



# Impact assessment – quantitative analysis

Annex 8 to Pay TV Statement

This is the non-confidential  
version. Confidential information  
has been redacted. Redactions  
are indicated by [ X ].

Publication date:

31 March 2010



## Annex 8

# Impact assessment annex

## Introduction

- 1.1 This short annex provides additional detail on changes to the quantitative aspects of our impact assessment. It summarises our response to stakeholders' representations and updates to our quantitative analysis. We intend for it to be read alongside the impact assessment section in the main document; as such, it is not a self-standing document.
- 1.2 In the Third Pay TV Consultation, we provided summary information about our quantitative assessment. During the consultation period, in response to a request from Sky, we also provided to Sky our spreadsheet model, a detailed explanation of the mechanics of the model and further explanation regarding some of the model inputs. In this annex we explain changes to the quantitative assessment since the Third Pay TV Consultation but, given confidentiality restrictions, we do not go beyond the level of information provided in the Third Pay TV Consultation and the consultation period.

## Assessing demand for pay TV packages

- 1.3 The nature of demand for pay TV packages is an important input to the calculation of consumer surplus. Here we summarise how we have responded to Sky's consultation response and new information in characterising demand for packages containing Core Premium channels.

## Our position in the Third Pay TV Consultation

- 1.4 In the Third Pay TV Consultation, we presented our view that there was significant unmet demand for Sky's Core Premium channels on DTT. We referred to evidence from Sky's Picnic business model which suggested that around [ X ] DTT households would take a premium package from Sky within five years. We also referred to research carried out by Freeview in November 2007, which found that around 22% of Freeview households would definitely or probably consider paying a monthly or one-off fee to access more channels/programmes in addition to Freeview's channels<sup>1</sup>. Based on this evidence, we assumed that the total number of premium subscribers on platforms other than DSat and cable rose to 2 million after five years. Given the uncertainty around this assumption, we also looked at sensitivities around the estimate.

## Responses to the Third Pay TV Consultation

- 1.5 Sky stated that our adopted counterfactual amounted to a "fundamental flaw", and as a result we should reconsult on a revised impact assessment. Therefore, Sky did not propose to comment in detail on our calculations of consumer and producer surplus. Instead, it presented a "number of observations to which Ofcom should have regard in preparing its revised impact assessment"<sup>2</sup>. For reasons explained in paragraphs 11.20 to 11.36 of the main document, we do not consider it necessary to reconsult on

---

<sup>1</sup> Third Pay TV Consultation, paragraph 10.34.

<sup>2</sup> Sky response dated September 2009 to Third Pay TV Consultation, paragraph 11.78.

a revised impact assessment. However, we have taken into account Sky's responses to the Third Pay TV Consultation in updating the quantitative analysis.

- 1.6 Sky considered that our approach was not supported by relevant evidence and was "only slightly more sophisticated than what is known colloquially as 'back of the envelope' calculations"<sup>3</sup>. Sky highlighted the importance of assumptions around demand for Core Premium channels – in particular:
- **Shape of the demand curve** – Sky stated that our assumption of linear demand was not evidence-based, that there is no good reason to believe that demand for pay TV services is linear, and that a convex demand curve would produce smaller surplus than a linear demand curve<sup>4</sup>.
  - **Assumed value of 'choke prices'** – Sky asserted that our estimates of choke prices (which are used to derive consumers' willingness to pay and hence consumer surplus) were not based on any evidence<sup>5</sup>.
  - **Forecasts of subscribers numbers** – Sky argued that our forecasts of subscriber numbers were inadequately evidenced. Sky criticised our use of research undertaken by Freeview, and stated that we should have paid greater regard to Sky's projections for its Picnic venture and undertaken our own consumer research. Sky concluded that our estimates of subscriber numbers for Core Premium channels on new platforms were unrealistically high, as there is limited demand and existing providers can be expected to compete fiercely to prevent customers switching away<sup>6</sup>.

## New evidence we have reviewed

### Demand for Core Premium channels on new platforms

- 1.7 We have revisited our assumptions regarding the likely demand for Core Premium channels on new platforms, in order to consider both Sky's arguments and newly-available information. In particular, in addition to the sources we referred to in the Third Pay TV Consultation, we have reviewed recent research undertaken by UBS, Oliver & Ohlbaum Associates and Execution Noble, as well as estimates provided by the consultancy [ X ] and industry stakeholders. Given the availability of a significant body of research from third parties, we did not consider it necessary to undertake our own consumer research.
- 1.8 The sources present a varied picture of likely demand for Core Premium channels on DTT.
- 1.9 **UBS** carried out consumer research as part of its coverage of prospects for Sky. Its survey, as reported in its note 'The Sky is still blue, just bigger' (published on 3 August 2009) asked consumers about their interest in a 'best of Sky' service<sup>7</sup>; the research suggested that:

<sup>3</sup> Sky response dated September 2009 to Third Pay TV Consultation, paragraph 11.83.

<sup>4</sup> Sky response dated September 2009 to Third Pay TV Consultation, paragraphs 11.89 to 11.91.

<sup>5</sup> Sky response dated September 2009 to Third Pay TV Consultation, paragraphs 11.87 to 11.88.

<sup>6</sup> Sky response dated September 2009 to Third Pay TV Consultation, paragraphs 11.93 to 11.116.

<sup>7</sup> The 'best of Sky' service was defined as "a five-channel pay service offering a Sky sports channel, a Sky movies channel, a Sky One derivative, Sky News and a third party basic channel".

- Around 15% of DTT households (about 1.5 million<sup>8</sup>) would be “very interested” in a ‘best of Sky’ service, and around a further 20% (around 2 million households) would be “somewhat interested”. There was limited further interest from analogue terrestrial households, with a few percent of households “very interested” and around 20% of households “somewhat interested”. UBS was of the view that, if anything, the figures “could understate demand given the scope for a variety of retailers who can cross promote pay TV to their existing customer bases”<sup>9</sup>. UBS also compared its survey results with similar surveys undertaken two years and four years previously. This showed that interest in pay TV has increased strongly over time: for example, only 33% of non-pay households now say they are “not at all likely” to take pay TV in the future, compared to around 55% in both 2005 and 2007<sup>10</sup>. However, the research also shows falling interest between 2007 and 2009 in the Sky Sports and Sky Movies products specifically<sup>11</sup>.
- UBS’s survey also asked non-pay TV homes how much they were willing to pay for a ‘best of Sky’ package, and from this information UBS constructed a demand curve which was presented in the report. This suggested that, at a retail price of £25, around 2 million households would take the service. UBS’s research also suggests a slightly convex demand curve and an approximate choke price – the point at which demand would fall to zero – of greater than £40.
- UBS also asked existing Sky subscribers whether they would be interested in a ‘best of Sky’ service on DTT. At a price point of £30, 6% of Sky customers said they were very likely to switch away and a further 4% said they would be quite likely to switch. At a price point of £20, 9% of Sky customers would be very likely to switch away and a further 6% would be quite likely to switch.

1.10 **Oliver & Ohlbaum Associates** (O&O) conducted a consumer survey in order to estimate likely demand for Core Premium channels on DTT<sup>12</sup>. O&O asked respondents for their interest in “a package of premium Sky services including Sky Sports 1&2 and the main Sky Movies channels”<sup>13</sup>. The survey estimated that:

- At a price of £25, 13% of Freeview households (approximately 1.3 million households<sup>14</sup>) would be interested in such a service, while at a price of £15, 18% (approximately 1.8 million households) would be interested. O&O’s survey apparently did not ask the question of analogue terrestrial households, who would be expected to contribute further, though more limited, demand.
- O&O suggested that, at a DTT premium price of £25, 6% of Sky customers and 4-5% of Virgin Media customers would be likely to switch away from their

<sup>8</sup> The estimate of 1.5 million households is based on a current population of DTT-only households of around 9.7 million. Source: Ofcom Communications Market Digital Progress Report, Q3 2009, Figure 1.

<sup>9</sup> UBS Investment Research, ‘The Sky is still blue, just bigger’, dated 3 August 2009, pages 7 to 8. Survey conducted by GfK NOP. Figures quoted are based on visual interpretation of Chart 4.

<sup>10</sup> UBS Investment Research, ‘The Sky is still blue, just bigger’, dated 3 August 2009, page 4.

<sup>11</sup> UBS Investment Research, ‘The Sky is still blue, just bigger’, dated 3 August 2009, Chart 2.

<sup>12</sup> Oliver & Ohlbaum Associates, ‘Battling for the Media Consumer 2009 – UK Media in the On Demand Age, December 2009’, slides 8 to 10. Survey conducted by Fly Research; internet survey of 2600 UK consumers, representative of the UK population.

<sup>13</sup> O&O’s question included movies channels, [X]. Responses may therefore overestimate demand on DTT.

<sup>14</sup> The estimate of 1.3 million households is based on a current population of DTT-only households of around 9.7 million. Source: Ofcom Communications Market Digital Progress Report, Q3 2009, Figure 1.

services. Three-quarters of those switching from Sky, and half of those switching from Virgin Media, would be premium subscribers.

- Surveying interest in pay TV more generally, O&O found that, in the next 12 months, 4% of free-to-air households are very likely to switch to pay TV while 12% are somewhat likely. In the next 3 to 5 years, 8% of free-to-air households are very likely to switch to pay TV, with 17% somewhat likely. (Of these 25%, 61% have not had pay TV before.)

- 1.11 **Execution Noble** carried out consumer research which asked consumers whether they would switch to BT Vision if it offered Sky Sports at a price of £15<sup>15</sup>. The survey suggested that about 10% of subscribers to premium sports channels might consider switching to Sky Sports 1 on BT Vision; and only 1% would definitely switch. Looking at wider subscriber bases, about 5% of all Sky customers and 4% of all Virgin Media customers may consider switching to BT Vision. Of Freeview/DTT households, Execution Noble reported that 3% might consider switching, while 0% would definitely switch. Execution Noble's research was based on a more limited proposition than we would envisage BT Vision offering. In addition, the question was restricted to a package offered only by BT, which again may limit interest relative to the availability of packages from a variety of providers.
- 1.12 [X], a broadcasting consultancy, forecasted a total pay TV market on DTT of [X] by 2018, of which [X] would be premium pay TV subscribers. These forecasts are based on their understanding of the market, informed by the views of industry, and hence indirectly by any research these operators have carried out<sup>16</sup>.
- 1.13 **Potential beneficiaries of the WMO** have also provided confidential information on the numbers of subscribers they forecasted on their own platforms. The maximum quoted was [X] pay TV subscribers by 2015, of which [X]<sup>17</sup> related to premium pay TV services. The minimum quoted was around [X]<sup>18</sup> premium pay TV subscribers by 2013.
- 1.14 Sky suggested that our analysis should have greater reference to its **Picnic business model**. Sky estimated that [X]. Sky also suggested that these estimates may be unrealistic, as the business model was compiled so as to be stretching to Sky's staff, and also given new evidence provided by the failure of Setanta on DTT<sup>19</sup>. On the other hand, evidently, Sky's estimate only considered subscribers to Picnic packages and not demand for packages offered by other retailers. We would expect other retailers to expand the available market further by offering products which are differentiated from Picnic; these operators are also likely to market their products more aggressively as they would not risk cannibalising an existing premium subscriber base.

<sup>15</sup> Execution Noble, 'BSkyB – All change, no change' & 'Virgin Media – Solid outlook for 2010', both 8 February 2010. References in this paragraph are as subsequently provided by Execution Noble to Ofcom. Execution Noble stated that "back-testing has been used to adjust the responses from the survey to consumers' actual behaviour".

<sup>16</sup> Numbers are [X] forecasts from its Autumn 2009 industry model, provided to Ofcom on 6 October 2009.

<sup>17</sup> [X]

<sup>18</sup> [X]

<sup>19</sup> Sky's response dated September 2009 to Third Pay TV Consultation, paragraph 11.102. [X]

## Our position now

### Demand on DTT / IPTV

- 1.15 The different consumer surveys provide highly varied estimates of demand for pay TV services on DTT. UBS's survey suggests that between 1.5 and 1.7 million Freeview households would be interested in a 'best of Sky' package on DTT<sup>20</sup>, while Evolution Noble's research and the estimates provided by [ X ] implied much more limited interest. O&O's research pointed to demand somewhere between these two sources: at a price point of £25, around 1.3 million Freeview households would take a package containing Core Premium channels, which compares to UBS's estimate at this price-point of 2 million households.
- 1.16 We now assume that, after five years, approximately 1.8 million households will take packages containing Core Premium channels on DTT or IPTV platforms. We also expect an additional 0.3 million additional premium customers on cable. Of these premium customers, we estimate that 0.9 million customers would otherwise only take free-to-air services. Relative to the counterfactual, we estimate a reduction in basic-only customers of 0.6 million, and switching from existing premium packages by 0.6 million customers.
- 1.17 Compared to our estimates in the Third Pay TV Consultation, these estimates reduce significantly the number of households which we would expect to switch from Sky to a new pay TV service. This reflects Sky's argument that operators would be expected to compete intensely to retain their existing customers. It is also more in line with [ X ].

### Choke prices

- 1.18 We have also reconsidered our estimates of choke prices in light of Sky's consultation response and our revised treatment of new operators' prices and costs (for which see paragraphs 11.103 to 11.104 of the main document). Based on their consumer surveys, UBS and O&O constructed basic demand curves for packages containing Core Premium channels. While the two pieces of research suggested different levels of demand, both implied a choke price of between £40 and £50<sup>21</sup>. We have therefore conservatively assumed choke prices for DTT/IPTV operators of £40; given the uncertainty in this assumption, it is subject to sensitivity analysis.
- 1.19 For existing retailers of Core Premium channels – i.e. Sky and Virgin Media – our estimates of choke prices are derived from demand curve estimates. In the Second Pay TV Consultation, we published demand curves estimated from market research for packages containing Core Premium channels. The demand curves derived from research data suggests choke prices in excess of £45 for different premium packages<sup>22</sup>. We have adopted an estimate of £55 for premium customers<sup>23</sup>. This

---

<sup>20</sup> We have derived this estimated range by applying weightings to respondents' statements of the likelihood of taking up pay TV services on DTT. These adjustments apply greater weighting to respondents who stated that they would be "very interested" in a service (a weighting of 75% to 100%) than those who stated that they would be "somewhat interested" (a weighting of 0% to 33%).

<sup>21</sup> We approximated UBS's slightly convex demand curve to a linear curve, adjusting downwards the projected choke price in line with a linear approximation.

<sup>22</sup> Second Pay TV Consultation, Annex 10, Figures 36, 37 and 39.

<sup>23</sup> For Sky, we estimate a single choke price for all premium packages, which is constant over time as Sky's split between premium packages is assumed not to change. For Virgin Media, we estimate separate choke prices for customers taking sports-only, movies-only and sports & movies packages.

estimate is conservative in its effects<sup>24</sup>, but given the uncertainty in the assumption, it is subject to sensitivity analysis.

- 1.20 Our estimates of choke prices for basic-only customers are based on our estimates for customers taking premium packages. We have derived choke prices for basic-only customers such that the ratio between retail price and choke price is the same as for customers taking premium packages.

### Consistency with the pricing model

- 1.21 Wherever appropriate, we have made subscriber numbers consistent between the pricing and impact assessment models. Between the two models, we have assumed the same total number of premium subscribers on DTT/IPTV, the same total subscribers for Sky after the first year and the same premium and total subscribers for Virgin Media.

### **Other changes to our quantitative analysis**

- 1.22 In addition to the changes to our estimates of demand explained above, we have made a number of other refinements to our quantitative analysis in response to stakeholders' representations and market developments<sup>25</sup>. These are summarised below.

### General updates

- 1.23 We have updated our quantitative analysis in order to reflect updated outputs from the pricing model. These cover, for example, the retail and wholesale costs of operators, Sky's retail prices and wholesale prices as per the current cable rate-card and the wholesale must-offer remedy.

### Counterfactual subscriber numbers

- 1.24 In the counterfactual scenario, we make assumptions about the number of households on each platform in the absence of Sky's Core Premium channels from DTT. We have updated these assumptions to reflect the most recent market trends, using subscriber forecasts from Informa, an independent business information provider<sup>26</sup>.

### Picnic-only scenario

- 1.25 As we explain at paragraph 11.36 of the main document, we now also compare the effect of our remedy against a scenario in which only Picnic (and no other operators)

---

These are set such that the difference between the choke price and retail price is, for each package, the same as if we had assumed a single choke price of £55 for all premium packages.

<sup>24</sup> We assume a net outflow of customers from existing retailers to new retailers as a result of the wholesale must-offer remedy. Assuming a high willingness to pay for packages from existing retailers is a conservative approach as it suggests a smaller increase in surplus as consumers switch away from existing retailers to new platforms.

<sup>25</sup> We respond here to several arguments made by Sky in its response to the Third Pay TV Consultation. Sky also commented that its critique was "illustrative rather than exhaustive", and did not present a full set of criticisms on the detail of our analysis. We therefore undertook a full review of our quantitative analysis in order to identify any errors or omissions not outwardly identified by Sky. (See Sky response dated September 2009 to Third Pay TV Consultation, paragraph 11.120.)

<sup>26</sup> Forecasts are from Informa Telecoms & Media, 'Western European TV, 13<sup>th</sup> Edition', 2009, pages 443 to 445.



retails Core Premium channels on DTT/IPTV. Under this scenario, Picnic is assumed to achieve the subscriber numbers set out in its business plan: [ X ] premium subscribers and [ X ] basic subscribers after five years. The impact of this alternative scenario is set out throughout Section 11 of the main document.

### Premium packages offered by different operators

1.26 In the counterfactual scenario, we assume that only Sky and Virgin Media retail Core Premium channels. In the factual scenario, we assume that Sky, Virgin Media, Picnic and other DTT/IPTV retailers offer Core Premium channels. The packages taken by customers vary by operator; our assumptions are as follows:

- **Sky** subscribers are assumed to take a mix of sports and/or movies packages according to the current split, both in the counterfactual and factual scenarios;
- **Virgin Media** subscribers are assumed to take the current cable mix of sports and/or movies packages in the counterfactual scenario. In the factual scenario, we have assumed that Virgin Media pays a lower wholesale price for sports-only packages (as per the wholesale must-offer remedy), but continues to pay the rate-card price for packages including movies. We therefore assume that take-up of sports-only packages will increase over time but subscriber numbers for packages containing movies will be the same as in the counterfactual.
- In relation to **Sky's Picnic service**, the most recent source of information we have for the proposed service is Sky's Picnic business plan from April 2008. This set out that Sky planned to launch a service featuring a sports channel (Sky Sports 1) and a movies channel (Sky Movies Screen 1). The market has moved on over the past two years, such that it is not obvious that Sky would still launch a service containing these channels. Furthermore, following the Third Pay TV Consultation, Sky announced its intention to replace Sky Movies Screen 1 with Sky Movies Showcase<sup>27</sup>, and it is not clear that this replacement channel would be suitable or feasible for inclusion in a DTT service. [ X ]<sup>28</sup>. [ X ] As a result, we have now modelled Picnic to offer packages in which the only premium channels are Sky Sports 1 and Sky Sports 2. We do not believe that take-up would be materially different if we were to model alternative premium packages<sup>29</sup>; therefore, we consider that the assumption does not materially affect the results of our quantitative analysis.
- **DTT/IPTV retailers other than Picnic** are also assumed to offer packages in which the only premium channels are Sky Sports 1 & 2. [ X ]

### Prices and costs for different operators

1.27 See paragraphs 11.104 to 11.105 in the main document for an explanation of the price and cost assumptions used for different operators in our producer and consumer surplus calculations.

<sup>27</sup> As reported, for example, at <http://www.digitalspy.co.uk/digitaltv/news/a203956/sky-movies-screen-1-to-become-showcase.html>

<sup>28</sup> See the following bullet-point, which refers to the packages likely to be offered by other DTT/IPTV entrants.

<sup>29</sup> [ X ] However, we have seen no evidence suggesting that take-up for packages containing Sky Sports 1&2 would be significantly different between the two offerings. Similarly, while take-up for sports-only packages may be less than for packages containing those sports channels *and* a movies channel, we would not expect the difference to be substantial.

### Incremental marketing costs

- 1.28 In its response, Sky highlighted that there were discrepancies between assumptions in our impact assessment and wholesale pricing models<sup>30</sup>. In reviewing consistency between the models, we determined that one such inconsistency was our treatment of 'incremental marketing', where we included extra costs from additional marketing undertaken by Sky and Virgin Media as a result of the wholesale must-offer. As explained in paragraphs 11.104 to 11.105 of the main document, we now assume that each operator faces the same cost function as Sky, and that this cost function does not change as a consequence of the wholesale must-offer remedy. We have therefore revised our assumption in the impact assessment such that Sky and Virgin Media do not incur additional costs as a result of the remedy<sup>31</sup>.

### Capital expenditure

- 1.29 In reviewing our quantitative analysis, we became aware that capital expenditure had not been included in the calculations. We have now corrected our model such that capital expenditure is included in our assessment of producer surplus for all retailers and for Sky in its premium wholesale function. The figures used are consistent with those derived in our wholesale pricing model.

### Advertising revenues

- 1.30 In reviewing our quantitative analysis, we observed that the advertising revenues for Sky's wholesale function did not scale with the number of households able to receive these channels. We considered that we could improve our calculations by linking advertising revenues to the number of households able to receive the channels. We have now revised our analysis such that, for each Sky channel, we use per-subscriber advertising revenue figures, consistent with those derived in the pricing model. These are then multiplied by the number of subscribers to the channel in the counterfactual and factual scenarios to reflect changes in the volumes of viewers between the two scenarios.

---

<sup>30</sup> Sky response dated September 2009 to Third Pay TV Consultation, Section 11, footnote 33.

<sup>31</sup> When undertaking sensitivity analysis, in order to establish reasonable bounds for our estimates, we do include some additional marketing costs for Sky and Virgin Media.