 7981 3601

Email [Graham.Howell@ofcom.org.uk](mailto:Graham.Howell@ofcom.org.uk)

## Annex 2

# Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

### Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

### During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

### After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

## Annex 3

# Consultation response cover sheet

- A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, [www.ofcom.org.uk](http://www.ofcom.org.uk).
- A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at [www.ofcom.org.uk/consult/](http://www.ofcom.org.uk/consult/).
- A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

## Cover sheet for response to an Ofcom consultation

### BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

### CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	<input type="checkbox"/>	Name/contact details/job title	<input type="checkbox"/>
Whole response	<input type="checkbox"/>	Organisation	<input type="checkbox"/>
Part of the response	<input type="checkbox"/>	If there is no separate annex, which parts?	

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

### DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)