

A4. Ofcom's EPG slot price modelling and interpretation

Introduction

- A4.1 This Annex explains how we have estimated the price of EPG slots on the Sky and Virgin Media platforms using our model and the inferences we have drawn from these about the potential impact of moving channels. Specifically, we have sought to quantify the potential impact on: (i) commercial channels' profitability as a result of moving down the EPG; and (ii) EPG providers' ability to monetise their EPG slots (where applicable).¹
- A4.2 This Annex updates modelling we undertook for our consultation. We have also been provided with modelling by O&O prepared for COBA.² We discuss the O&O model separately in paragraphs A3.28 to A3.33 of Annex 3.³
- A4.3 Our estimates (described in paragraph A4.5 below) are only a proxy for the likely impact on commercial channels' profitability and on EPG providers, as there are a number of other factors affecting an individual broadcaster's financial position that we cannot reasonably model. We have had to make a number of modelling assumptions, as did Expert Media Partners ("EMP") when generating the price estimates for EPG slots that underpin our calculations (see paragraph A4.4 below). 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. As explained in paragraph 3.29 of our statement,⁴ they are just one factor in a range of considerations in determining appropriate prominence for the designated channels. We have published our model alongside our statement.⁵
- A4.4 We commissioned EMP 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

¹ The calculations in this Annex do not estimate all the potential impacts on channels or EPG providers. We discuss other impacts (for example, one-off costs for channels, such as marketing spend to inform viewers of their new slot) qualitatively as part of our assessment in Annex 3. See Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Annex 3](#).

² 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.

³ Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Annex 3](#).

⁴ Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Section 3](#).

⁵ We have published [our model](#) alongside our statement on the dedicated [Ofcom webpage](#).

the Sky and Virgin Media platforms.⁶ From EMP's less granular data, we have estimated the price of individual EPG slots.⁷

A4.5 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, we have used this 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 (say). In other words, the asset (i.e. the slot) that the commercial broadcaster uses would become less valuable.
- b) On the Virgin Media EPG, we assume that in future Virgin Media continues to allocate EPG slots following commercial negotiations (as it did for the sale of slot 106 in 2017).⁸ We have used this to estimate the loss in EPG charges that Virgin Media 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). This also represents the cost saving to broadcasters from lower EPG fees, although they could also suffer a loss in revenues from being moved down the EPG.⁹

A4.6 The remainder of this Annex is structured as follows:

- a) First, we outline the modelling approach we have followed to calculate our estimates;
- b) We then describe the key assumptions used in our modelling; and
- c) We conclude by presenting our estimates of the potential impact of various channel moves on commercial broadcasters and EPG providers.

Modelling approach

A4.7 If designated channels move up the EPG on some platforms, other channels would have to move down to accommodate this. As noted in paragraph 3.12 of our statement,¹⁰ moving a channel down the EPG is likely to decrease that channel's viewing. For commercial channels, this may lead to a decline in their advertising and/or sponsorship revenues and hence in their profitability. On Virgin Media's EPG, this may in turn lead to a fall in the amounts it can charge channels for EPG slots.

⁶ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018. We published EMP's report alongside our consultation on the dedicated [Ofcom webpage](#).

⁷ Neither our consultation nor this statement requires any changes in the News section of EPGs. Hence, we carry out calculations for only the General Entertainment and Children's sections of EPGs but not for the News section and do not cover the News section in the rest of this Annex.

⁸ Slot 106 became available when BBC Three became an online only channel. Following commercial negotiations with Virgin Media, E4 moved to this slot.

⁹ If instead we assumed that in future Virgin Media 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.

¹⁰ Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Section 3](#).

A4.8 We consider the potential impacts separately for the Sky and Virgin Media EPGs.

Overview of Sky EPG and implications for our modelling approach

A4.9 The Sky EPG market has been in operation for about fifteen years and has evolved into a formal market place with broadcasters trading EPG slots with one another.¹¹ 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 Logical Channel Number (LCN).

A4.10 The only way a broadcaster can launch an SD channel on Sky's platform is to either purchase another broadcaster in its entirety or purchase an EPG slot (or, more accurately, the rights and obligations associated with an EPG slot) from an existing broadcaster.¹² If a broadcaster wishes to launch an HD channel, it can apply to Sky for a listing and join the HD launch queue. Broadcasters can buy and sell EPG slots from each other. Sky is not involved in the commercial transaction and does not gain financially from any slot trades between broadcasters, other than a small administrative levy known as a transfer fee.

A4.11 We recognise that there are a variety of ways in which changes to prominence could be implemented on the Sky EPG (in terms of how channels move up and down and the arrangements for achieving this). We consider that the following assumptions provide a reasonable basis for producing estimates of the potential impact on broadcasters. For the purposes of our modelling analysis, we assume that, if a broadcaster was moved down the Sky EPG, it would lose the slot it previously used (receiving no compensation for the loss of this slot) and be gifted the slot it would move down to (i.e. it would not be required to pay a fee or other form of compensation to the previous user). We also assume that a designated channel that moves up the EPG would lose its previous lower slot and be gifted its new higher slot.

A4.12 Based on our assumptions, the loss a commercial broadcaster would suffer if it was moved down the Sky EPG would be the difference between the profits it would expect to earn in its current slot and the slot that it would be moved down to.¹³

A4.13 We have estimated the loss in profits that a channel would suffer from being moved down from slot X to slot X+1 (say) on the Sky EPG by estimating the difference in the predicted sale price of those two slots. We consider this is a reasonable approach. 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.¹⁴

¹¹ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, page 3.

¹² Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, pages 3-4.

¹³ 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.

¹⁴ 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.

- A4.14 As noted above, given that Sky only receives an administrative payment from the sale of a slot between broadcasters, we consider there would not be a material impact on Sky's ability to monetise its EPG slots as a result of changes to channel prominence, as long as Sky continues with its present slot allocation methodology.¹⁵
- A4.15 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 DCMS in 2012;¹⁶ and (ii) estimates from EMP of predicted 'sale prices' of EPG Slots on the Sky EPG.¹⁷
- A4.16 Technologia obtained estimates of values of the top and bottom slots for all genre sections on the Sky EPG from Canis Media.¹⁸ It then interpolated 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).¹⁹
- A4.17 EMP has 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.²⁰
- A4.18 We have used these more recent 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 to estimate the predicted sale price of all slots in the General Entertainment and Children's on the Sky EPG.²¹

¹⁵ According to Sky's current price list, where a broadcaster has one or more channels listed on the Sky EPG, that broadcaster pays Sky a flat EPG listing charge of £21,000 per channel per annum regardless of how prominent it is. We note that broadcasters are also required to pay Sky a platform contribution charge for some individual channels. See [BSkyB and SSSL Published Price List](#), pages 1-2.

¹⁶ [Technologia](#), The value and optimal management of channel position and prominence on electronic programme guides: A report for DCMS, 4 July 2012, Appendix F.

¹⁷ EMP provided estimates of what market value it believes an EPG slot would achieve if it were marketed under normal trading conditions, i.e. these are estimates of predicted 'sale prices', not 'asking prices'. See Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, page 10.

¹⁸ 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.

¹⁹ 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. $r = \left(\frac{T}{B}\right)^{\frac{1}{n-1}}$ and the sum = $B \frac{1-r^n}{1-r}$.

²⁰ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, Tables 1 and 5.

²¹ Technologia assumed that all slot values in a given genre on the Sky EPG were part of a single geometric progression and computed a single common ratio for how slot values changed across the entire genre. EMP has provided estimates of the predicted sale price for the top slot, as well as the average predicted sale price for each page on the General Entertainment and Children's genres on the Sky and Virgin Media EPGs. We have used a set of geometric progressions – one from the top slot to the middle of the first page, another from the middle of the first page to the middle of the second page (and so on) – and calculated (potentially different) common ratios for each of these geometric progressions, in order to estimate the predicted sale price of all slots in the General Entertainment and Children's genres on the Sky and Virgin Media EPGs.

- A4.19 In some cases, a channel may only need to be moved down the Sky EPG on an individual nation's EPG rather than throughout the UK. However, stakeholders have told us that it is common industry practice to ensure that any channel has the same LCN in all nations in the case of regionalised EPGs.²² Hence, in such cases, we have assumed that channels are renumbered (i.e. their LCN is changed). As a result, slot positions of channels may change in other nations as well, to ensure the uniformity of channel numbering across nations on the Sky EPG.²³
- A4.20 Whenever changes in slot positions occur only in individual nations but not across the whole of the UK on the Sky EPG, we apply the same methodology as for UK-wide changes in slot positions of channels on the Sky EPG, but adjust our estimates of the predicted sale prices of the relevant slots in proportion with the total viewing minutes on Sky in the individual nation as a share of the total viewing minutes on Sky across the UK.²⁴

Overview of Virgin Media EPG and implications for our modelling approach

- A4.21 We note that Virgin Media's approach to allocating EPG slots is in the process of evolving.²⁵ Virgin Media made changes to its EPG methodology effective from July 2017 which enabled Virgin Media to offer channels a chance to make financial offers for EPG positions in a way that did not exist before.²⁶ To date, Virgin Media 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 slots were taken into consideration by Virgin Media and broadcasters when negotiating carriage fees.
- A4.22 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 (as the EPG provider) and not between themselves.²⁷ Broadcasters commit to paying a fee, over and above their existing carriage fee, but with Virgin Media retaining ownership of the slot. Intuitively, this can be thought of as the broadcaster 'renting' the slot from Virgin Media.
- A4.23 For the purposes of our modelling analysis, we assume that, if a broadcaster is moved down the Virgin Media 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.

²² [COBA consultation response](#), paragraph 14 (page 6) and paragraphs 2.3 and 2.4 (pages 13 and 14); [Sky consultation response](#), paragraphs 6.26-6.29; and Sky response to Ofcom request for further information, paragraph 16, January 2019.

²³ Changes in slot positions in other nations are not always necessary. In some cases, while the LCN of some channels changes across all nations, one or more LCN may remain empty in nations that are not directly affected by the channel moves. Consequently, even though renumbering occurs across all nations, changes in slot positions of channels might occur only in the individual nation in question.

²⁴ To estimate the effects on an individual nation EPG on Sky, we have applied individual nation weights. Each individual nation weight is calculated as the average of: (i) total TV viewing minutes on Sky in that individual nation as a share of total TV viewing minutes on Sky across the whole of the UK during 2017; and (ii) BBC One viewing minutes on Sky in that individual nation as a share of BBC One viewing minutes on Sky across the whole of the UK during 2017. Source: *BARB. Sky viewing of individuals by ITV areas*.

²⁵ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, pages 5-6.

²⁶ Virgin Media's [EPG Policy](#), 14 July 2017.

²⁷ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, page 6.

Instead, the broadcaster would enter into a new agreement with Virgin Media 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 EPG. Hence, the difference in the rental fee of the two slots (X and X+1) would reflect the resulting loss in rental income to Virgin Media. It would also reflect an equivalent cost saving to the broadcaster that is moved down the EPG.²⁸

- A4.24 In certain circumstances, the rental fee paid by a broadcaster for a slot on the Virgin Media EPG would be expected to equal the profits it would expect to earn from being in that slot.²⁹ 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 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 EPG.
- A4.25 EMP has provided us with recent 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 EPG for the whole of the UK, under the assumption that EPG slots on Virgin Media are allocated in the same way as slot 106.³⁰ 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 for using the slot over the period of the agreement between Virgin Media and the broadcaster.
- A4.26 As described above for the Sky EPG, we have used these recent estimates of predicted sale prices on the Virgin Media EPG together with the methodology described above to estimate the predicted sale price of all slots in the General Entertainment and Children's genres on the Virgin Media EPG.

Freeview and Freesat EPGs

- A4.27 There is no market for EPG slots on Freeview or Freesat.³¹ On these platforms, a channel is allocated an LCN at the bottom of the relevant genre at launch and if slots become available above the channel's slot over time, the channel is moved up in line with the platforms' respective EPG methodologies. In light of this, EMP has not provided any estimates of the predicted 'sale price' of EPG slots on these two platforms. Therefore, we

²⁸ If instead we assumed that in future Virgin Media 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.

²⁹ If slots are scarce, competition between broadcasters for them is strong and if broadcasters are very similar.

³⁰ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, Tables 2 and 6.

³¹ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, page 23.

have not sought to quantify the potential impact of changes in channel position on the Freesat or Freeview EPGs using our model.

Key assumptions used in our modelling

A4.28 For the purposes of our modelling analysis, we have made a number of modelling assumptions, which are set out below.

- a) **Counterfactual.** We need to identify a counterfactual (i.e. how the main EPGs would look absent any regulatory intervention), against which we can measure the potential effects of regulatory changes. We consider the appropriate counterfactual is not necessarily the situation as it looks today, but the situation as it would look in the foreseeable future, when any changes might come into effect. Since our consultation, the BBC has launched a new BBC Scotland channel in Scotland. We are not aware of any further channel launches or any further changes to EPGs at this moment. Hence, for each platform, we have taken as a starting point the published channel positions, accessed on 12 June 2019.³²
- b) **Implementation of changes in the prominence of designated channels.** We have assumed that, where designated channels are moved up the EPG as a result of regulatory changes, they would generally be moved up by the minimum amount required to be compliant with the new regulatory requirements.³³
- c) **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 assumed that EPG providers would move channels down by one slot in order to accommodate each designated channel that moves up (with the exception of any designated channel(s) that is required to be appropriately prominent such as the best placed variant of a given BBC channel or Local TV, which we assume would not move down).³⁴ Our assumption has the effect of spreading the potential impact across a larger number of channels (thereby diluting the effect on any single channel).

³² Source: <https://www.sky.com/tv-guide> for Sky channels (for each nation, we have used the corresponding guide for that nation); and <https://www.virginmedia.com/virgin-tv-edit/tips-and-tricks/virgin-tv-channel-guide.html> for Virgin Media channels.

³³ [3<]

³⁴ We assume that if a variant of a given BBC channel (within the range across which channels are being moved down) happens to be the best placed variant of that BBC channel on the EPG, then the EPG provider would leave the position of that BBC channel variant unchanged (i.e. it would not move it down by one slot). In such a case, the EPG provider may have to move some channels down by more than one slot. However, we assume it would still move each individual channel down by the minimum possible amount. The only exception applies to the implementation of the change in prominence of Channel 4 on the Sky Wales EPG. Currently, BBC Four is in slot 15 on Sky Wales and in slot 16 in the remaining nations on the Sky EPG, and thus better-off in terms of slot position on Sky Wales. This is because there is a vacant LCN above BBC Four only in Sky Wales. To move Channel 4, which is currently in slot 16 on Sky Wales, to within the first 8 slots, we assume that Channel 4 will be moved up to slot 8 while all channels currently in slots 8-14 will be moved down by one slot each. Thus, BBC Four will not be moved down the Sky Wales EPG. However, there will be an additional channel (Channel 4)

- d) **EMP estimates of predicted sale prices of EPG slots.** As noted above, we commissioned EMP to provide estimates of the predicted sale price of EPG slots.³⁵ EMP have set out an overview of their methodology.³⁶ In summary, they have used market intelligence gathered while conducting sales and transfers on the Sky and Virgin Media 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).³⁷

above BBC Four and the LCN currently vacant above BBC Four will have a channel in it. Consequently, BBC Four will drop down by one slot from slot 15 to slot 16 on Sky Wales but will still be no worse-off in terms of slot position on Sky Wales compared to the other nations.

³⁵ 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 EPG.

³⁶ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, pages 6-8.

³⁷ Expert Media Partners, [Report on the UK market in EPG Positions](#), July 2018, pages 8-9.

- e) **Approach to slots on the first page of the EPG.** EMP's report noted that the true value of slots on page one could be much higher than the sale prices it estimated.³⁸ Despite this drawback, in our consultation we relied on our model to estimate the impact on commercial channels of channel moves on page one because we had limited alternative evidence available. However, in response to our consultation, we have received a range of evidence from stakeholders on the potential impact of changes involving slots on page one of the General Entertainment section of the EPG (which we describe in paragraphs A3.78 to A3.83 of Annex 3).³⁹ Therefore, in light of the limitation recognised in EMP's report, we do not rely on our model when we estimate the effects on commercial channels of changes which involve slots on page one of the General Entertainment section of the EPG. In the absence of alternative available evidence on the potential impact of changes involving slots on page one of the Children's section of the EPG, we use our model to provide an indicative estimate of this impact (although we recognise there is a particular degree of uncertainty around this figure). For the avoidance of doubt, we consider that our model produces reasonable estimates of gains and losses for other channel moves (that do not involve slots on page one).
- f) **Estimating the predicted sale prices of other EPG slots.** As explained in paragraphs A4.15 to A4.18 and A4.26 above, in order to estimate the predicted 'sale price' of all other slots in the General Entertainment section of the Sky and Virgin Media EPGs and the Children's section on the Sky EPG, 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.⁴⁰

³⁸ 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, [Report on the UK market in EPG Positions](#), July 2018, pages 10 and 13.

³⁹ Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Annex 3](#).

⁴⁰ With the exception of the last page (page 16) of the Virgin Media 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 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 General Entertainment EPG differ considerably from the corresponding EMP estimates. However, channels located on the last page of the Virgin Media General Entertainment EPG are not affected by channel moves. Hence, the difference between our estimates and the EMP estimates has no effect on our estimation of the potential cost to commercial broadcasters and Virgin Media.

- g) **Estimating predicted sale prices for individual nation EPG slots.** Where only the slot positions in an individual nation EPG on Sky (e.g. the Sky EPG in Scotland) are affected, we have estimated the share of the predicted UK-wide sale price for a given slot on the Sky EPG that is attributable to an individual nation. As described in paragraph A4.19 above, we have estimated this by scaling down our estimate of the predicted UK-wide sale price of an EPG slot. Thus, for a given slot on the Sky EPG, we have assumed that the sum of prices for that slot in England and Northern Ireland, Scotland and Wales is equal to the predicted UK-wide sale price provided by EMP.

Our model's estimates of financial impact on commercial broadcasters and EPG providers

- A4.29 In this section, we present the results from our modelling of the potential impact on commercial broadcasters' profitability and EPG providers' ability to monetise EPG slots in the General Entertainment section of the Sky and Virgin Media EPGs and the Children's section of the Sky EPG. The changes in prominence that we have considered are set out in our statement.⁴¹ Our results can also be found in our model, which we have published alongside our statement.⁴²
- a) Table A4.1 below presents the estimated impact from our model on commercial broadcasters' profitability on the Sky EPG; and
- b) Table A4.2 below presents the estimated impact from our model on Virgin Media's ability to monetise slots on its EPG.
- A4.30 Our estimated prices for all EPG slots in the General Entertainment section of the Sky and Virgin Media EPGs and the Children's section of the Sky EPG are set out in our model. The estimated prices from EMP that underpin our calculations are relatively high on the Virgin Media EPG compared to those on the Sky EPG, given the relative number of subscribers on each platform.
- A4.31 EMP provided estimates of slot prices/values over a period of time (which we take to be five years).⁴³ Stakeholders, however, provided estimates of annual impacts of our consultation proposals. Hence, 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. In Table A4.1 and Table A4.2 below, we present annualised estimates from

⁴¹ Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Section 4](#).

⁴² We have published [our model](#) alongside our statement on the dedicated [Ofcom webpage](#).

⁴³ 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 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.

our model of costs to commercial broadcasters and/or EPG providers resulting from changes in prominence.⁴⁴

Table A4.1: Estimated impact derived from our model on commercial broadcasters' profitability on the Sky EPG

Designated channel	New obligation	Current non-compliant positions in our counterfactual ⁱ	Required EPG changes ⁱⁱ	Ongoing cost to commercial channels (£m p.a.) ⁱⁱⁱ	Ongoing cost to EPG providers (£m p.a.)
S4C and Channel 4 on EPGs specific to Wales	S4C in slot 4 in Wales and Channel 4 within first 8 slots	Channel 4: Channel 4 in slot 16 on Sky Wales	<ul style="list-style-type: none"> 7 commercial channels and 1 BBC channel moved down in Wales 86 channels renumbered in each of England, Scotland and Wales, 89 channels renumbered in NI 	Not calculated (see paragraph A4.28e) above)	None
Other UK wide or National channels: <ul style="list-style-type: none"> BBC Four; BBC Scotland and BBC Alba in Scotland; and S4C on UK wide EPGs 	Within first 24 slots	BBC Alba: BBC Alba in slot 40 on Sky Scotland	<u>BBC Alba moved to slot 24:</u> <ul style="list-style-type: none"> 16 commercial channels moved down in Scotland^{iv,v} 	0.1	None
BBC Children's channels: CBBC and CBeebies	Within first 8 slots of children's section	CBBC and CBeebies: CBBC in slot 13 and CBeebies in slot 14 on Sky Kids	<ul style="list-style-type: none"> 6 commercial channels moved down UK-wide 8 channels renumbered UK-wide 	0.3	None
Local TV services	Within first 24 slots on DTT EPGs only	None	<ul style="list-style-type: none"> No changes necessary 	None	None

⁴⁴ We have not taken into account the impact on BBC channels that move down the EPG.

Table A4.2: Estimated impact derived from our model on Virgin Media’s ability to monetise slots on its EPG (UK-wide)

Designated channel	New obligation	Current non-compliant positions in our counterfactual ⁱ	Required EPG changes ⁱⁱ	Cost to commercial channels (£m p.a.) ⁱⁱⁱ	Cost to EPG providers (£m p.a.)
S4C and Channel 4 on EPGs specific to Wales	S4C in slot 4 in Wales and Channel 4 within first 8 slots	None	<ul style="list-style-type: none"> No changes necessary 	None	None
Other UK wide or National channels: <ul style="list-style-type: none"> BBC Four; BBC Scotland and BBC Alba in Scotland; and S4C on UK wide EPGs 	Within first 24 slots	S4C and BBC Alba: BBC Alba in slot 60 and S4C in slot 64 on Virgin Media	<ul style="list-style-type: none"> 38 commercial channels and 1 BBC channel moved down UK-wide 41 channels renumbered UK-wide 	<2.1 ^{vi}	
BBC Children’s channels: CBBC and CBeebies	Within first 8 slots of Children’s section	None	<ul style="list-style-type: none"> No changes necessary 	None	None
Local TV services	Within first 24 slots on DTT EPGs only	None	<ul style="list-style-type: none"> No changes necessary 	None	None

ⁱ As discussed in paragraph A4.28a) above, our counterfactual is based on the published channel slot positions on each platform, accessed on 12 June 2019. Source: <https://www.sky.com/tv-guide> for Sky channels (for each nation, we have used the corresponding guide for that nation); and <https://www.virginmedia.com/virgin-tv-edit/tips-and-tricks/virgin-tv-channel-guide.html> for Virgin Media channels.

ⁱⁱ As discussed in paragraph A4.28c) above, this is based on our assumption that EPG providers will move channels down by one slot to accommodate each designated channel moving up, and that in the case of regionalised EPGs, EPG providers will try to maintain the uniformity of LCN across nations.

ⁱⁱⁱ The estimates are indicative only.

^{iv} As discussed in footnote 73 of [Annex 3](#), since requiring Channel 4 to be within the first 8 slots of EPGs specific to Wales will lead to all channels from LCN 108 onwards being renumbered on the Sky EPG in all nations, requiring BBC Alba to be within the first 24 slots on EPGs specific to Scotland will not add to the amount of channel renumbering required on Sky. See Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Annex 3](#).

^v [3<]

^{vi} As discussed in paragraph A3.135 of [Annex 3](#), this is the combined commercial impact on commercial channels and Virgin Media (as an EPG provider), some of which will fall on Virgin Media and the remainder on the commercial channels that will be moved down. However, as discussed in paragraph A3.43 of [Annex 3](#), we do not know how this impact is split between Virgin Media and the channels. See Ofcom, Review of prominence for public service broadcasting: Statement on changes to the EPG Code, 4 July 2019, [Annex 3](#).