

# A1. Economic modelling annex

## Introduction

- A1.1 This Annex sets out and discusses the modelling undertaken for this review. Specifically, we have sought to model and estimate the ongoing costs to commercial broadcasters and EPG providers of our decision to require a minimum level of prominence for BBC Three within the top 24 positions on each EPG.
- A1.2 Our estimates of costs to commercial broadcasters and EPG providers are only a proxy for the likely impact on commercial channels' revenues, as there are a number of other factors affecting an individual broadcaster or EPG provider's financial position that we cannot reasonably model. We have had to make a number of modelling assumptions, which we set out in detail in this Annex. Our estimates of the potential impact on commercial channels' profitability and on EPG providers' ability to monetise their EPG slots are therefore only indicative in nature, and they are just one factor in a range of considerations we have taken into account in reaching our decision on appropriate prominence for BBC Three.
- A1.3 We have received limited stakeholder comments on our modelling approach, therefore our methodology remains the same as the consultation. Where we did receive comments on the ongoing costs to commercial broadcasters and a comment on our use of EMP valuations, we discuss this in section 3 of the statement.
- A1.4 The rest of this Annex sets out and discusses the modelling underpinning our assessment. In describing our modelling approaches, we have taken the following steps:
- a) First, we set out the changes to EPGs required as a result of our decision on minimum prominence for BBC Three;
  - b) We then set out the two modelling approaches used to estimate costs to commercial broadcasters and EPG providers; and
  - c) We discuss the results of our analysis, identifying channels/EPG providers impacted and the estimated financial revenue impact on affected broadcasters/EPG providers.

## Changes required to EPGs as a result of our decision

- A1.5 In order to estimate the impact of the prominence requirement, we need to compare the EPG positions that BBC Three would be expected to obtain without the minimum level of prominence we are requiring, with those that it would be likely to obtain with the minimum level of prominence.
- A1.6 As discussed in our statement, and consistent with our minimum prominence requirement within the top 24, we have assessed the changes that would be required to the main EPGs. We have considered the current slot allocations on EPGs, the existing requirements of the EPG Code, the EPG providers' published policies on slot allocation and information set out

by the BBC in its PIT. Following this assessment, we have taken as a starting point the BBC’s assumed EPG positions across each EPG and each nation. These assumed EPG positions are based on the BBC’s discussions with EPG providers about changes they would be likely to make, as well as the available LCNs (“channel numbers”) on each EPG. The BBC has also stated that, to help minimise disruption, where it can, it will rationalise the slots it currently holds to release slots for the new channel to the EPG. It explains that this can be achieved if the BBC successfully launches HD versions of all BBC One and BBC Two HD regional variants.<sup>1</sup> For the purposes of our modelling, we assume that where free slots are available, EPG providers will use them for BBC Three as this approach limits impacts on both broadcasters and EPG providers. Our modelling of potential changes therefore assumes that the BBC would no longer need prominent HD and SD listings for both BBC One and BBC Two in England/Northern Ireland on Sky and Virgin Media O2, or across the UK on Freesat. BBC Three would then be placed in the slots that are made available. On EPGs where the BBC are not using their own existing slots to accommodate BBC Three, we assume that BBC Three would take LCN 24, and that this would require other channels to move down EPGs in these instances in order to accommodate BBC Three.

A1.7 The BBC’s proposed EPG positions for BBC Three are set out below, by EPG. The areas highlighted in green indicate where BBC Three is assumed to take LCN 24 and will require other channels to move down to free up LCN 24 for BBC Three. Areas shaded in orange indicate where BBC Three expects to take up an existing BBC position, so there would not be an impact on other channels as a result of our minimum prominence requirement:

**Table A1: Assumed EPG positions for BBC Three by nation<sup>2</sup>**

EPG provider (% of TV viewing on EPG) <sup>3</sup>	Proposed LCN for BBC Three by nation (2022/23)			
	England	Scotland	Wales	NI
Sky (35%)	115	124	124	115
Virgin (14%)	108	124	124	108
Freeview (49%)	24	24	24	24
Freesat (2%)	110	110	110	110

A1.8 On Sky and Virgin in Scotland and Wales, and on Freeview across the UK, we assume that BBC Three will take LCN 24, and that this will require other channels to move down EPGs in these instances.<sup>4</sup> These affected platforms account for 57% of total UK TV viewing.

<sup>1</sup> [A new BBC Three channel: Public Interest Test](#) p22.

<sup>2</sup> For England, we have taken the EPGs for London as our representative EPG. We note that there are regional variations in EPGs in England for local TV slots.

<sup>3</sup> Source: BARB data on TV viewing in 2020 by EPG provider. These figures are broadly in-line with the equivalent figures from 2019.

<sup>4</sup> We assume that 71 channels would need to shift down one space in Sky (Wales and Scotland), 87 channels for Virgin (Wales and Scotland) and 74 on Freeview (UK-wide).

## Modelling the impact of the changes

- A1.9 Giving BBC Three a more prominent position is likely to have a number of effects. BBC Three will be more discoverable, attracting more viewers, including viewers who may otherwise have watched channels higher placed in the EPG. At the same time, some other channels will be shifted down the EPG to a less prominent slot, and so may lose viewers.
- A1.10 These effects are complex. All else being equal, an individual channel can be expected to lose viewing if it is shifted down to a lower slot, but we would not expect total linear viewing to change as a result. This 'lost viewing' can be expected to go to a range of channels, including BBC Three, channels whose EPG position is unchanged, and even channels which have also been shifted down the EPG.
- A1.11 In our analysis, we have modelled the impact of BBC Three's EPG move due to our minimum prominence requirement in two different ways. First, we have used the modelling approach Ofcom took in the 2019 Review of prominence for public service broadcasting (herein referred to as the 2019 Review). This focuses on the impact on channels which are shifted down the EPG, and hence lose prominence as a result of our decision. It should be noted that in the case of the Freeview platform (which accounts for the majority of affected viewing [see [table A1]]), this model does not take into account that when multiple channels are each shifted down one position, some channels shifted down will 'capture' viewing from other channels which are shifted down. This approach therefore is likely to overstate the total impact on these channels.
- A1.12 Second, we have also used the model from our [BBC Competition Assessment \(BCA\)](#) on BBC Three to assess the impact of our minimum prominence requirement. This approach uses inputs from the BCA model to assess and model the impact on viewing of other channels, and assumes that the increased viewing to BBC Three comes from the sources identified in the survey commissioned by the BBC.<sup>5</sup>
- A1.13 We set out these approaches in turn.

## Modelling approach consistent with the 2019 Review

- A1.14 In this section, we first set out and assess the evidence base we have used to estimate the financial impact on commercial broadcasters and EPG providers of our decision to require a minimum level of prominence for BBC Three. We analyse the impact only on those channels which are moved to a lower slot. We then describe our modelling approach for the Sky, Virgin and Freeview EPGs,<sup>6</sup> and discuss the implications of these modelling approaches.

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<sup>5</sup> The impact on competitor channels that we identify is a subset of the impact identified in the BCA model. It is not an additional impact on those channels.

<sup>6</sup> We do not undertake any modelling on the Freesat EPG as we are only modelling instances where we assume BBC Three will have a higher EPG position due to our minimum level of prominence. On Freesat, we assume that BBC Three will take an existing BBC slot made available due to a swap-out of BBC1 HD for BBC1 SD, so any impact is therefore not directly related to our minimum prominence required for BBC Three.

A1.15 For the Sky and Virgin EPGs, we used available data from Expert Media Partners (EMP) on slot values, whereas for the Freeview EPG, we do not have data on slot values so we therefore used Oliver and Ohlbaum's (O&O) methodology using estimated channel advertising revenues. We then set out some of the key assumptions which underpin our modelling, before presenting our model estimates of the financial impact on commercial broadcasters.<sup>7</sup>

## Assessment of the evidence base

A1.16 We used two main sources of evidence in our modelling, and these are described in detail in this section:

- Estimated slot values, based on a report by EMP on the market for EPG positions.
- Estimated advertising revenues, based on an approach set out by O&O in their report for the Commercial Broadcasters Association (COBA) on estimating the impact to commercial broadcasters of Ofcom's proposed changes to EPG prominence rules in 2018.

## Overview and assessment of EMP slot values

A1.17 Ofcom commissioned EMP in 2018 to examine and report on the market for EPGs, specifically the market price of EPG slots in the General Entertainment, News and Children's sections on the Sky and Virgin Media O2 platforms,<sup>8</sup> in order to provide evidence for the modelling undertaken in Ofcom's Review of prominence in 2018/2019.<sup>9</sup> From EMP's data on the average slot price for each page, we have estimated the price of individual EPG slots. In relation to our use of EMP's analysis to estimate predicted slot values, we note the following:

- a) Our model, where we use EMP's analysis, estimates changes in profits, and not in viewing of channels, resulting from channel moves. In our model, the sum of gains in profits to all channels that move up exactly equals the sum of losses in profits to all channels that move down.
- b) The slot values provided by EMP are 'generic', in that any slot's value is independent of the channel in that slot. This implies that slot values provided by EMP may underestimate the profit that can be earned by a popular channel in any slot, or overestimate in the case of a niche channel, and therefore lead to less reliable estimates of the impact of channel moves in cases involving atypical channels.

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<sup>7</sup> We have not published our model, since this is an adjusted version of our 2019 model (subject to the assumptions and inputs we discuss in this section). The 2019 model can be found on the [Ofcom website](#).

<sup>8</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#).

<sup>9</sup> Review of prominence for public service broadcasting, [Consultation](#) in July 2018, [Statement](#) in July 2019.

- c) EMP's report noted that the true value of slots on page one could be much higher than the sale prices it estimated.<sup>10</sup> However, our modelling does not include any changes in EPG position in relation to channels on page one of any EPG, therefore while we recognise this limitation outlined in EMP's report, we do not consider it to be relevant in this instance, and we consider that our model produces reasonable estimates of gains and losses for channel moves.

A1.18 We have estimated the difference between the expected transaction prices of the slot that a broadcaster currently occupies and the slot that it moves down to.

- a) On the Sky EPG, where slot positions can be traded between channels, we have used this difference in expected transaction prices to estimate the loss in profits that a commercial broadcaster might suffer as a result of being moved down from slot X to slot X+1. In other words, the asset (i.e. the slot) that the commercial broadcaster uses would become less valuable.
- b) On the Virgin Media O2 EPG, slots are not tradeable between channels. We assume that in future Virgin Media O2 continues to allocate and charge for EPG slots following commercial negotiations (as it did for the sale of slot 106 in 2017). Negotiations between channels and Virgin regarding these charges will reflect the likely ability of any broadcaster to raise revenues from a particular channel slot position. If a broadcaster moves to a lower slot, they are likely to suffer a loss in revenues and may want to negotiate a lower charge from Virgin. The difference in expected transaction prices therefore represents an area of possible negotiation between Virgin and the channels. In other words the estimated loss could be viewed as a maximum loss in EPG charges that Virgin Media O2 might suffer from a channel being moved down (from slot X to slot X+1) to accommodate a designated channel moving up (from slot X+1 to slot X). But it also represents a cost saving to broadcasters from lower EPG fees, although as noted they could also suffer a loss in revenues from being moved down the EPG.<sup>11</sup> Overall, we expect the total cost to be distributed between the EPG provider (Virgin) and broadcasters.

## Overview and assessment of the O&O report and methodology

A1.19 COBA commissioned O&O to develop a model to estimate the impact on commercial broadcasters of the proposed changes to Ofcom's EPG prominence rules outlined in our

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<sup>10</sup> EMP stated that: "[...] estimates for EPG slots on Page 1 of each genre (Entertainment, News and Kids) on both Sky and Virgin are somewhat hypothetical. Most of these top slots are currently occupied either by PSB channels, or by commercial channels who are unlikely to sell." Specifically, in relation to the Sky general entertainment genre, EMP stated that: "We have assumed that the slots currently occupied by the PSBs at the top of Page 1 are unlikely to be put up for sale in the near future. So, whilst the true value of, say, 103 to ITV versus a slot in 'overspill' might be tens of millions, (or even more than £100M if we rely on the bottom-up valuation), we haven't included this hypothetical valuation in our calculations." See EMP, July 2018, [Report on the UK market in EPG Positions](#), p10 and p13.

<sup>11</sup> If instead we assumed that in future Virgin Media O2 charges a flat (uniform) fee for slots on its EPG, then our estimates would be a proxy for the loss in profits that a commercial broadcaster would suffer as a result of being moved down from slot X to slot X+1.

2018 consultation.<sup>12</sup> We provide a brief description of O&O’s model below, outlining O&O’s approach, key assumptions and implications for the interpretation of its modelling results.

A1.20 O&O made various assumptions to estimate inputs/elements of its model:

- a) It estimated 2017 UK-wide advertising revenues for most, but not all, commercial channels on the Freeview, Freesat, Sky and Virgin Media O2 platforms for the Entertainment genre only;<sup>13</sup>
- b) It made assumptions about how EPG providers would move channels to create space for a designated channel;<sup>14</sup>
- c) It assumed that when a commercial channel moves down (or up) an EPG by a single slot position, this will result in the channel losing (or gaining) 1.5% of its current viewing hours and current advertising revenues (the ‘key O&O assumption’). O&O considered that this figure represents an upper bound or “worse case”;<sup>15</sup> and
- d) For regionalised EPGs, it made assumptions to derive each nation’s share of total viewing on the platform. In the case where a channel moves only in a particular nation on a platform, it used that nation’s share of total viewing on the platform, together with an estimate of the channel’s UK-wide advertising revenues on the platform, to derive an estimate of the channel’s advertising revenue in that nation on that platform.

A1.21 O&O used a common approach to estimate the effects on channels on the Freeview, Freesat and Virgin Media O2 EPGs. In brief, it calculated how many slots the channels would move as a result of our 2018 consultation proposals and used the ‘key O&O

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<sup>12</sup> O&O, Estimating the impact to commercial broadcasters of proposed changes to Ofcom’s EPG prominence rules, A report for COBA by Oliver & Ohlbaum, September 2018.

<sup>13</sup> On the Freeview and Freesat platforms, O&O’s model only considered the change in commercial channels’ advertising revenues resulting from channel moves. It estimated potential lost advertising revenues from slot moves on these platforms as a proxy for the change in value of EPG slots, and thus the impact on commercial broadcasters. However, we recognise that advertising revenue is not the sole source of income for commercial channels, many of which may also generate revenue from sponsorship, a share of subscription fees, etc. This means that O&O’s model, which focuses only on the loss in channels’ advertising revenue, will tend to underestimate the impacts on commercial channels’ profitability. On the Virgin Media O2 platform, in addition to estimating lost advertising revenues, O&O also considered the implied cost savings affected channels would make from lower payments to Virgin Media O2 (assuming Virgin Media O2 chose to pass on these savings), if Virgin Media O2 monetises slots on its EPG.

<sup>14</sup> O&O said its assumptions were informed (and their conclusions “sense-tested”) by discussions with platform owners (who would have been affected by Ofcom’s consultation proposals at the time). In particular, from O&O’s interviews with Sky and YouView, these platforms prefer to keep channels’ numbers consistent across the nations for marketing purposes and a “nation-specific” implementation (where a channel’s slot number could vary by nation) would not be desirable. See O&O, Estimating the impact to commercial broadcasters of proposed changes to Ofcom’s EPG prominence rules, A report for COBA by Oliver & Ohlbaum, September 2018, slides 6 and 10.

<sup>15</sup> This 1.5% figure was based on (and calculated from) analysis of historic channel moves. O&O looked at examples, each from a different platform, in which a channel moved position only on one platform (remaining in the same position on all of the others) – and so it was able to calculate the relative impact of the shift in EPG slot. 1.5% represents an upper bound on the observed audience performance impact of the historic slot moves it examined. See O&O, Estimating the impact to commercial broadcasters of proposed changes to Ofcom’s EPG prominence rules, A report for COBA by Oliver & Ohlbaum, September 2018, slides 8 and 10-11.

assumption' to determine the impact on the channels' estimated 2017 advertising revenues on the platform (on a UK-wide or nation-specific basis, as appropriate).<sup>16</sup>

- A1.22 An important implication of the 'key O&O assumption' is that when two channels swap slots, the gain in viewing and advertising revenues for the channel moving up may not match the losses in viewing and advertising revenues to the channel that moves down. In other words, it is not a zero-sum game and there can be asymmetries in gains and losses. This is because of the use of a percentage change in individual channels' viewing and advertising revenues.
- A1.23 Therefore, O&O's model will result in an increase in *total* minutes of viewing (across all channels) if a channel with relatively more viewing moves up the EPG and vice versa. Ofcom considers that while total viewing might change slightly because of a channel move, viewers are generally unlikely to watch TV to a significantly greater or lesser extent overall due to changes in channel locations.<sup>17</sup> Therefore, where the O&O model predicts very asymmetric changes in total viewing, we treat its estimates with caution.

## Modelling approach for each EPG

- A1.24 Given the evidence base set out above, we have modelled the costs to broadcasters and EPG providers of our minimum required prominence separately for each EPG (Sky, Virgin and Freeview). Below, we describe each EPG platform, and then set out how we have used the available evidence to model costs on each EPG.

### Overview of the Sky EPG and implications for our modelling approach

- A1.25 The Sky EPG market has evolved into a formal market where broadcasters trade slots with one another.<sup>18</sup> When a broadcaster buys a slot on the Sky EPG, it is buying the right to broadcast its channel under a TLCS (Ofcom) licence in that slot with a dedicated LCN.
- A1.26 There are only two ways a broadcaster can launch an SD channel on Sky's platform. A broadcaster can either outright purchase another broadcaster or they can purchase an EPG slot from an existing broadcaster.<sup>19</sup> In order to launch a HD channel on the Sky EPG, a broadcaster must apply to Sky for a listing and join the HD channel launch queue.
- A1.27 Sky is not involved in commercial transactions for EPG slots and does not make any financial gain apart from a small administrative fee. Hence, we assume there is no material change to Sky's ability to monetise EPG slots due to the re-introduction of BBC Three.

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<sup>16</sup> Thus, the O&O approach aims to estimate the change in revenues generated by commercial channels. However, the entire change in revenues need not fall on commercial channels only. For example, if Virgin Media O2 monetises slots on its EPG, then the payments by channels to Virgin Media O2 would likely depend, at least in part, on the revenues the channels expect to earn from being in a particular slot. Thus, a portion of any change in advertising revenues might fall on Virgin Media O2 in terms of a change in what it could earn by monetising slots on its EPG.

<sup>17</sup> Changing channels' linear EPG position affects the choices of viewers that are already browsing their TV for something to watch, but is unlikely to affect the amount of time they spend watching TV or the total number of people watching TV.

<sup>18</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#), p3.

<sup>19</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#), p3-4.

- A1.28 Based on our assumptions, the loss a commercial broadcaster would suffer if it were moved down the Sky EPG would be the difference between the profits it would expect to earn in its current slot and the slot to which it would be moved down.<sup>20</sup>
- A1.29 We have estimated the loss in profits that a channel would suffer from being moved down from slot X to slot X+1 on the Sky EPG by estimating the difference in the predicted sale price of those two slots. If there is effective competition for slots on the Sky EPG, then the price paid by a broadcaster for a slot on the Sky EPG would be expected to reflect the profits it would expect to earn from being in that slot.<sup>21</sup>
- A1.30 We have estimated the price of slots on the Sky EPG using: (i) a methodology similar to that adopted in a report prepared by Technologia for the Department for Digital, Culture, Media & Sport (DCMS) in 2012;<sup>22</sup> and (ii) estimates from EMP of predicted ‘sale prices’ of EPG Slots on the Sky EPG.
- A1.31 Technologia obtained estimates of values of the top and bottom slots for all genre sections on the Sky EPG from Canis Media.<sup>23</sup> It then inserted the value of all other slots on the Sky EPG by making the assumption that the relative value between any two adjacent slots is always the same (i.e. by assuming the ratio of the value of slot 1 to slot 2 to be the same as the ratio of the value of slot 2 to 3, and so on).<sup>24</sup>
- A1.32 In 2018, EMP provided us with more recent estimates of: (i) the predicted ‘sale price’ of the top slot; and (ii) the average predicted ‘sale price’ of a slot on each page for the General Entertainment and Children’s genres on the Sky EPG across the whole of the UK.
- A1.33 We have used these estimates of predicted sale prices on the Sky EPG from EMP (instead of the estimates previously provided by Canis Media) together with a methodology similar to the one described above at A1.30 to estimate the predicted sale price of all slots in the General Entertainment and Children’s on the Sky EPG.
- A1.34 Where a channel moves down by one slot, we use our predicted sale price of slots on the Sky EPG to calculate the difference between slot X and slot X+1 in order to estimate the cost to the affected channel. For example, if a channel were to move down from slot 24 to

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<sup>20</sup> For example, if a channel expects to earn profits of £1.5m in its current slot and is moved to a lower slot where it expects to earn profits of £1m, then it would suffer a loss of £0.5m.

<sup>21</sup> We recognise that there are limitations associated with using channel prices as a proxy. For example, the price of a slot would only equal the profits a broadcaster earns from that slot if slots are scarce, competition between broadcasters for them is strong, and if broadcasters are very similar.

<sup>22</sup> [Technologia](#), The value and optimal management of channel position and prominence on electronic programme guides: A report for DCMS, 4 July 2012, Appendix F.

<sup>23</sup> Technologia commissioned a report from Canis Media Ltd, the UK’s leading broker of EPG slot sales and transfer on the Sky platform, on the factors affecting the value of EPG positions and the operation of the market in the UK. See [Technologia](#) report, Annex E.

<sup>24</sup> Technologia used a geometric series (value of slots declining from top to bottom of a genre section by a fixed ratio – often called the common ratio – which is denoted by r), noting that the sum of a geometric series is  $a \frac{1-r^n}{1-r}$  where r is the ratio of the adjacent terms and n the number of terms. It then solved for total value of a genre section where there is a total of n channels, T is the value of the top slot and B the value of the bottom slot in the genre section, i.e.  $r = \left(\frac{T}{B}\right)^{n-1}$  and the sum =  $B \frac{1-r^n}{1-r}$ .

slot 25 across the UK on the Sky EPG, this would lead to a loss in slot value of £50k pa.<sup>25</sup> Where multiple channels are required to move down slots on the Sky EPG, we sum these losses in slot value to estimate the aggregate cost to channels on the Sky EPG of our minimum prominence requirement for BBC Three. When considering slot values for the whole of the UK on the Sky EPG, from slot 24 down to the slot at the bottom of page 12 of the Sky EPG (slot 94),<sup>26</sup> the estimated loss in individual slot value for channels which move down one slot ranges from £70k pa to £10k pa per channel.<sup>27</sup>

### Overview of the Virgin EPG and implications for our modelling approach

- A1.35 Virgin Media O2 made changes to its EPG methodology effective from July 2017 which enabled Virgin Media O2 to offer channels a chance to make financial offers for EPG positions in a way that did not exist before.<sup>28</sup> To date, Virgin Media O2 has only allocated one slot (slot 106 to Channel Four Television Corporation) after inviting offers on the open market. Prior to that, it is understood that EPG slot positions were taken into consideration by Virgin Media O2 and broadcasters when negotiating carriage fees.
- A1.36 Unlike the Sky EPG market, and using the allocation of slot 106 as a precedent, broadcasters agree commercial terms related to the EPG slot directly with Virgin Media O2 (as the EPG provider) and not between themselves.<sup>29</sup> Broadcasters commit to paying a fee, over and above their existing carriage fee, but with Virgin Media O2 retaining ownership of the slot. Intuitively, this can be thought of as the broadcaster ‘renting’ the slot from Virgin Media O2.
- A1.37 For the purposes of our modelling analysis, and based on the above information on Virgin Media O2’s EPG policy, we assume that, if a broadcaster is moved down the Virgin Media O2 EPG from slot X to slot X+1, its agreement for the rental of slot X would be terminated and the broadcaster would stop paying the rental fee for that slot. Instead, the broadcaster would enter into a new agreement with Virgin Media O2 for the rental of slot X+1 and would pay a new (likely lower) rental fee for this slot. In addition, we have assumed that the charges levied on designated channels do not change as a result of moving up the Virgin Media O2 EPG. Hence, the difference in the rental fee of the two slots (X and X+1) could reflect the resulting loss in rental income to Virgin Media O2. It could also reflect an equivalent cost saving to the broadcaster that is moved down the EPG.<sup>30</sup>

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<sup>25</sup> The value of slot 24 on the Sky EPG is predicted to be £8.94m, and for slot 25 it is £8.70m, and the difference between the two is annualised to give £0.05m pa, based on a five year time horizon.

<sup>26</sup> This is across the whole of the UK, and this range is illustrative, as for our analysis the costs on the Sky EPG only apply to Scotland and Wales.

<sup>27</sup> Slots towards the bottom of the EPG have lower slot values, therefore we would expect channels which occupy slots higher up the EPG to face costs towards the upper end of the range, and for channels which occupy slots lower down the EPG to face costs towards the lower end of this range.

<sup>28</sup> Virgin Media O2, July 2017, [EPG Policy](#).

<sup>29</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#), p6.

<sup>30</sup> If instead we assumed that in future Virgin Media O2 charges a flat (uniform) fee for slots on its EPG, then our estimates would be a proxy for the loss in profits that a commercial broadcaster would suffer as a result of being moved down from slot X to slot X+1.

- A1.38 In certain circumstances, the rental fee paid by a broadcaster for a slot on the Virgin Media O2 EPG could be expected to equal the profits it would expect to earn from being in that slot.<sup>31</sup> In this case, the loss in profits to a broadcaster from being moved down would be fully offset by the cost savings, so there would be no impact on the commercial broadcaster. In practice, the expected profits from being in a slot are likely to exceed the rental fees. As a result, the loss in profits that a commercial broadcaster would suffer from being moved down the Virgin Media O2 EPG could be offset to a greater or lesser extent by the cost savings the broadcaster would achieve on rental fees. However, due to a lack of information about the expected profits that could be generated from a given EPG slot, we have not quantified the scale of this impact on commercial broadcasters on the Virgin Media O2 EPG.
- A1.39 In 2018, EMP provided us with estimates of: (i) the predicted 'sale price' for the top slot; and (ii) the average predicted 'sale price' for a slot on each page of the General Entertainment and Children's genres on the Virgin Media O2 EPG for the whole of the UK, under the assumption that EPG slots on Virgin Media O2 are allocated in the same way as slot 106.<sup>32</sup> We have interpreted the predicted sale price for a slot as being the sum of charges (or rental fees) that a broadcaster would pay Virgin Media O2 for using the slot over the period of the agreement between Virgin Media O2 and the broadcaster.
- A1.40 As described above for the Sky EPG, we have used these recent estimates of predicted sale prices on the Virgin Media O2 EPG together with the methodology described above (at A1.33-A1.34) to estimate the predicted sale price of all slots in the General Entertainment genre on the Virgin Media O2 EPG. When considering slot values for the whole of the UK on the Virgin Media O2 EPG, from slot 24 down to the slot at the bottom of page 15 of the Virgin EPG (slot 112),<sup>33</sup> the loss in slot value for channels which move down one slot ranges from £70k pa to £2k pa per channel.
- A1.41 We also use O&O's methodology to model the impact of our minimum prominence requirements for BBC Three on the Virgin Media O2 EPG, as the EMP slot sale price estimates were based on fewer datapoints for the Virgin Media O2 EPG compared to the Sky EPG. This additional modelling approach is a useful check to ensure the results are broadly consistent with the baseline model using the EMP slot sale price estimates.

### Overview of the Freeview EPG and implications for our modelling approach

- A1.42 There is no market for EPG slots on Freeview. A channel is allocated an LCN at the bottom of the relevant genre at launch and if EPG positions become available above the channel's LCN over time, the channel is moved up in line with Freeview's EPG methodology.<sup>34</sup> In light of this, EMP did not provide any estimates of the predicted 'sale price' of EPG slots on this

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<sup>31</sup> If slots are scarce, competition between broadcasters for them is strong and if broadcasters are very similar.

<sup>32</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#), Tables 2 and 6.

<sup>33</sup> As is the case for the Sky EPG (A1.34), this is across the whole of the UK, and this range is illustrative, as for our analysis the costs on the Virgin EPG only apply to Scotland and Wales.

<sup>34</sup> [Digital UK LCN policy](#).

platform. Therefore, in order to model changes on the Freeview EPG, we use the approach set out by O&O in their report for COBA (see A1.20).<sup>35</sup>

- A1.43 In using O&O's approach to estimate the impact on commercial channels of our minimum prominence requirement for BBC Three, we have taken various steps in order to estimate inputs to the model:
- a) We have used BARB data on the Freeview EPG,<sup>36</sup> as well as information from O&O's report from COBA to estimate channel advertising revenues on the Freeview EPG;
  - b) We have assumed that when a commercial channel moves down (or up) an EPG by a single slot position, this will result in the channel losing (or gaining) 1.5% of its current viewing hours and current advertising revenues (the 'key O&O assumption').<sup>37</sup> We then sum up the total lost advertising revenues to give the aggregate cost on the Freeview EPG of our minimum prominence requirement for BBC Three.

## Key assumptions used in our modelling

- A1.44 For the purposes of our modelling analysis, we have made a number of modelling assumptions, which are set out below:
- a) **Implementation for channels being moved down.** We recognise there are a variety of ways in which EPG providers could implement new regulatory requirements and therefore a number of ways in which channels may be moved down. For the purposes of our modelling analysis, we have maintained consistency with our approach in 2019, and have assumed that EPG providers would move channels down by one slot in order to accommodate BBC Three due to our minimum prominence requirement. Our assumption has the effect of spreading the potential impact across a larger number of channels (thereby diluting the effect on any single channel).

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<sup>35</sup> O&O, Estimating the impact to commercial broadcasters of proposed changes to Ofcom's EPG prominence rules, A report for COBA by Oliver & Ohlbaum, September 2018.

<sup>36</sup> While there is missing BARB data for some channels on Freeview, we do not expect this to be significant enough to have a material impact on our provisional conclusions on the ongoing costs to broadcasters of our level of minimum prominence for BBC Three.

<sup>37</sup> We have cross-checked this 1.5% assumption, and believe it provides a reasonable estimate of per slot viewing changes for channels which move down or up an EPG (see A1.44).

**EMP estimates of predicted sale prices of EPG slots.** As noted above, we are using the EMP report which Ofcom commissioned in 2018 to provide estimates of the predicted sale price of EPG slots.<sup>38</sup> In summary, EMP used market intelligence gathered while conducting sales and transfers on the Sky and Virgin Media O2 platforms together with forecasts of the audience likely to be generated in a particular EPG slot. They have considered incremental revenues that a broadcaster could achieve by moving its channel up or down an EPG, how much of such incremental revenues a broadcaster may be willing to pay to secure a slot, and the minimum bid that may be required to secure a particular slot. EMP also noted that, while it is widely acknowledged by broadcasters and platforms that higher EPG positions (lower LCNs) have a positive impact on viewing levels, there are other factors which need to be taken into account when evaluating the price of an EPG slot (e.g. the type of channel, proximity to high or low performing channels, proximity of other channels in the same portfolio, memorable channel number and position on a page).<sup>39</sup> We have not made any adjustments since 2018 to EMP's predicted sale prices of EPG slots, as it is not clear there have been significant changes in the market for EPG slots which could potentially invalidate the existing estimates of EPG slot sale prices, therefore we believe our estimates provide a reasonable proxy of the ongoing costs to commercial channels which move down slots on the Sky and Virgin EPGs.<sup>40</sup>

- b) **Estimating the predicted sale prices of other EPG slots.** In order to estimate the predicted 'sale price' of all other slots in the General Entertainment section of the Sky and Virgin Media O2 EPGs, we have assumed a specific functional form for how EPG slot prices vary within a genre. We have sought to check our approach for estimating the price of individual EPG slots by comparing the estimate of the total value of each genre provided by EMP with the total value of each genre implied by our modelling, and have found that these are very similar.<sup>41</sup>

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<sup>38</sup> EMP estimated average guideline prices for each EPG page and the market value of the top slot. EMP assumed that eight slots were displayed on each page of the Sky EPG and seven slots on each page of the Virgin Media O2 EPG.

<sup>39</sup> Expert Media Partners, July 2018, [Report on the UK market in EPG Positions](#), p8-9.

<sup>40</sup> Organisation 1 did respond to our consultation suggesting that the market for EPG slots on Sky had collapsed since 2018. We have responded to this in section 3 of the statement.

<sup>41</sup> With the exception of the last page (page 16) of the Virgin Media O2 General Entertainment EPG, our estimates of the total value of each page on each genre EPG (which are based on our estimates of the prices of individual slots on the EPG) are within  $\pm 10\%$  of the corresponding EMP estimates. Likewise, our estimates of the total value of each genre EPG are also within  $\pm 10\%$  of the corresponding EMP estimates. This is because EMP estimates the price of any slot on the last page of the Virgin Media O2 General Entertainment EPG to be 0. By contrast, we have assumed in our modelling that the prices of slots on the last page of any EPG do not abruptly fall to 0, but instead decrease as per a geometric progression. Hence, our estimates of the total value of the last page of the Virgin Media O2 General Entertainment EPG differ considerably from the corresponding EMP estimates. However, prices of slots on the last page on the Virgin Media O2 EPG are too low to have a material impact on our assessment. Hence, the difference between our estimates and the EMP estimates has no material effect on our assessment of the potential cost to commercial broadcasters and Virgin Media O2.

- c) **Estimating predicted sale prices/advertising revenues for individual nation EPG slots.** Where only the slot positions in an individual nation EPG (e.g. the Sky EPG in Scotland, or the Freeview EPG in England) are affected, we have estimated the share of the predicted UK-wide sale price for a given slot, or the total estimated UK advertising revenues for a given channel in a given slot, that is attributable to an individual nation. We have estimated this by scaling down our estimate of the predicted UK-wide sale price of an EPG slot, or by scaling down the estimated advertising revenues for a given channel in a given slot. Thus, for a given slot or channel on the each EPG, we have assumed that the sum of prices, or the sum of advertising revenues, for that slot in England, Northern Ireland, Scotland and Wales is equal to the predicted UK-wide sale price provided by EMP, or the UK-wide advertising revenues estimated using O&O's approach.
- d) **O&O's 'key assumption' of 1.5%.** The 1.5% reduction in viewing per downward slot move, used in Ofcom's 2019 Review, was estimated by O&O through analysis of historic channel moves.<sup>42</sup> In our 2019 Review, we acknowledged the limitations of O&O's model and "key assumption" of 1.5%, but we considered that it provides a reasonable proxy for estimating potential commercial effects which could arise due to changes in positions of designated channels on the Freeview and Freesat EPGs. For the purposes of this assessment, we have cross-checked the 1.5% assumption by collating evidence on historic channel moves, and have found that this additional evidence broadly supports a 1.5% assumption of the change in channel viewing per slot move. We considered the statistically highly significant channel moves in the Attentional and FEH reports,<sup>43</sup> and E4's move from 144 to 106 on the Virgin Media O2 EPG in 2017. Using these historic channel moves, we have calculated a median change in channel viewing per slot move of 1.53%, therefore we believe that a 1.5% assumption provides a reasonable average of historic channel moves for the purposes of this assessment.

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<sup>42</sup> See O&O, Estimating the impact to commercial broadcasters of proposed changes to Ofcom's EPG prominence rules, A report for COBA by Oliver & Ohlbaum, September 2018.

<sup>43</sup> Attentional LTD, 2010 [An Analysis of the Audience Impact of Page One EPG Prominence](#); [FEH Media Insight](#), An Analysis of the Audience Impact of Page One EPG Prominence: A Report for Ofcom, 29 April 2013, authored by Dr Farid El-Husseini. These reports analysed the effect on viewing of a number of historic channel moves using statistical techniques, and these channel moves were grouped by how statistically significant the effect on viewing was in each case.

### Analysis of E4's move on the Virgin EPG

We have analysed E4's move up the Virgin Media O2 EPG across the UK from LCN 144 to LCN 106 on 9 October 2017,<sup>44</sup> in order to supplement our evidence base on the effect of EPG moves on channel viewing.

Using BARB data on E4's viewing 4 weeks before and 4 weeks after 9 October 2017, we found that E4's 7-day consolidated viewing share on Virgin Media O2 in this period increased by 38.95%, which we compared to a benchmark of the average viewing of E4 on other EPGs over the same time period. This suggests an increase in viewing share of 41.53%, which implies a per slot viewing change of 1.09%.<sup>45</sup>

- e) **Using past data from 2019.** For the purposes of this modelling exercise, we have used past data from 2019, rather than forecasted data for 2022. This is because we would need forecasted data by EPG provider and by nation, and given the impracticalities and potential uncertainty in forecasted data at this level of granularity, we believe it is reasonable to use past data from 2019, particularly as the percentage change in total TV viewing between 2019 and forecasted 2022 viewing is only 0.59%. We also did not use BARB data from 2020 as it was affected by the COVID-19 pandemic,<sup>46</sup> and we therefore believe 2019 data is more suitable and better represents steady state levels of TV viewing.
- f) **Recaptured viewing on the Freeview EPG.** As discussed above (at A1.11), we have not sought to model whether any lost viewing by channels which are shifted down the EPG is recaptured by these channels. By using the O&O 'key assumption' of a 1.5% loss in viewing per downward slot move, applying this to multiple channels which are each shifted down by one slot would then result in a loss in overall TV viewing, which we do not consider to be plausible. We would expect this lost viewing to be redistributed, and we would expect that some of this lost viewing would be recaptured by the channels which are each shifted down by one slot, therefore we consider our estimates of costs to commercial broadcasters on the Freeview EPG to be overestimates.

## Our model estimates of the financial impact on commercial broadcasters using the adjusted 2019 model

A1.45 In this section, we present the results from our modelling of the potential impact on commercial broadcasters' revenues and EPG providers' ability to monetise EPG slots in the General Entertainment section of the Sky, Virgin and Freeview EPGs, as a consequence of our minimum prominence requirements for BBC Three.

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<sup>44</sup> E4 did not change EPG position on the Sky, Freeview or Freesat EPGs

<sup>45</sup> The findings from the data are largely in line with what Ofcom found in 2018 when analysing the effect of E4's move on the Virgin EPG, in [EPG Prominence, A report on the discoverability of PSB and local TV services](#), Page 21. The slight difference in estimates are due to the difference in the time periods used.

<sup>46</sup> Because of the restrictions put in place due to COVID-19, a lot of the population were at home more than usual. Large spikes in audio-visual viewing, including broadcast TV for some age groups, largely mirrored the times of the national lockdowns. Source: BARB and Ofcom's total audio-visual estimates as discussed in Ofcom's [Media Nations 2021 report](#).

- A1.46 For the Sky and Virgin EPGs, EMP provided estimates of slot prices/values over a period of time (which we take to be five years).<sup>47</sup> We have converted estimates from our model of lump sum costs to commercial broadcasters and/or EPG providers into their corresponding annualised costs. We obtain the annualised costs by dividing our estimates of lump sum costs by five.<sup>48</sup>
- A1.47 In Table A2 below, we present annualised estimates from our model of costs to commercial broadcasters and/or EPG providers resulting from our minimum prominence requirement for BBC Three.

**Table A2: Adapted 2019 model estimates of the financial impact of our decision by EPG**

EPG	Number of channels shifted down the EPGs	Aggregate cost (£m pa)
Sky (Wales and Scotland)	71	0.2
Virgin (Wales and Scotland) <sup>49</sup>	87	0.2*
Freeview (UK)	74	5.2
<b>Total</b>		<b>5.6</b>

\* For the Virgin EPG, as discussed above (at A1.18), this cost to broadcasters will depend on the extent to which they are able to renegotiate lower carriage fees due to moving down to a lower slot. Therefore, we expect this £0.2m pa cost to be an upper bound, and that this cost will be shared between broadcasters and Virgin Media O2, as an EPG provider. However, we do not have evidence to determine exactly how this cost will be shared.

- A1.48 In total, we estimate that giving the prominence we are requiring to BBC Three will cost commercial broadcasters ~£5.6m pa.<sup>50</sup> This cost is spread between a large number of commercial channels. This cost is largely on the Freeview EPG, which is to be expected as the impact on Freeview is across the whole of the UK. On the Freeview EPG, the average affected channel has a 'cost' of ~£70,000 pa. While the estimated cost will differ by channel based on each channel's estimated advertising revenues, this average cost by

<sup>47</sup> In relation to its evaluation methodology, EMP stated that: "For example, if a higher position is going to generate an extra £5M over 5 years, does the broadcaster bid 50% of this? Or 80%?" In relation to its assumptions about slot valuations on the Virgin Media O2 platform, EMP stated that: "We have assumed that there is a small value on slots above the last page in a genre which could, theoretically, be negotiated over and above the standard terms of a 5-year carriage agreement deal." See EMP, [Report on the UK market in EPG Positions](#), July 2018, pages 7 and 17.

<sup>48</sup> For Freeview, these estimates are annual channel advertising revenues, so no annualisation adjustment is necessary.

<sup>49</sup> Our cross-check of the cost on the Virgin EPG, using O&O's methodology, also yields a total cost of £0.2m pa.

<sup>50</sup> The estimates for Sky and Freeview represent estimated costs to commercial broadcasters of our requirement of minimum prominence for BBC Three. Our estimate for the Virgin EPG is the impact on the profitability of commercial broadcasters as well as on Virgin's ability to monetise its EPG slots. As noted above, we have not attempted to model the distribution of this cost, as we have no evidence to support this modelling, therefore this figure of £0.2m pa represents the upper bound cost to commercial broadcasters if carriage fees with Virgin are not renegotiated, while the equivalent upper bound for the Virgin platform is also £0.2m pa if carriage fees are renegotiated such that the total cost falls on Virgin. It is also possible that this cost will be split between both commercial broadcasters and the Virgin EPG platform.

affected channel provides an illustration that this aggregate cost is spread between a large number of channels. We also note that, as stated above (at A1.44), our methodology is likely to overstate the true impact on commercial broadcasters.<sup>51</sup>

A1.49 In our statement (at 3.63), we note that since our consultation, LCN 117 has been vacated on the Sky EPG in Wales, and we therefore have modelled the scenario where BBC Three takes LCN 117 in Wales, and calculated the difference between this alternate scenario and our base case modelling with BBC Three at LCN 124 in Wales on the Sky EPG. In this scenario, if BBC Three were to be placed at LCN 117 in Wales on the Sky EPG, 6 additional channels would be moved down by 1 slot each.<sup>52</sup> We have estimated the additional cost to be £30,000 pa, split across 6 channels.

## Modelling approach consistent with the BBC Three BCA

A1.50 In this section, we first set out the purpose of the model used in Ofcom’s BCA for BBC Three. Then, we describe why this model can be used for the purpose of this assessment where we have modelled costs to other broadcasters of our decision to require a minimum level of prominence for BBC Three. In turn, we outline our modelling approach, setting out the factual and counterfactual scenarios for BBC Three with and without our prominence requirements respectively, and how we have translated the impact of our decision into a financial revenue impact. Finally, we discuss the key assumptions underlying our modelling, before presenting and discussing the results of the model.

## Purpose of the model used in the BBC Three BCA

A1.51 As part of the BBC’s [Public Interest Test](#) of their proposal to relaunch BBC Three as a linear channel, the BBC were required to assess the market impacts of their proposal. Where the BBC offers a new public service, as is the case for BBC Three, this may reduce the potential audience for commercial rivals. This could have a consequential impact on the advertising revenues or subscription fees of rivals which, in turn, could lower profitability.

A1.52 In Ofcom’s BCA for BBC Three, Ofcom have assessed the impact of the BBC Three relaunch on linear TV in three steps:

- a) Ofcom have assessed the current and future prospects of the affected services in the absence of the BBC’s service proposals (the counterfactual);
- b) Ofcom have considered the likely changes to the BBC’s viewing as a result of the service proposals;

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<sup>51</sup> This is because the methodology assumes that on Freeview each of the 74 affected channels would lose 1.5% of their advertising revenues, so that aggregate viewing on these channels falls by 1.5%. We do not expect that this is likely. In reality, the channels higher up are likely to ‘recapture’ viewing from channels which are shifted down, so that the impact is likely to be less than we have estimated.

<sup>52</sup> This is because LCN 117 is currently unoccupied, so is ‘invisible’ when users are scrolling down the Sky EPG – therefore, channels from LCN 118 downwards would all be moved down by 1 slot each.

- c) Ofcom have assessed the impact of the change in BBC viewing on affected services (so assessing where the change in viewing of BBC services is likely to come from or flow to). Where appropriate, Ofcom have assessed the financial implications of the change in viewing on the affected services.

A1.53 Considering (b) and (c) has allowed Ofcom to estimate the ‘factual’ situation if the BBC implements its proposal. The difference between the factual and the counterfactual measures the impact of the proposal. Drawing these together has allowed Ofcom to reach an overall estimate of the market impact of the BBC’s proposals. The approach and modelling assumptions are set out in detail in Annex 1 of the BBC Three BCA, published at the same time as this statement.

### **Our modelling approach based on the model used in the BBC Three BCA**

A1.54 The BBC Three BCA model uses a range of evidence to assess the market impacts of the proposal to relaunch BBC Three as a linear TV channel. The BCA is concerned with modelling the costs associated with *the reintroduction* of a linear TV channel, and in particular the costs to other broadcasters.

A1.55 This is distinct from the purposes of this modelling exercise, which is concerned with the impact on other broadcasters of our minimum prominence requirements for BBC Three. In other words, we are aiming to model the costs associated with BBC Three having a required minimum level of prominence, and not the costs associated with the launch of BBC Three as a new linear TV channel.

A1.56 While this distinction holds true, the range of evidence compiled by the BBC can also be used to assess the impact on broadcasters of our minimum prominence requirements for BBC Three.

A1.57 In order to estimate the impact of our minimum prominence requirement for BBC Three based on this model, we have taken the following steps:

- a) Taken the forecasted viewing share for BBC Three where it has been relaunched as a linear TV channel and has taken its assumed prominent slots (factual scenario);<sup>53</sup>
- b) We have adjusted the model and used as inputs the slots which we would expect BBC Three to take if it did not have a minimum prominence requirement, and taken as outputs the forecasted viewing share for BBC Three (counterfactual scenario):
- c) We have used the survey commissioned by the BBC to estimate where the incremental gain in BBC Three’s viewing is likely to come from – this incremental gain in viewing is the difference between the factual and counterfactual scenarios – and have translated this lost viewing by channel portfolio into a financial revenue impact.

A1.58 As with the 2019 models, we consider only instances where we expect our minimum level of prominence for BBC Three to require EPG providers and other channels to make space to accommodate BBC Three – on Freeview across the UK, and in Scotland and Wales for

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<sup>53</sup> This is forecasted 2022 viewing (Live + PVR + BVOD).

the Sky and Virgin EPGs. We do not consider BBC Three's EPG position on Freesat, or on Sky and Virgin in England and Northern Ireland to be impacted by our requirements for minimum prominence for BBC Three (see [table A1]).

A1.59 These steps are discussed in more detail below.

### **Factual scenario**

A1.60 The BCA model forecasts BBC Three's viewing share in 2022 after the relaunch of BBC Three on linear TV. An adjustment is made in the BCA to reflect the fact that the new channel is likely to have a lower EPG slot on most platforms compared to the old channel. In doing so, the BCA models the highest slot which the new channel could plausibly obtain in 2022 on each platform.<sup>54</sup>

A1.61 For each slot movement of BBC Three down the EPG, the BCA applies a 1.5% viewing reduction, as was applied in Ofcom's Review of prominence for public service broadcasting in 2019 based on O&O's key assumption (see A1.20).<sup>55</sup> The slot changes were weighted by each platform's share of broadcast TV viewing, to produce a platform-weighted EPG-induced viewing change between the old and the new channel of -13%.

A1.62 We have made an adjustment to the EPG position inputs in the BCA model to reflect the impact of our requirement of minimum prominence of channels within the top 24 LCNs on each EPG. This adjustment is based on our EPG position assumptions (see table A1), where we outline that our minimum prominence requirement for BBC Three will impact the Sky and Virgin EPGs in Scotland and Wales, as well as Freeview across the UK.

### **Counterfactual scenario**

A1.63 As with the approach for the factual scenario, we have made an EPG adjustment to the BCA model to generate BBC Three's viewing share in the counterfactual scenario. In this counterfactual scenario, we have taken as inputs the highest available LCN on the Sky, Virgin and Freeview EPGs as inputs. We have not adjusted BBC Three's assumed EPG position on Freesat, as discussed above (A1.58).

A1.64 The highest assumed EPG LCNs, with and without our minimum level of prominence, are shown below:<sup>56</sup>

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<sup>54</sup> The BBC assumed that BBC Three would be at a slot no lower than slot 24 in accordance with Ofcom's prominence provisions for PSB channels (or higher where available). The EPG positions in the BBC's model are 115 on Sky, 108 on Virgin, 24 on Freeview, and 110 on Freesat.

<sup>55</sup> Ofcom, July 2019, [Review of prominence for public service broadcasting: Statement on changes to the EPG Code](#).

<sup>56</sup> We have taken the highest available LCN across the nations on each EPG from the lists of EPG providers.

**Table A3: BBC Three’s assumed EPG positions in the factual and counterfactual scenarios**

With minimum level of prominence requirement (LCN 24)		Without minimum level of prominence requirement (highest available LCN)		Difference <sup>57</sup>
EPG	EPG position	EPG	EPG position	
Sky (Scotland & Wales)	124	Sky (Scotland & Wales)	173	-49
Virgin (Scotland & Wales)	124	Virgin (Scotland & Wales)	144	-20
Freeview	24	Freeview	83	-59
Freesat	110	Freesat	110	0

A1.65 Making this EPG adjustment,<sup>58</sup> using the highest available LCNs, and then running the BCA-version of the BBC’s model yields a forecasted viewing share for BBC Three of 1.07% in the scenario without our minimum required prominence.<sup>59</sup> The difference between BBC Three’s viewing share in the factual and counterfactual scenarios is 0.36 percentage points.

A1.66 This 0.36 percentage point increase in BBC Three’s viewing share, as discussed above (A1.8), applies to the 57% of total TV viewing which is on Sky and Virgin in Scotland and Wales, and on Freeview across the UK. Applying this 0.36 percentage point increase to all TV viewing across the UK yields a 0.20 percentage point increase in BBC Three’s viewing share, and this 0.20 percentage point increase is the viewing impact on BBC Three of our minimum prominence requirement.

### Estimating the impact on other channels

A1.67 This 0.20 percentage point increase in BBC Three’s viewing share is the estimated gain in BBC Three’s viewing due to our required minimum prominence. In order to estimate the impact of this gain in viewing, we have taken the following steps, which are discussed in more detail below:

- a) Translated this 0.20 percentage points of 2022 viewing share into viewing minutes;

<sup>57</sup> This difference in EPG positions is based on the highest available LCN across each EPG. This differs to the model using the 2019 approach where we are using the number of channels shifted down EPGs (which is a higher number than BBC Three’s expected gain in LCN due to our level of minimum prominence).

<sup>58</sup> We do not make an adjustment based on the potential availability of LCN 117 in Wales (see A1.49), as we do not model regional variations in this model, and any difference would likely be immaterial based on the limited impact of the availability of LCN 117 in Wales.

<sup>59</sup> As with the viewing share forecasted for the factual scenario, this only applies to BBC Three’s viewing on Freeview, and on Sky and Virgin in Scotland and Wales.

- b) Estimated how much of these viewing minutes come from each channel portfolio using the survey commissioned by the BBC (see A1.69 below), and then added this lost viewing to each channel portfolio to get total forecasted viewing by channel portfolio in the counterfactual scenario;<sup>60</sup>
- c) Calculated the change in viewing for each channel portfolio between the factual and counterfactual scenarios, to give the percentage change in viewing by channel portfolio of our minimum required prominence for BBC Three; and
- d) Translated this percentage loss in viewing into a revenue impact, using forecasts from the BCA model on TV advertising revenues by channel portfolio.

A1.68 We have translated the 0.20 percentage points of total forecasted 2022 TV viewing into viewing minutes, giving the total 2022 viewing minutes we have estimated BBC Three to gain due to our minimum required prominence.

A1.69 We then estimate where these viewing minutes gained by BBC Three comes from based on quantitative audience research. This audience research is comprised of a survey, commissioned by the BBC, where responders were asked to estimate how much time they would spend watching a BBC Three linear channel each week, and which channels/services this time would come from.<sup>61</sup> This provides an evidentiary basis to determine where viewers may divert viewing from if BBC Three were more prominent on EPGs.<sup>62</sup>

A1.70 The results of the diversion survey are shown below.

**Table A4: Diversion estimates from the BBC’s survey**

<b>Channel portfolio<sup>63</sup></b>	<b>All individuals 4+</b>	<b>16-34s</b>
<b>BBC</b>	32%	30%
<b>ITV</b>	22%	19%
<b>C4</b>	11%	11%
<b>C5</b>	7%	5%
<b>Others</b>	11%	11%
<b>SVOD</b>	17%	25%

<sup>60</sup> Forecasted viewing by channel portfolio in 2022 is taken from the BCA model, which takes as EPG inputs the highest possible LCN which BBC Three could obtain. This is not split by nation, so for the Sky and Virgin EPGs, this does not reflect BBC Three’s lower LCN of 24 in Scotland and Wales, but rather reflects the higher LCN BBC Three is assumed to take in England and Northern Ireland. We believe that this is reasonable for the purposes of our modelling, as this would tend to overestimate the impact of our minimum required prominence.

<sup>61</sup> Survey responders were asked to estimate how much time they would spend watching a BBC Three linear channel each week, and which channels/services this time would come from. Respondents were able to choose from the full range of linear channels, BVOD and SVOD services, other video sharing services like YouTube and TikTok, and other non-video activity. It is assumed that viewing would be gained by the BBC only from other linear and on-demand video services. It considered this overstated the hypothetical impact on these commercial services, since in reality some of the viewing gained by the BBC could come from sources outside of TV.

<sup>62</sup> The survey data is supported by data on which other channels and services heavy BBC Three viewers used to watch before BBC Three was taken off linear TV.

<sup>63</sup> Each channel portfolio includes its respective on demand platform.

- A1.71 We apportion out BBC Three’s estimated gain in viewing minutes (see A1.69 above) based on the above diversion estimates, to give the estimated loss in viewing minutes by channel portfolio due to our minimum level of prominence for BBC Three.
- A1.72 We then added this viewing loss by channel portfolio to the total 2022 forecasted viewing of each channel portfolio. This gives total forecasted viewing by channel portfolio in the counterfactual scenario, as it considers the level of viewing channel portfolios would likely have had absent our minimum prominence requirement for BBC Three. We calculated the percentage change in viewing between the counterfactual and factual scenarios to give the change in viewing by channel portfolio due to our minimum prominence requirements for BBC Three.
- A1.73 In order to translate this change in viewing into a financial revenue impact for each channel portfolio, we took the forecasted 2022 revenues from the BCA model, along with their two key revenue assumptions (these are discussed in more detail below at A1.75):
- a) We consider that a reduction in revenues is likely, but that the fall in advertising revenues is likely to be less than the fall in viewing.
  - b) Since BBC Three is targeted at 16-34 year olds, we made an adjustment to reflect that this is a relatively more valuable demographic for TV advertisers.
- A1.74 Using these assumptions and revenue inputs from the BCA model, we have applied our estimated change in viewing by channel portfolio due to our minimum prominence requirement for BBC Three, and estimated a per annum loss in revenue.

## Key assumptions used in our modelling

- A1.75 For the purposes of our modelling analysis, we have made a number of modelling assumptions, and taken the BCA modelling assumptions where appropriate, which are set out below:
- a) **The BCA’s various model adjustments.** In order to generate our 2022 viewing forecasts by channel portfolio in the factual and counterfactual scenarios, we have taken 2022 viewing forecasts from the BCA model as the inputs. How these forecasts are derived are set out and assessed in [Annex 1 of the BBC Three BCA](#).

- b) **Using the BBC's survey on viewing diversion.** The BBC's survey, as mentioned above (A1.69), provides an evidentiary basis to determine where BBC Three's viewing gain due to our minimum prominence requirements is likely to come from. While the survey asks respondents about their behaviour in response to the launch of a new linear TV channel, we are using the survey results here as a proxy for estimated diverted viewing in the context of an existing channel having a minimum required level of prominence. This is likely to reduce the applicability of the survey results in this context, however in the absence of alternative evidence, we believe that these survey results provide a reasonable proxy for the effects on viewing of requiring minimum prominence for BBC Three. The survey reflects the competitive impact of BBC Three, by drawing viewing from the existing channels and services viewers are already watching. It is plausible that this applies when considering the impact of BBC Three when it is in a more prominent EPG position.
- c) **Using 2022 forecasted data.** For the purposes of this modelling exercise, we have used forecasted data from 2022, as this is consistent with the data used in the model for the BBC Three BCA, and especially given that 2022 is the proposed year of the relaunch of BBC Three as a linear TV channel. However, the modelling using the adjusted version of the 2019 model uses data from 2019, as discussed above (A1.44). While the two models use data from different years, we believe that it is more appropriate to use forecasted 2022 viewing for the purposes of this model, than to seek to adjust the model to reflect 2019 data, as this would require considering the hypothetical scenario of what would have happened if BBC Three had been reintroduced on linear TV in 2019. We believe it is reasonable to use data from different years in this instance as we do not consider that using different years is driving any difference in the results between the two models, particularly as the percentage change in total TV viewing between 2019 and forecasted 2022 viewing is only 0.59%.

d) **Estimating a revenue impact from a viewing impact.** As set in [Annex 1 of the BBC Three BCA](#), translating the anticipated fall in viewing into a revenue impact is not straightforward. While the BBC will draw audiences away from commercial broadcasters, it does not directly compete for advertising with commercial broadcasters. However, the BBC Three linear channel could impact the advertising revenue of commercial broadcasters, as it could affect first, the distribution and second, the total amount of viewing to commercial channels (in terms of ‘commercial impacts’). Because it is difficult to determine the precise relationship between viewing and revenue, Ofcom considers it appropriate to model a plausible range. The BCA assumes revenue would fall by one-third to two-thirds of the estimated decline in viewing.<sup>64</sup> The BCA model further recognises that audiences in the 16-34 age category are a particularly valuable demographic and are worth more to advertisers compared to all audiences. The model applies a scaling factor for the revenue impact which reflects the assumption that the cost per thousand impacts for 16-34s is roughly 5 times that for all adults.

## Our model estimates of the financial impact on commercial broadcasters using the adapted BCA model

A1.76 In this section, we present the results from the modelling of the potential impact on commercial broadcasters’ revenues as a consequence of our minimum prominence requirements for BBC Three. In Table A5 below, we present annual estimates from our model of costs to commercial broadcasters. These revenue impacts are presented for the low and high end of the range, along with corresponding figures on the revenue impact as a proportion of total revenue. The low end refers to the scenario where revenue falls by one-third of the corresponding decline in viewing, while the high end refers to the scenario where revenue falls by two-thirds of the corresponding fall in viewing.

**Table A5: Adapted BCA model estimates of the financial impact of our requirements by channel portfolio**

Channel portfolio	Revenue impact (£m pa) with high-low scenarios ( <i>impact as share of total revenue</i> )	
	Low	High
ITV	1.9 (0.1%)	3.9 (0.2%)
Channel 4	1.2 (0.1%)	2.4 (0.2%)
Other commercial channels	0.7 (0.0%)	1.4 (0.1%)
<b>Total</b>	<b>3.9 (0.1%)</b>	<b>7.8 (0.2%)</b>

<sup>64</sup> This range is consistent with the approach that was adopted in the 2015 Market Impact Assessment as well as in the 2018 BBC Scotland Competition Assessment with respect to regional advertising.

A1.77 Based on the above range, we have estimated that the total decline in revenue for broadcasters could be between £3.9m and £7.8m pa.<sup>65</sup> This represents between 0.1% to 0.2% of total estimated TV advertising revenues in 2022. The largest absolute impact is for ITV and Channel 4, where this impact represents a potential loss of between 0.1% to 0.2% of their advertising revenues. The remaining revenue loss is split between other commercial broadcasters.<sup>66</sup> We also note that these results are a subset of the costs estimated for the BCA (see [Annex 1 of the BBC Three BCA](#)).

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<sup>65</sup> These estimates have been adjusted for this statement, due to a rounding error in the model with respect to the scaling factor applied to recognise the higher advertising value of audiences in the 16-34 age category. This has been corrected, and has very slightly reduced the modelled costs.

<sup>66</sup> As discussed above, we adopted conservative assumptions for our base case viewing estimations which are likely to overstate the impact on viewing. Therefore, we would consider these to be high end conservative estimates of the revenue impact.