

# Market definition appendices

Annex 6 to pay TV phase three document

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## Appendix 1

# Characteristics of Sky Movies channels

## Assessment of product characteristics – Sky Movies channels

1.1 In this appendix we consider characteristics of Sky Premium Movie channels, as part of our assessment of which channels might form part of the relevant market or markets for these channels.

## Features of Sky Movies channels

- 1.2 Consumers are only able to buy Sky Premium Movie channels in wider bundles, indeed over [≫]<sup>1</sup> of DSat Sky Premium Movie channel subscribers take all the Sky Movies channels. As a result it is difficult to assess the relative importance of different product characteristics which naturally vary between channels because consumers act i.e. by buying or not buying in response to the characteristics of a package of channels. However, viewing figures provide some indication of the relative value of different channels.
- 1.3 We first describe features of the different premium movie channels and then consider the implications for market definitions.
- 1.4 Premium movie channels<sup>2</sup> have the following features which differentiate them, to varying degrees, from each other and from other channels which show movies:
  - Sky Movies channels screen films from the major Hollywood studios in the "pay TV window", i.e. the period of time, following cinema, DVD and PPV release, when movies are first shown on linear TV channels.
  - The mix of new and library films. Our analysis of schedules of Sky Premium Movie channels in 2008 shows the range of new and library films broadcast on Sky Movies channels (Figure 1 below). To take two examples:
    - Sky Movies Premiere is based around new films and, in 2008, screened only 49 films produced before 2005.
    - In contrast, Sky Movies Classics is almost totally devoted to films produced before 1979. It screened only 26 films made since 2005.
  - **Popularity of films.** Our analysis of BARB data shows that Sky Premium Movie channels vary in the popularity of the films shown (measured by audience as can been seen in Figure 2 below). The audience per film screened on the channel ranged from:

<sup>&</sup>lt;sup>1</sup> Source: Sky response to Ofcom information request of 29 May 2008

<sup>&</sup>lt;sup>2</sup> Premium movie channels include Sky Movies Premiere, Sky Movies Sci-Fi/Horror, Sky Movies SD1, Sky Movies SD2, Sky Movies Comedy, Sky Movies Family, Sky Movies Action thriller, Sky Movies Drama, Sky Movies Classics Sky Movies Modern Greats and Disney Cinemagic.

- Sky Movies Premiere on average attracted 20,000 viewers per film on average.
- o Sky Movies Indie on average attracted 2,000 viewers per film.
- Scheduling of films. New movies are generally shown first on Sky Movies Premiere at least once a day for a week making this channel the most popular Sky Movies channel. Films are then shown of other channels, often appearing on more than one Sky Premium Movie channel over the course of the licence period.

# Figure 1 Mix of films by year of cinema release on Sky Premium Movie channels



Source: BARB

### Figure 2 Average audience per film on Sky Premium Movie channels in 2008



Source: BARB

#### Implications for market definition

- 1.5 There is a degree of similarity in the characteristics of Sky Movies Premiere, Sky Movies Sci-Fi/Horror, Sky Movies SD1, Sky Movies SD2, Sky Movies Comedy, Sky Movies Family, Sky Movies Action thriller, Sky Movies Drama. For example,:
  - They all screen a large amount of new films (see Figure 1). They each screened between 1,400 and 2,600 films produced since 2006. By contrast Sky Modern Greats screened only 88 films made since 2006 and Sky Movies Classics only screened 28 films made since 2006.
  - They all screen a range of popular / mainstream films. Sky Movies Indie on the other hand tends to broadcast films with niche appeal. This is illustrated by the average viewing across the channels (Figure 2). In 2008 for example Sky Movies Indie's average audience was only 2,000 per film.
- 1.6 For these reasons we consider the similarities between the channels characteristics imply that they are reasonably close substitutes and form part of the same relevant market.
- 1.7 In Figure 3 we examine in more detail some of the features of Sky Movies Indie, Sky Movies Classics or Sky Movies Modern Greats to assess whether they are likely to lie within the same market as the other Sky Movies Premiere and other channels mentioned in paragraph 1.5. For each channel we consider:

- the number of films broadcast in 2008 from the pay TV window<sup>3</sup>.
- the popularity of the films shown from the pay TV window, proxied by the box office revenues.
- the number of films from the pay TV window that are released by one of the major Hollywood studios.

# Figure 3 Characteristics of Sky Movies Classics, Modern Greats and Indie (2008)

	Sky Movies Classics	Sky Movies Modern Greats	Sky Movies Indie
Number of unique films screened that were released 2005-07	5	27	99
Average worldwide gross from theatrical performances of films produced since 2005 (\$m)*	54	196	25
% of films distributed by top six Hollywood studios**	80%	92%	56%

Notes: \*Due to a lack of international gross figures, some values of films were US gross only; \*\* The Major Hollywood Studios are: Universal Pictures, Paramount Picture Corp., 20th Century Fox, Buena Vista Pictures, Sony Pictures and Warner Brothers.

Sources: www.the-numbers.com/movies/; www.imdb.com; Barb 2008 data

- 1.8 **Sky Movies Classics** screened only five films that were released from the pay TV window. Four out of five of the films were distributed by the Major Hollywood Studios. The low number of new films screened on the channel indicates that it would be unlikely to be considered a substitute for Sky Movies Premiere or other similar channels and lies outside the relevant market.
- 1.9 **Sky Movies Modern Greats** shows a small number of films (27) from the pay TV window. The average worldwide gross of these films stood at almost \$200 million indicating that the films were generally very popular. Almost all the movies on Modern Greats were distributed by a Major Hollywood Studio. We therefore conclude that Sky Movies Modern Greats is likely to lie within the relevant market as it screens a reasonable number of new films (i.e. just over one per fortnight) from the Major Hollywood Studios that are very popular.
- 1.10 **Sky Movies Indie** showed 99 films from the pay TV window. On average these films tended to have lower box office revenues (compared with Sky Movies Modern Greats). Almost half of the films were distributed by independent studios, rather than by the top Major Hollywood Studios. Nonetheless, the channel screened a significant number of reasonably popular Major Hollywood Studios films produced since 2005. We therefore conclude that Sky Movies Indie is likely to lie within the relevant market.

<sup>&</sup>lt;sup>3</sup> We assumed that films broadcast in 2008 and released since 2005 are likely to have been shown within the pay TV window.

## Appendix 2

# Estimates of critical loss factors

- 2.1 This appendix sets out our approach for assessing the retail and wholesale critical loss values. The critical loss assessment considers the scale of consumer switching that would constrain firms from imposing price rises. Comparing critical loss estimates with actual estimates of consumers' price sensitivity can reveal whether firms face strong or weak constraints.
- 2.2 As we set out in the main document, we acknowledge the difficulties in interpreting the critical loss factors<sup>4</sup>. For example we would expect any profit maximising firm to price where a further price increase is just unprofitable. Hence, evidence of an elastic response to further price changes may indicate that a firm is pricing at the profit maximising level regardless of whether the current price is constrained to competitive levels. Moreover, critical loss analysis is most appropriately applied in merger situations to consider whether post merger prices would be higher than pre merger prices. It is less suitable for analysis of cases where the competitive price is unknown, and which are therefore potentially subject to the cellophane fallacy. We therefore exercise caution when interpreting the results of critical loss factors.
- 2.3 In the sections below we first set out our approach to assessing retail critical loss. We consider the implications of vertical integration between retailers and channel wholesalers on our analysis, before setting our assumptions and results. We then repeat the assessment of wholesale critical loss that we reported in the Second Pay TV Consultation.

## **Retail critical loss factors**

- 2.4 The assessment of retail critical loss depends on the ratio of retail prices to marginal costs. Where firms make only small mark up over their variable costs we would expect the critical loss value to be high. A high critical loss factor means a price rise is more likely to be profitable (and market more likely narrowly defined) for a given level of consumer switching compared with a firm that faced a low critical loss factor.
- 2.5 The critical loss can be calculated as follows:

Critical Loss = 
$$\frac{\% \text{ change in price}}{\left(1 + \% \text{ change in price } - \left(\frac{\text{variable cost}}{\text{current price}}\right)\right)}$$

- 2.6 We assess the critical loss for a Hypothetical Monopolist (HM) retailer of 3 products:
  - Packages that include Sky Sports Mix.
  - Packages that include Sky Movies Mix.
  - Packages that include Sky Sports and Movies.

<sup>&</sup>lt;sup>4</sup> See, for example, paragraph 4.143 of the main document.

2.7 The products are retailed by Sky and Virgin Media. We therefore assume that the HM's prices and costs are a weighted average of Sky's and Virgin Media's prices and costs.

## **Vertical integration**

- 2.8 We have considered how vertical integration between channel retailers and wholesalers (which is prevalent in the pay TV industry) affects our critical loss analysis. Sky, for example, is a wholesale provider of premium sports and movie channels to another retailer; it also retails those channels. This raises the question of whether we should treat the HM retailer as a retail company separate from a wholesale premium channel provider (as Virgin Media is); or as a vertically integrated retailer / channel wholesaler company (as Sky is). In the former case, we would assume that the HM has to purchase channels from a wholesaler on a per subscriber basis. In the latter case, we assume the HM is vertically integrated and it acquires content which it bundles into channels to retail directly to consumers.
- 2.9 The results of the critical loss analysis are sensitive to the assumption we choose because the vertically integrated firm faces different variable costs to a standalone retailer. The vertically integrated firm has lower marginal content costs and higher fixed costs (as many costs of acquisition of content do not vary with subscribers in the short term). Other things being equal, a HM with lower marginal costs and higher fixed costs (like the vertically integrated firm) will tend to operate in broader markets compared with the non-vertically integrated firm who buys inputs on a per subscriber basis.
- 2.10 We observe that Sky is by far the biggest retailer of premium channels (it retails its premium channels to over [≫] of its premium channel subscribers) and is vertically integrated. When setting its retail prices for its channels it will take account of the content acquisition costs it faces, not the wholesale price it charges to third parties. In this context we consider that the HM should be similarly vertically integrated.
- 2.11 In the analysis below we therefore take the "vertically integrated scenario" as our central estimate of critical loss. For completeness we also show the results for a non-vertically integrated monopolist ("retail scenario") and note that markets tend to be defined more narrowly in this scenario.

## Data on prices, costs and price elasticity

- 2.12 In order to estimate critical loss we need to consider:
  - The HM's prices.
  - The HM's variable costs.
- 2.13 Each of these are set out below for Sky Sports Mix packages, Sky Movies Mix packages, Sky Sports and Movies Mix packages. We take a weighted average of Sky and Virgin Media's prices and costs.

## Prices

## Figure 4 Average monthly price per subscriber (2008)

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
Sky	[×]	[×]	[×]
Virgin Media	[×]	[×]	[×]
Weightedaverage	[×]	[×]	[×]

Source: Virgin Media's website at April 2009, Sky's response to the request for information of 22 October 2007, Subscriber numbers taken [ $\approx$ ].

Notes: Prices exclude VAT at 17.5%. For Sky, prices are adjusted to reflect the price of multi-room services. Virgin Media's prices exclude the cost of Virgin phone line rental at £11 per month. Introductory offers are not considered.

### Variable costs

2.14 We estimate the variable costs per subscriber for both Sky and Virgin Media, and then calculate an average variable cost weighted by subscribers. Where possible Sky retail variable costs are consistent with those used in the 'pricing model'<sup>5</sup>, based on 2007-2008 data.

### Figure 5

#### [×]

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
Programming costs			
Third party basic programming costs	[×]	[×]	[×]
Sky premium channels	[×]	[×]	[×]
Self produced basic programming costs	[×]	[×]	[×]
Marketing costs	[×]	[×]	[×]
Subscriber management costs	[×]	[×]	[×]
Administration costs	[×]	[×]	[×]
Other transmission costs	[×]	[×]	[×]
Platform costs	[×]	[×]	[×]
Total	[×]	[×]	[×]

Source: Sky response to Ofcom information requests of 29 May 2008, 12 November 2008 and 15 December 2008, Virgin Media response to Ofcom information requests of 18 November 2008. Ofcom assumptions. BSkyB / SSSL published price list (see:

http://corporate.sky.com/documents/pdf/20c24d2e1c62406594e1a79de5f917db/bskyb\_and\_sssl\_publ ished\_price\_list\_december\_2006.pdf)

<sup>&</sup>lt;sup>5</sup> See section 9 of the main document for details of assumptions used on Ofcom's 'pricing model'.

## Figure 6 [≫]

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
Programming costs			
Third party basic programming costs	[×]	[×]	[×]
Sky premium channels	[×]	[×]	[×]
Self produced basic programming costs	[×]	[×]	[×]
Marketing costs	[×]	[×]	[×]
Subscriber management costs	[×]	[×]	[×]
Administration costs	[×]	[×]	[×]
Other transmission costs	[×]	[×]	[×]
Platform costs	[×]	[×]	[×]
Total	[×]	[×]	[×]

Source: Sky response to Ofcom information requests of 29 May 2008, 12 November 2008 and 15 December 2008, Virgin Media response to Ofcom information requests of 18 November 2008. Ofcom assumptions. BSkyB / SSSL published price list (see: <a href="http://corporate.sky.com/documents/pdf/20c24d2e1c62406594e1a79de5f917db/bskyb\_and\_sssl\_published\_price\_list\_december\_2006.pdf">http://corporate.sky.com/documents/pdf/20c24d2e1c62406594e1a79de5f917db/bskyb\_and\_sssl\_published\_price\_list\_december\_2006.pdf</a>).

2.15 Virgin Media's per subscriber costs are listed in the table below. Costs are based on Virgin's estimated costs for 2008.

## Figure 7

## [×]

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
Programming costs			
Third party basic programming	[×]	[×]	[×]
Sky premium channel costs	[×]	[×]	[×]
Marketing	[×]	[×]	[×]
Subscriber management	[×]	[×]	[×]
Customer Management / Billing, Retentions / Service	[×]	[×]	[×]
Administration	[×]	[×]	[×]
Total	[×]	[×]	[×]

[≻]

2.16 Virgin Media and Sky's variable costs are used to calculate an average variable cost weighted by subscribers for a hypothetical monopolist. These are shown in the table below.

## Figure 8

## [×]

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
VI Retail / wholesale scenario	[×]	[×]	[×]
Retail only scenario	[×]	[×]	[×]

### **Critical loss results**

2.17 Critical losses are calculated for the scenarios outlined previously. We use the weighted average costs and prices calculated above. The critical losses are calculated for a 10% price rise in Figure 9. In our central scenario (assuming the Hypothetical Monopolist retailer is vertically integrated with the premium channel wholesaler), the critical losses imply that consumer price elasticity of greater than [≫] would be sufficient to constraint a monopolist retailer of Sky Sports Mix, and a price elasticity of greater than [≫] would be sufficient to constraint a monopolist retailer of Sky Sports Mix, and monopolist retailer of Sky Sports and Movies Mix or Sky Movies Mix.

## Figure 9

## [×]

	Sky Sports mix	Sky Movie mix	Sky Sports and Movies mix
Retail only	[×]	[×]	[×]
Vertically integrated retailer / wholesaler	[×]	[×]	[×]

## Wholesale critical loss factors

- 2.18 In appendix 10 of Annex 6 to our Second Pay TV consultation we set out our estimate of the consumer price response that would constrain a wholesale monopolist. For ease of reference this analysis is repeated here.
- 2.19 We first explain why the 'dilution effect' means that an increase in the wholesale price of a good will have a smaller impact on the retail price. We then set out the 'critical loss' of subscribers that would constrain a monopolist wholesaler from increasing prices, and finally we set out the consumer elasticities that would be sufficient to constrain a monopolist.

## The 'dilution' effect

2.20 Wholesale premium channels are one input to a bundle of goods that a retailer sells to consumers<sup>6</sup>. If the retailer passes through all of a 10% increase in the wholesale price of premium channels to its customers, the retail price will increase by less than 10%. This is illustrated in the table below. The dilution effect means that a relatively

<sup>&</sup>lt;sup>6</sup> For example, on Virgin Media, if a consumer wishes to buy Premium Sports channels it must also buy other TV services and can choose to buy a range of other services such as phone or broadband.

strong consumer response to price increases would be needed to constrain a monopolist wholesaler of premium channels.

## Figure 10 The impact of a 10% increase in wholesale input prices

	Sky Sports Mix	Sky Movies Mix	Sky Sports and Movies
Wholesale price to VM	[×]	[×]	[×]
VM retail price - basic M	£26.00	£30.00	£37.00
VM retail price - basic L	£33.00	£33.00	£40.00
VM retail price - basic XL	£37.50	£37.50	£44.50
10% wholesale price increase	[×]	[×]	[×]
Retail price increase - basic M	[×]	[×]	[×]
Retail price increase - basic L	[×]	[×]	[×]
Retail price increase - basic XL	[×]	[×]	[×]

Source: Sky response to Ofcom's information request of 29<sup>th</sup> May 2008, Virgin Media website accessed August 2008

## **Critical loss**

- 2.21 The 'critical loss' for a monopolist wholesaler is the percentage of subscribers that would have to switch for a wholesale price increase<sup>7</sup> to be unprofitable. It depends on the variable costs that the wholesaler faces.
- 2.22 We have assumed that there are no variable costs associated with wholesaling Sky Sports Mix (as all rights are bought on a fixed fee basis) and about [≫] per sub per month of variable costs associated with wholesaling the Sky Movies channels. The table below sets out our assessment of the critical loss for wholesalers of Sky Sports, Sky Movies or Sky Sports and Movies packages.
- 2.23 The table below estimates the critical loss factors given a 10% price rise for different products wholesaled by Sky. This is the percentage loss of wholesale subscribers that would be required for a 10% wholesale price rise to be unprofitable.

<sup>&</sup>lt;sup>7</sup> Assuming the price increase was fully passed through.

## Figure 11 [≫]

	Sky Sports Mix	Sky Movies Mix	Sky Sports and Movies
Variable wholesale costs	[×]	[×]	[×]
Wholesale price	[×]	[×]	[×]
Wholesale costs as a proportion of price	[×]	[×]	[×]
Critical loss	[×]	[×]	[×]

### Consumer elasticity that would constrain a monopolist

- 2.24 Price elasticities measure the consumer response to a price increase. Where elasticity is greater than 1, a price increase of 10% will lead to a demand reduction of more than 10%; where elasticities are less than 1, a 10% price increase will lead to a demand reduction of less than 10%.
- 2.25 The retail price elasticity that is sufficient to constrain a monopolist wholesaler given a price rise depends on the 'critical loss' of subscribers and the wholesale price as a proportion of the retail price. The retail elasticity ( $\varepsilon_r$ ) that will lead to a given critical loss can be given as:

$$\varepsilon_r = \frac{CL}{S_r}$$
(3)

2.26 Given the dilution effect the impact of a wholesale price rise on the retail price is:

$$S_r = S_w * \frac{p_w}{p_r}$$
 (4)

2.27 Where  $S_r$  = retail SSNIP,  $S_w$  = wholesale SSNIP = 10%, and  $\frac{p_w}{p_r}$  is the wholesale price as a proportion of the retail price. Therefore the retail consumer price elasticity required for a critical loss given a wholesale price rise can be written as:

$$\varepsilon_r = \frac{CL}{S_w} * \frac{p_r}{p_w}$$
(5)

2.28 The table below sets out our estimates of the consumer elasticities that would be sufficient to constrain a monopolist wholesaler, give a 10% increase in the wholesale price.

# Figure 12 [≫]

	Sky Sports Mix	Sky Movies Mix	Sky Sports and Movies
VM basic M	[×]	[×]	[×]
VM basic L	[×]	[×]	[×]
VM basic XL	[×]	[×]	[×]

## Appendix 3

# Sports rights sources

3.1 In the tables below we set out our data sources for value of sports rights.

## Figure 13 Football TV rights data sources

Sport	Event	Rights holders	Total amount paid for 2008 coverage (£m)	Confidentiality	Source(s)
Football	Premier League	Sky, Setanta	569		Annex 10 of the First Pay TV Consultation
Football	Football League (including the Championship) and League (Carling) Cup	Sky, ITV	[×]	Confidential	[×]
Football	Champions League	Sky, ITV	85		Annex 10 of the First Pay TV Consultation
Football	FA Cup, England Home Internationals, The Community Shield and England U21 matches	ITV, Setanta	106		[ ➤ ] Annex 10 of the First Pay TV Consultation
Football	Euro 2008	BBC, ITV	[×]	Confidential	[×]
Football	Scottish Premier League	Setanta	[×]	Confidential	[×]
Football	Scottish & Welsh Internationals (& up to 9 live matches of the Scottish Cup)	Sky	[×]	Confidential	[×]
Football	UEFA Cup	ITV	[×]	Confidential	[×]
Football	The Conference	Setanta	[×]	Confidential	[×]
Football	Spanish League	Sky	[×]	Confidential	[×]
Football	German League	Setanta	[×]	Confidential	[×]
Football	French League	Setanta	[×]	Confidential	[×]

## Figure 14Rugby, golf, cricket, tennis TV rights data sources

Sport	Event	Rights holders	Total amount paid for 2008 coverage (£m)	Confidentiality	Source(s)
Rugby Union	Six Nations	BBC	30.00		[ X] Annex 10 of the First Pay TV Consultation
Rugby Union	Guinness Premiership	Sky	[×]	Confidential	[×]
Rugby Union	England Internationals	Sky	[×]	Confidential	[×]
Rugby Union	Heineken Cup & European Challenge Cup	Sky	[×]	Confidential	[×]
Rugby Union	Celtic Internationals	BBC	[×]	Confidential	[×]
Golf	Ryder Cup, European PGA Tour, World Golf Championship, Scottish Open, 7 Celtic events, Australasian and South African tours and senior events	Sky	[×]	Confidential	[×]
Golf	US PGA Tour	Setanta	[×]	Confidential	[×]
Golf	The Open	BBC	[×]	Confidential	[×]
Golf	The US Open	Sky	[×]	Confidential	[×]
Golf	US Masters	BBC	[×]	Confidential	[×]
Cricket	All domestic and international cricket in England & Wales	Sky	52.00		[ >> ] Annex 10 of the First Pay TV Consultation
Cricket	Indian Premier League	Setanta	[×]	Confidential	[×]
Tennis	Wimbledom	BBC	[×]	Confidential	[×]
Tennis	US Open	Sky	[×]	Confidential	[×]
Tennis	Australian Open	BBC	[×]	Confidential	[×]
Rugby League	Super League (Includes the top tier Super League, the second-tier National League, international matches and the Challenge Cup knock-out competition)	Sky / BBC	12.90		[ ≫ ] Annex 10 of the First Pay TV Consultation

## Figure 15 Other sports TV rights data sources

Sport	Event	Rights holders	Total amount paid for 2008 coverage (£m)	Confidentiality	Source(s)
Other	Grand Prix	ITV	29.00		[ >> ] Annex 10 of the First Pay TV Consultation
Other	NFL	Sky	[×]	Confidential	[×]
Other	Olympics 2008	BBC	[×]	Confidential	[×]
Other	Boxing	Various	[×]	Confidential	[×]
Other	University Boat Race	ITV	[×]	Confidential	[×]
Other	London Marathon	BBC	[×]	Confidential	[×]
Other	British Grand Prix and other top UK domestic athletic events	BBC	[×]	Confidential	[×]
Other	Horse Racing,	BBC, including Aintree (the Grand Naional), Epson (the Derby) & Haydock	[×]	Confidential	[×]
Other	Motorcycling – Moto GP	BBC	[×]	Confidential	[×]
Other	Snooker	BBC	[×]	Confidential	[×]