Pricing annex

Annex 7 to Pay TV Statement

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Annex 7

Pricing annex

Introduction and structure

1.1 This annex provides further details of various aspects of the pricing analysis. It supplements the information concerning the price terms of the wholesale must-offer obligation set out in Section 10 of the Statement. It is not intended to be a self-standing document comprehensively describing the pricing model.

1.2 The annex provides details of:

- Our responses to representations made by stakeholders on wholesale must-offer pricing terms.
- Changes made to the pricing model since the Third Pay TV Consultation, including reasons for these changes.
- The incremental price-cost calculation for Core Premium Movies channels.
- The mechanism for Sky's regulated wholesale premium channel prices to change over time.

1.3 Throughout the annex, we refer to the impact of changes to the pricing model on retail-minus and/or cost-plus charges. Where the change results in an increase or reduction in charges of no more than 10 pence per subscriber per month (less than 1%), we refer to the impact as being 'small', and state the direction of the effect. For changes of greater magnitude, we quantify the approximate impact[1]. We also show the cumulative impact of changes on retail-minus and cost-plus charges.

1.4 The annex is structured as follows:

- Section 1 provides details of our approach that are common to both the retail-minus and cost-plus calculations.
- Section 2 provides details of our approach under the retail-minus calculation. This section also provides details of the incremental price-cost calculation for Core Premium Movies channels.
- Section 3 provides details of our approach under the cost-plus calculation.
- Section 4 provides details of our mechanism for the wholesale prices for Core Premium Sports packages to change over time.

[1] Where changes are linked and it is more appropriate, we present the combined effect of certain changes. For example, we present the combined effect of updating (i) Sky's costs, and (ii) Sky's subscriber numbers for 2009/10.

Section 1 - General methodology

1.5 This section provides details of our approach that are common to both the retail-minus and cost-plus calculations. Our approach is set out in terms of the following categories:

- Subscriber volumes.
- Costs.
- Cross-promotion.
- Advertising revenues.
- Discounting.
- Capital costs.

Subscriber volumes

1.6 Actual and forecast subscriber volumes are used in both the retail-minus and cost-plus calculations:

- We have used actual subscriber numbers to allocate various categories of common costs between different parts of Sky's business. In the Third Pay TV Consultation we used 2007/08 year average subscriber numbers to do this. We have updated these subscriber numbers, and have now allocated common costs using 2008/09 year end subscriber numbers[2].
- We have also used various subscriber forecasts to calculate per subscriber costs and revenues in order to determine wholesale charges under the retail-minus and cost-plus approaches.

1.7 For the Third Pay TV Consultation, we determined total wholesale subscribers on the basis of basic-only and premium subscribers served by Sky and premium subscribers served by Virgin Media. We have now refined this calculation to include Virgin Media's basic-only subscribers[3], subscribers to Sky's basic and premium channels served by other UK cable retailers[4], and subscribers to Sky's basic channels served by Tiscali / TalkTalk TV.

1.8 Also, for the Third Pay TV Consultation, we determined Sky's retail subscribers on the basis of the total number of subscribers to Sky's retail packages on satellite, and Sky by Wire. We have now also included subscribers to the Sky Player service that do not take a satellite subscription (hereafter referred to as 'standalone Sky Player' subscribers).

1.9 Including these additional subscriber numbers in the pricing model results in a small increase in retail-minus charges and a small reduction in cost-plus charges. Below,

[2] As explained later in this annex, we now use forecast costs and revenues from Sky's budget for 2009/10. For the purpose of allocation, we use subscriber numbers for year end 2008/09 as these are the most recent available.
[3] We reflect the fact that not all Virgin Media's subscribers receive all of Sky's basic channels by including only subscribers to M+ packages and above.
[4] **[✂]**.

we set out more detail on specific subscriber volumes, in particular explaining the changes since the Third Pay TV Consultation.

Sky satellite subscriber volumes

Closing UK residential satellite subscribers for 2008/09

1.10 As explained above, we have used closing subscriber numbers for 2008/09 to allocate the majority of common costs between the different parts of Sky's business.

1.11 For the Third Pay TV Consultation, we used an analyst's estimate of 9.1m for Sky's closing UK residential satellite subscribers for June 2009. In its response[5], Sky noted that this estimate implied UK net additions of 736,000 in 2008/09, whereas actual net additions in 2008/09 across both the UK and Ireland were 426,000. We have corrected this forecast inaccuracy, and updated our model with Sky's actual closing UK residential satellite subscribers as in June 2009, and the breakdown between packages and the number of basic mixes taken at that point.

Forecast of UK residential satellite subscribers

1.12 We have forecasted Sky's UK residential satellite subscribers in order to calculate per subscriber costs in the retail-minus calculation[6]. The forecast also contributes to our total premium wholesale forecast, which is used in the cost-plus calculation.

1.13 For the Third Pay TV Consultation, our forecast of UK residential satellite subscribers was based on broker reports, with an adjustment to reflect the impact of a wholesale must-offer remedy being implemented. We also assumed that Sky's tier mix remained unchanged from September 2008. We have revised our forecast of UK residential satellite subscribers in two ways.

1.14 Firstly, we have used Sky's own forecast for closing UK residential satellite subscribers in June 2010. We asked Sky to provide subscriber numbers for 2009/10 consistent with its forecast management accounts for 2009/10 (see paragraph 1.42). In its response, Sky provided UK residential satellite subscribers, broken down by package and the number of basic mixes taken. **[✂]**. In light of this, we have used the high level forecast of total UK residential satellite subscribers for 2009/10, but have then assumed the same distribution of subscribers across packages and numbers of basic mixes as in June 2009.

1.15 We note that Sky reported in its half-year results a closing total customer base of 9.7m in December 2009[7]. **[✂]**[8].

1.16 Secondly, we have assumed lower growth in Sky's UK residential satellite subscribers over the 10 year period, compared to our forecast for the Third Pay TV Consultation. We have assumed that the number of UK residential satellite subscribers increases from **[✂]** in June 2010 to reach 9.45m after five years, which is consistent with our impact assessment. Beyond this, we assume subscriber growth of 1% each year, so that Sky has 9.9m UK residential satellite subscribers after 10 years. In the Third Pay TV Consultation, we assumed an increase of 1.9m subscribers over 10 years. We explain our forecast for Sky's subscribers in Annex 8.

[5] Sky's response to the Third Pay TV Consultation, paragraphs 7.34 to 7.36.
[6] In particular, to determine retail-minus charges at Sky's scale.
[7] Sky's interim results for the six months ended 31 December 2009.
[8] **[✂]**.

1.17 In line with our approach set out in the Third Pay TV Consultation, we have assumed that Sky's tier mix remains unchanged from June 2009 over the period modelled. In its response[9], Sky argued that this assumption combined with increasing total subscribers leads to significant increases in Sky Sports and Sky Movies subscribers over the period modelled, implying a reversal of current trends which has seen the absolute volume of these subscribers fall over time. Sky also provided analysis of trends in subscriber numbers in a later submission[10].

1.18 The annual change in Sky's premium penetration rate from year to year suggests that the decline in premium penetration may be slowing. **[✂]**. It is therefore unclear to us that the decline in premium penetration will continue in the future.

1.19 Given the observation that the rate of decline has slowed significantly, it is not clear what an appropriate assumption would be to extrapolate the trend if we were to assume a continued fall in the premium penetration rate.

1.20 In terms of the wholesale prices derived on the basis of our retail-minus calculation, the primary factor is the premium penetration rate of the hypothetical competitor. If we assume that the hypothetical competitor's premium penetration rate also declines, this has a small effect on retail-minus charges, although the direction of the effect is not uniform and depends on the scale of the decline[11]. If instead we assume that the hypothetical competitor's penetration rate remains constant, then changing Sky's premium penetration rate has a negligible effect on retail-minus charges.

1.21 In terms of wholesale prices derived using a cost-plus calculation, assuming a fall in Sky's premium penetration rate results in an increase in cost-plus charges, although the size of the increase depends again on the scale of the decline assumed. For example, a decline of half a percentage point each year results in an increase of around £0.15.

1.22 Given that it is unclear that the decline in Sky's premium penetration will continue, the uncertainty around the appropriate profile of premium penetration rate to use if a future decline was assumed, and the fact that any effect on retail-minus charges is likely to be very small, we consider that the assumption of a constant premium penetration in the future is reasonable.

Sky's Republic of Ireland residential satellite subscribers

1.23 In the Third Pay TV Consultation, we allocated common costs between the UK and Ireland using UK and Ireland residential satellite subscriber numbers in June 2008. As explained below (paragraph 1.42), we have used Sky's budgeted management accounts for 2009/10 in the pricing model. Therefore, we have also used Sky's

[9] Sky's response to the Third Pay TV Consultation, paragraphs 7.37 to 7.39.
[10] "Trends in charges for pay TV services, the quality of services provided to consumers and subscriber numbers", 25 February 2010 Sky submission.
[11] This is because assuming a declining premium penetration rate has a number of effects, working in opposite directions. For example, a declining penetration rate results in a higher per subscriber contribution to premium fixed costs (as these are now spread over a smaller subscriber base), but a lower per subscriber contribution to subscriber acquisition costs (as net additions fall by more than the decline in the premium penetration rate).

forecast of UK and Ireland residential satellite subscribers in 2009/10 (year average) to allocate common costs between the UK and Ireland[12].

Other UK retail subscriber volumes

1.24 In addition to Sky's satellite subscribers, Sky retails its premium channels on 'Sky by Wire' (through Tiscali / TalkTalk TV) and Sky Player. Sky also retails its basic channels on Sky Player. We have used their subscriber volumes to allocate a share of Sky's retail costs to Sky by Wire and standalone Sky Player accordingly. This is then excluded from the retail-minus calculation which seeks to model Sky's satellite retail activities. We have updated the number of subscribers to Sky's premium channels on Sky by Wire. As noted above, we have also included standalone Sky Player subscribers, which were not included in the pricing model for the Third Pay TV Consultation.

1.25 Sky provided standalone Sky Player subscriber numbers for the UK and Ireland. We have assumed the same proportion of UK subscribers as for Sky's satellite subscriber base.

UK wholesale subscriber volumes

1.26 UK wholesale subscriber volumes include Sky's retail subscribers (on satellite, Sky by Wire and standalone Sky Player), as well as subscribers served by other retailers (Virgin Media, other cable retailers and Tiscali / TalkTalk TV)[13]. As well as including subscriber numbers that were not used for the Third Pay TV Consultation, we have updated existing wholesale subscriber volumes for 2008/09, for the purpose of allocating costs.

1.27 For the Third Pay TV Consultation, we used a forecast of UK premium wholesale subscribers – in total, and by Core Premium package – in order to calculate cost-plus charges[14]. Premium wholesale subscriber forecasts were used to derive per subscriber wholesale costs, as well as to forecast premium sports rights costs (see paragraphs 1.198 to 1.204).

1.28 To reflect the inclusion of all relevant subscribers in the pricing model, we have now forecasted premium wholesale subscribers for each retailer, and have then combined these for the total premium wholesale market forecast. In addition, we have now included in the pricing model a forecast of total wholesale subscribers to Sky's basic channels, in order to forecast advertising and sponsorship revenues from Sky's basic channels, a component in the retail-minus calculation (see paragraphs 1.88 to 1.90).

1.29 For the period 2009/10 to 2013/14, our wholesale subscriber forecasts for Sky, Virgin Media and the total DTT subscriber base are consistent with the forecasts underlying the impact assessment. Beyond this, which extends further into the future than our impact assessment modelling, we have assumed that subscriber numbers grow in line with household growth[15]. Below, we discuss our forecast methodology for each

[12] This forecast is calculated as the average of actual year end subscribers in 2008/09, and Sky's forecast year end subscribers in 2009/10 (provided by Sky on the basis of it being consistent with Sky's budget forecast for 2009/10).
[13] On Sky by Wire, Sky retails its premium packages, whereas its basic channels are provided on a wholesale basis (and retailed by TalkTalk TV).
[14] This was made up of separate forecasts for Sky and Virgin Media, with the remainder representing other retailers' subscribers (including new competitor's subscribers).
[15] We have assumed household growth of 1% each year. **[✂]**.

retailer in more detail. Our forecast for Sky's UK residential satellite subscribers is discussed in paragraph 1.16.

Other Sky retail subscribers

1.30 Premium and basic-only subscribers to standalone Sky Player are assumed to grow in line with Sky's UK residential satellite subscribers[16]. We have assumed the breakdown of subscribers (between basic-only and premium, and between premium packages) remains the same over the 10 year period[17].

1.31 Sky by Wire premium subscribers are also assumed to grow at the same rate as Sky's UK residential satellite subscribers. We have assumed the breakdown of subscribers between premium packages remains the same as in June 2008/09.

Virgin Media subscribers

1.32 For the Third Pay TV Consultation, we assumed that the number of Virgin Media premium subscribers declined over time. We have now revised our assumption so that Virgin Media's subscribers increase over time, in a manner which is consistent with the forecast underlying the impact assessment modelling. This results in an increase in cost-plus charges by around £0.35. The reason for revising our assumption underlying the impact assessment is that Virgin Media will have a greater incentive to market Sky's premium channels in the presence of a wholesale must-offer remedy. We have reflected this change in the pricing model to ensure consistency[18].

1.33 Consistent with our approach for the Third Pay TV Consultation, we have assumed the breakdown of Virgin Media's premium subscribers between different premium packages over the 10 year modelled period remains the same as in June 2008/09.

1.34 In order to forecast basic advertising and sponsorship revenues, we estimate the number of subscribers to Sky's basic channels. However, not all Virgin Media subscribers receive all of Sky's basic channels. All subscribers (M and above) receive Sky News, Sky Sports News and Sky 3. However, only Starter (now M+), L and XL customers receive Sky 1, Sky 2; and only XL customers receive Sky Arts and Sky Real Lives. We have reflected this by including only subscribers to M+ packages and above. We have assumed that the proportion of subscribers that take M+ packages and above over the 10 year period is the same as in June 2008/09.

Other wholesale subscribers

1.35 We have assumed that other wholesale subscribers (i.e. subscribers served by other cable retailers and Sky by Wire basic subscribers) grow in line with Virgin Media. Similar to our other subscriber forecasts, we have assumed the breakdown of subscribers remains the same as in June 2008/09.

[16] While we recognise that it could be argued that subscribers to standalone Sky Player could be expected to grow faster than Sky's satellite subscriber base, given that Sky Player subscribers do not affect charges materially, we consider that our assumption is reasonable.
[17] We use closing subscriber numbers in October 2009 as the base for the standalone Sky Player forecast.
[18] In its response, Sky noted that there was "considerable divergence" in our subscriber forecasts between the impact assessment and the pricing model (Sky's response to the Third Pay TV Consultation, paragraphs 11.49 to 11.50).

Subscribers on DTT

1.36 We have included subscribers on DTT in our wholesale subscriber forecasts. These are subscribers served by new competitors as well as Sky's own DTT subscribers (for example, following the launch of Picnic). We have assumed that there are 3m of these subscribers after 10 years, growing in line with Picnic's growth profile (see paragraph 10.176 of the main document). We have also assumed the breakdown of subscribers between basic and premium packages is the same as for Sky's UK residential satellite subscribers.

1.37 For our basic wholesale subscriber forecast, which we have used to forecast advertising and sponsorship revenues from Sky's basic channels, we have included only Picnic's basic subscriber numbers. This is because we have assumed that new competitors on DTT will not carry Sky's basic channels. Our specific Picnic subscriber forecast is consistent with the impact assessment modelling for the first five years, after which we assume subscribers grow in line with household growth.

Sky free-to-air satellite households

1.38 For the Third Pay TV Consultation, the retail-minus and cost-plus charges were calculated on the basis of Sky's UK residential satellite costs and revenues. We therefore allocated a proportion of costs allocated to Sky's platform function to free-to-air satellite households on Sky's platform (and excluded these costs from the retail-minus calculation). These are households that use a Sky set-top box, but do not take a subscription from Sky[19].

1.39 There is limited information on the number of free-to-air satellite households on Sky's platform. For the Third Pay TV Consultation, we used an estimate of total free-to-air satellite households from Ofcom's Digital Television Update. We have updated this figure using the March 2008 estimate (from the same source[20]). This represents the most recent estimate prior to the launch of PSB Freesat (May 2008). We recognise that there have been other free-to-air satellite services prior to this, but note that the large majority of free-to-air satellite households have been on Sky's platform. This update has a negligible effect on retail-minus charges.

Multiroom subscriptions

1.40 As explained in paragraph 10.87 of the main document, we have now included Multiroom costs and revenues in the retail-minus calculation. In order to forecast Multiroom revenues, we have used a forecast for the number of UK Multiroom subscriptions over the 10 year period. We have used Sky's own forecast for the number of UK Multiroom subscriptions in June 2010, as this is consistent with the cost data used in the model. For future years, we have based our forecast on a recent analyst's forecast[21].

[19] These include households that have churned from Sky's pay services but have retained their satellite equipment so that they can continue to receive free-to-view channels; and users of Sky's own non-subscription services including 'Freesat from Sky' and 'Sky Pay Once'.
[20] Ofcom Digital Television Update, Q3 2008 (http://www.ofcom.org.uk/research/tv/reports/dtv/dtu_2008_03/q3_2008.pdf).
[21] JP Morgan forecast of Multiroom penetration 2010/11-2011/12 (JP Morgan report on BSkyB, 1 February 2010). Ofcom forecast thereafter.

Costs

1.41 As explained in paragraphs 10.60 and 10.195 of the main document, we have used Sky's own costs as the basis for our retail-minus and cost-plus calculations.

Source of cost data

1.42 For the Third Pay TV Consultation, we used Sky's management accounts for 2007/08 as the main source of costs for the retail-minus and cost-plus calculations[22]. We have updated this with Sky's most recent forecast of its budget for 2009/10, as agreed by Sky's Board. The budget is provided to a similar level of detail to the 2007/08 management accounts, and represents the best estimate of what Sky's costs and revenues will be in 2009/10[23].

Categorisation and allocation of costs

1.43 Sky provided us with its forecast TV-related costs and revenues from its budget for 2009/10. These relate to the UK and Ireland, residential and commercial, and SD and HD services. Our calculation of retail-minus and cost-plus charges is based on UK residential SD costs only[24].

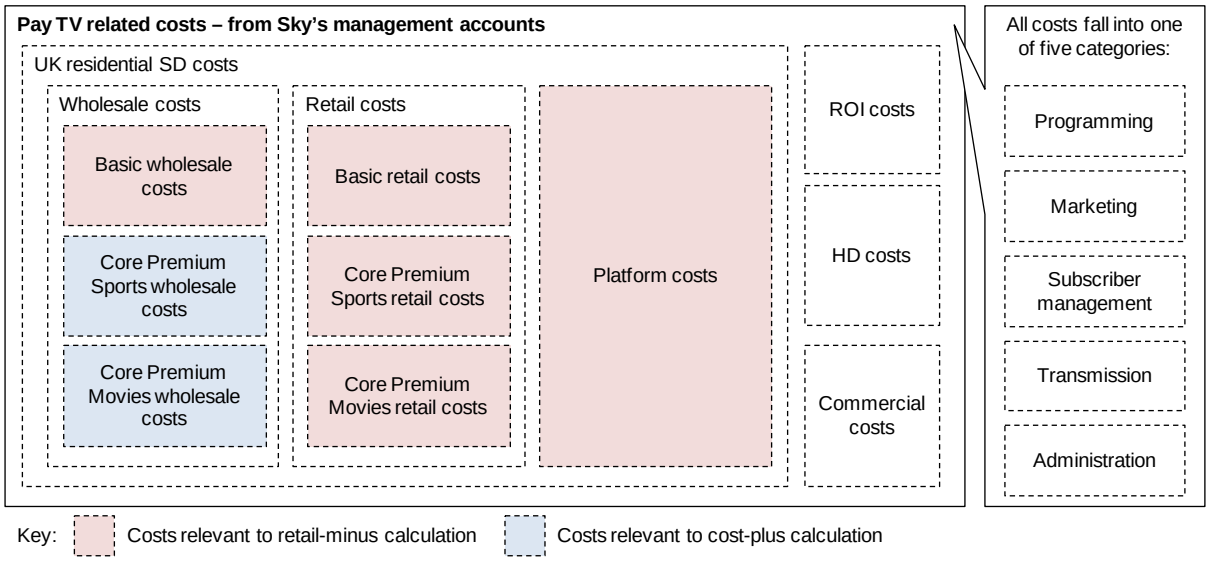
1.44 Sky's budgeted management accounts relate to its wholesale, retail, and platform functions. We have allocated costs across these functions, as well as to further sub-divisions. At a high level, the allocation of costs to Sky's retail function and basic channel wholesale function is relevant for the retail-minus calculation, and the allocation to Sky's wholesale channel function is relevant to our cost-plus calculation[25].

1.45 In its management accounts, Sky categorises its costs into five main categories. A description of these costs, and the way in which they contribute to the retail-minus and cost-plus calculations is discussed in Sections 2 and 3 of this annex (see paragraphs 1.146 and 1.197).

1.46 The different parts of Sky's business to which we allocate costs are shown in Figure 1. The methodology we have used to allocate common costs is discussed in more detail below.

[22] We have also used a number of additional data sources, which are discussed later in this annex.
[23] For the Third Pay TV Consultation, Sky provided a further breakdown of certain lines in its management accounts for 2007/08. In response to an informal information request, Sky provided this breakdown in relation to its 2008/09 management accounts. As we have used Sky's budgeted management accounts for 2009/10, we have estimated the breakdown of these lines by applying the 2008/09 proportions. **[✂]**.
[24] We allocate costs between UK and Ireland, residential and commercial, and SD and HD. This is discussed below.
[25] In its response, Sky said that allocating the costs and revenues associated with Sky's basic wholesale channel business is "nonsensical" in models of notional DTT-based retail businesses (see Sky's response to the Third Pay TV Consultation, paragraphs 10.97 to 10.98). While we recognise that a DTT retailer would be unlikely to offer the full suite of Sky's basic channels in reality, the purpose of modelling a hypothetical efficient competitor is to derive a margin for a competitor as efficient as Sky, but at smaller scale, and in this context we believe that it is appropriate to include the cost per subscriber for the full suite of channels in the competitor's retail cost allowance. This principle also applies in relation to platform costs.

Figure 1: Categorisation and allocation of costs



UK and Ireland subscribers

1.47 Sky's management accounts relate to both UK and Ireland. We have allocated common costs based on the number of satellite customers served by Sky in each of the two countries.

1.48 In its response[26], the Premier League argued that allocating costs between the UK and Ireland on the basis of subscriber numbers is inappropriate for allocating the cost of Premier League and other UK sports rights which have greater appeal to a UK audience. As our allocation is based on subscriber numbers, we would expect this to reflect any difference in the appeal of Sky's channels between audiences in the UK and Ireland. For a customer in Ireland who subscribes to Sky Sports, we do not see any particular reason to suggest that the content is any less appealing than to customers subscribing in the UK.

Residential and commercial subscribers

1.49 For each cost, we have attempted to identify whether the cost is incurred in relation to residential subscribers, commercial subscribers, or both.

1.50 We have allocated most costs which are common to residential and commercial subscribers on the basis of revenue (rather than on the basis of subscribers), acknowledging that one individual commercial subscriber has a much higher value than a residential subscriber.

1.51 For the Third Pay TV Consultation, we calculated the share of revenues derived from residential subscribers using information provided by Sky on total UK commercial revenue, and average revenue per user from UK residential subscribers. As part of the process of updating the model, we have updated our calculation of the share of revenues derived from residential subscribers. We have used forecast residential and commercial satellite revenues from Sky's budgeted management accounts for 2009/10 to calculate this[27].

[26] Premier League's response to the Third Pay TV Consultation, Annex 2, question 20.
[27] **[✂]**.

1.52 For premium movies costs, we have allocated costs which are common to residential and commercial on the basis of subscribers. This is because when premium movies packages are taken as part of a commercial subscription, they are restricted to residential viewing only. Therefore, a commercial subscriber to movies channels does not differ materially from a residential subscriber.

1.53 In its response[28], the Premier League argued that allocating costs between commercial and residential customers according to revenue is inappropriate for costs that are related to the number of connections. We recognise that a more detailed, granular approach to cost allocation might allocate some costs on a subscriber basis as well as allocating costs on a revenue basis. However, allocating each cost line individually would require extremely detailed information which we do not have. We therefore consider that our approach is appropriate, given the available information. We note that our method of allocating on the basis of revenues results in a lower allocation of costs to residential, which results in higher retail-minus charges, than one based on subscriber numbers.

SD and HD services

1.54 For each cost, we have attempted to identify whether the cost is relevant to SD services, HD services, or both. We have allocated common costs on the basis of Sky's revenue from SD and HD services respectively, consistent with the approach adopted for the Third Pay TV Consultation.

Wholesale, retail and platform

1.55 For each cost, we have attempted to identify whether the cost is related to Sky's wholesale, retail or platform activities, or is common between two or more of these functions.

1.56 We have allocated common costs based on the number of UK customers served by each function:

- For wholesale, this is the total number of subscribers to Sky's channels served by Sky and other retailers (see paragraph 1.7).
- For retail, this is the total number of subscribers to Sky's retail packages (see paragraph 1.8).
- For platform, this is the total number of customers on Sky's satellite platform.

1.57 For example, for some cost lines, marketing expenditure is treated as a common cost across different parts of Sky's functions. If an individual expense primarily benefits Sky's retail business, it is appropriate that this cost is allocated entirely to the retail business. However, if the expense promotes Sky's brand more generally, including the Sky Sports and Sky Movies brands, this can in part be expected to benefit all retailers of Sky's premium channels. In this case we would allocate a portion of costs to Sky's wholesale business in the way described in the previous paragraph, for recovery through wholesale charges for premium channels.

[28] Premier League's response to the Third Pay TV Consultation, Annex 2, question 20.

Basic and premium packages

1.58 Retail and wholesale costs support basic and premium package elements. For example, some retail costs support only basic (e.g. third party programming costs), some support only premium, and some support basic and premium (e.g. general marketing costs). Similarly, some wholesale costs support only basic (e.g. Sky One programming costs), some support only premium (e.g. sports rights costs), whereas some support basic and premium (e.g. technical operations costs).

1.59 For the Third Pay TV Consultation, we allocated costs which are common between basic and premium package elements on the basis of 'subscriber product units'. As explained in paragraph 9.101 of the Third Pay TV Consultation, this was a pragmatic approach to allocating on the basis of value, where a subscriber taking only 'basic' is measured as one unit and a subscriber taking 'basic + premium' is measured as two units.

1.60 Only one respondent commented specifically on our subscriber product units approach. The Premier League[29] argued that in allocating twice the amount of common costs to premium package subscribers as to basic package subscribers, we were not factoring in a discount for bulk purchasing. The Premier League also commented that the approach is "entirely arbitrary".

1.61 In response, we have looked again at our approach to allocating retail costs identified as being common between basic and premium packages. For the reasons given below, we have decided to maintain our allocation approach based on 'subscriber product units' as a measure of value. A basic package element is measured as one unit and a premium package element is measured as one unit. Therefore, a 'basic only' subscriber is measured as one unit, whereas a 'basic + premium' subscriber is measured as two units[30]. A 'basic + premium' subscriber is therefore allocated twice as much common cost as a 'basic only' subscriber[31].

1.62 We note that there is no uniquely correct way to determine common cost allocations. However, we consider that the method we have followed is an appropriate way of allocating common retail costs. In arriving at this view we have considered the alternative methods of allocating costs purely on the basis of subscriber numbers, or purely on the basis of revenue.

- Allocating on the basis of subscriber numbers would tend to under-allocate costs to premium subscribers, resulting in retail-minus charges that are too high. For example, marketing costs are likely to be disproportionately targeted at premium customers, given the higher likely return on marketing expenditure. Other costs may at least at first glance seem better suited to allocations by subscriber numbers – subscriber management, for example. However, even in this example we might expect some greater effort to be spent on higher-value subscribers, making the correlation less clear.

- Allocating on the basis of revenues may be more appropriate as it reflects the higher value of premium subscribers in a way that subscriber numbers do not. However, it remains the case that some costs are likely to be targeted equally at premium and basic-only customers. For example, certain subscriber

[29] Premier League's response to the Third Pay TV Consultation, Annex 2, question 20.
[30] When allocating retail costs, we have used Sky's UK residential retail subscriber numbers.
[31] In addition, we have corrected an error in the model used for the Third Pay TV Consultation with respect to the calculation to allocate retail and wholesale costs using subscriber product units.

management costs such as billing are unlikely to be any higher for a premium subscriber than they are for a basic-only subscriber.

1.63 On balance, we believe that an allocation on the basis of revenues rather than subscribers is likely to be more appropriate as a measure of value. Our subscriber product units approach is a pragmatic approach which reflects the relative value of premium and basic-only subscribers, and is roughly comparable to an approach based on revenues[32]. While it might be argued that we should allocate costs differently for each individual cost category or cost item, the lack of clear correlation between particular cost categories and appropriate methods of allocation makes a more granular approach questionable in practice. We therefore consider that the approach is appropriate in these circumstances.

1.64 Having reviewed the allocation of *retail* costs between basic and premium packages, we have also reconsidered the allocation of *wholesale* costs between basic and premium packages. At the retail level the use of 'subscriber product units' reflects allocation on the basis of value and is roughly comparable to one based on revenues. At the wholesale level it is unclear that this approach is appropriate; for example, an allocation on the basis of value, and hence wholesale revenues, would be problematic given the overall objective is to determine wholesale charges. A further distinction is that, at the retail level, we are allocating costs between premium and basic-only subscribers, whereas at the wholesale level we are allocating costs between basic package elements (relevant to retail-minus) and premium package elements (relevant to cost-plus). For the reasons set out below, we have now allocated wholesale costs identified as being common between basic and premium packages on the basis of wholesale subscribers[33]. Costs are allocated between basic, premium sports and premium movies on the basis of the number of wholesale subscribers to that package element.

1.65 We have considered a number of alternatives for allocating wholesale costs between basic and premium packages:

- Allocating on the basis of direct costs. We recognise that the direct costs are heavily dominated by rights costs, and therefore this approach is likely to over-allocate costs to premium package elements. Although we think it is appropriate that a greater proportion of the common cost should be allocated to premium package elements, the allocation is unlikely to be as extreme as that implied under this approach.

- Allocating on the basis of the number of channels. We note that this approach does not capture differences in the value of the channel. For example, we might expect a greater proportion of certain costs to be relevant to Sky Sports channels than would be implied by the number of Sky Sports channels. On the other hand, we would not expect the relatively high number of movies channels to be reflective of their true share of production costs (for example), given the nature of the content on these channels.

- Allocating on the basis of the number of subscribers. Given that the objective is to allocate costs between basic package elements and premium package elements, it is important to define a subscriber carefully in this context. One approach would

[32] In comparison to an allocation based on revenues, our subscriber product units approach results in a slightly lower allocation of costs to premium.
[33] When allocating wholesale costs, we have used Sky's UK residential wholesale subscriber numbers.

be to allocate costs on the basis of the total number of wholesale basic subscribers, and the total number of wholesale premium subscribers. However, this approach fails to take account of the fact that wholesale costs of a package containing premium sports and premium movies package elements are likely to be higher than the wholesale costs of a package containing only sports or movies elements. An alternative approach would be to allocate between basic, premium sports and premium movies on the basis of the number of wholesale subscribers to that package element.

1.66 We recognise that there is no uniquely correct way to determine common cost allocations. We have discounted allocating on the basis of direct costs given we consider the results would be distorted by the very significant rights costs. We have also discounted allocating on the basis of the number of channels for the reasons given above – it is likely to result in too small an allocation to sports elements. Of the two approaches to allocating on the basis of subscriber numbers, as noted above, simply identifying the total number of wholesale premium subscribers risks over-allocating costs to basic package elements, and under-allocating to premium package elements, which would result in lower retail-minus charges and lower cost-plus charges. We have therefore decided to adopt the approach of allocating between basic, premium sports and premium movies on the basis of the number of wholesale subscribers to that package element. We consider that this approach is appropriate in these circumstances.

1.67 The net effect of amending our allocation of common costs between basic and premium is negligible for Core Premium Sports packages. This takes account of the correction noted in paragraph 1.61 and the change in our approach to allocating wholesale costs.

Premium sports and premium movies

1.68 We have allocated the resulting premium costs to premium sports or premium movies, or both.

1.69 Consistent with our approach for the Third Pay TV Consultation, and our discussion above, we have allocated costs that are common between sports and movies on the basis of the total number of subscribers taking each product. We have used retail subscriber numbers for allocating retail premium costs, and wholesale subscriber numbers for allocating wholesale premium costs.

1.70 Where a cost is captured by more than one of the above allocations, we have allocated costs in the order set out above. For example, for a marketing cost that relates to commercial and residential customers in both the UK and Ireland, we first allocate between the UK and Ireland on the basis of subscribers. We then allocate the UK cost between commercial and residential customers on the basis of revenues. However, in general, the order in which we have allocated costs does not affect the results[34].

Changes to allocations from the Third Pay TV Consultation

1.71 As noted above, we have used Sky's budgeted management accounts for 2009/10. Therefore, we have categorised and allocated new cost lines that did not appear in

[34] In its response, the Premier League noted that we did not set out in the Third Pay TV Consultation how we treat costs captured by more than one of the allocation "rules" (see Premier League's response to the Third Pay TV Consultation, Annex 2, question 20).

the 2008/09 accounts. Where necessary, we sought and received further information from Sky on the nature of certain activities. We have also corrected the categorisation of a number of cost lines that we have identified as having previously been categorised incorrectly.

1.72 Both Sky and the Premier League made some general comments on cost allocation which are discussed in paragraphs 10.121 to 10.128 in the main document. Sky also reviewed our allocations of costs and made some specific comments in relation to our categorisation and allocation of certain cost lines. These are dealt with below.

Sky Networks' marketing

1.73 We categorised the line containing 'Sky Networks' marketing costs' as common across wholesale, retail and platform. In its response[35], Sky argued that this should be treated as a wholesale cost, as "it is marketing spend that is solely deployed to promote Sky's channels". Sky also provided examples of the types of marketing to which these costs relate. We have considered Sky's argument and on the basis of the examples provided, consider that these marketing costs relate to wholesale and retail, but not platform. For example, where an advert for Sky Sports contains a call to action (such as the text "sky.com/join", or "Call <telephone number>"), we consider that at least part of its cost should be allocated to retail. We have therefore categorised the 'Sky Networks' marketing costs' line as common across wholesale and retail. This results in a negligible increase in both the retail-minus and cost-plus charges.

Advertising sales department

1.74 We categorised the direct costs of operating Sky's advertising sales department ('Sky Media') as a non-TV cost, and so it was excluded from our model. In its response[36], Sky argued that this is clearly a cost of wholesale, and so should be included in the model. As the costs of Sky Media relate to the sale of advertising airtime on TV channels, we agree with Sky and have now included the costs of Sky Media as wholesale costs. This results in a small reduction in retail-minus charges (due to the increase in basic wholesale costs) and a small increase in cost-plus charges (due to the increase in premium wholesale costs).

Technical operations

1.75 In its response[37], Sky suggested a means of allocating wholesale technical operations costs to basic, premium sports and premium movies. This allocation was based on usage of technical facilities by different categories of channel. We have accepted Sky's suggestion, agreeing with its argument that this allocation reflects underlying drivers of costs, and allocated wholesale technical operations costs using the proportions Sky provided. Allocating wholesale technical operations costs in this way results in a small increase in retail-minus charges and an increase in cost-plus charges of around £0.20.

[35] Sky's response to the Third Pay TV Consultation, paragraphs 7.71 to 7.74.
[36] Sky's response to the Third Pay TV Consultation, paragraphs 7.40 to 7.41.
[37] Sky's response to the Third Pay TV Consultation, paragraphs 7.75 to 7.77.

Cross-promotion

1.76 In its response[38], Sky argued that we had failed to recognise the value of cross-promotional airtime between channels. This is the value of airtime on Sky's basic channels used to promote either Sky's premium movies or premium sports channels, and vice versa. Sky argued that if Sky's premium and basic channels traded with each other on an arm's-length basis then Sky's premium channels would expect to pay for promotion on Sky's basic channels and similarly Sky's premium channels would expect to be paid for promoting Sky's basic channels.

1.77 Sky informed us that in 2008/09 the cost of airtime used to promote Sky's premium channels on its basic channels was £**[✂]**, and the revenues earned by Sky's premium channels for cross-promoting Sky's basic channels were £**[✂]**.We asked Sky to explain its methodology for arriving at these estimates. Sky explained that they calculated the cost and revenues relating to cross-promotion by multiplying the number of Television Ratings ('TVRs') used for cross-promotion by an estimate of the average value of Sky's airtime per TVR over the year[39].

1.78 We have considered Sky's argument and agree that it is reasonable to include the value of cross-promotional airtime between channels. However, as well as including the cost and revenues in relation to Sky's premium channels, we have also included estimates of the notional costs and revenues in relation to Sky's basic channels. These are simply the reverse: in 2008/09 the cost of airtime used to promote Sky's basic channels on its premium channels was £**[✂]**, and the revenues earned by Sky's basic channels for cross-promoting its premium channels were £**[✂]**. **[✂]**.

1.79 However, we do not consider the value of cross-promotional airtime to be as high as Sky suggests. The actual value of airtime needs to be understood in the context of current restrictions governing the use of airtime. There are limits on the amount of advertising that can be shown in a given hour, and over the day[40]. In general, programme lengths combined with maximum advertising minutage typically do not fill an hour of airtime. Therefore, broadcasters are often left with remaining airtime between advertising and programmes, which they use for self-promotion (promotions for programmes on the same channel) and cross-promotion[41]. The opportunity cost of such airtime is therefore unlikely to be as high as the average value of Sky's airtime per TVR over the year. We have sought to reflect this by discounting Sky's estimates by 50%[42], such that the net transfer of costs from wholesale basic to wholesale premium is £**[✂]**[43].

1.80 We include the net costs relating to cross-promotion as a marketing operating cost in 2009/10[44]. These are then treated in the same way as other marketing operating costs. Including cross-promotion results in a small increase in both retail-minus charges and cost-plus charges.

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[38] Sky's response to the Third Pay TV Consultation, paragraphs 7.91 to 7.94.
[39] A TVR comprises one percent of a target audience. We note that these estimates do not include revenues earned from the cross promotion of other Sky products and services.
[40] Cross-promotions are not considered as advertising and therefore are not included in the calculation of advertising minutage. Ofcom Broadcasting Code (incorporating the Cross-promotion Code).
[41] Review of the cross-promotion rules, 9 May 2006, Ofcom.
[42] Although we have no specific basis for this figure, we note that cross promotion is only a small component in both the retail-minus and cost-plus calculations.
[43] **[✂]** (subject to rounding).
[44] Sky provided estimates for 2008/09, which we have inflated to 2009/10 values.

Advertising revenues

Forecast of revenues

1.81 We included advertising and sponsorship revenues in both the retail-minus and cost-plus calculations. Advertising and sponsorship revenues from Sky's basic channels are included in the retail-minus calculation, while advertising and sponsorship revenues from its premium channels are included in the cost-plus calculation.

1.82 Although Sky's management accounts provide advertising and sponsorship revenues separately, they do not separate out revenues from basic and premium channels.

1.83 For the Third Pay TV Consultation, we used Sky's annual returns data, which provides a breakdown of its advertising and sponsorship revenues by channel, to estimate advertising and sponsorship revenues for 2007/08 for basic and premium channels separately[45]. In order to forecast advertising and sponsorship revenues for the period modelled, we assumed 2007/08 revenues increased with inflation.

1.84 In its response[46], Sky pointed out that, in light of the advertising downturn, to assume that Sky's retained advertising revenues effectively remained the same between 2007/08 and 2009/10 is clearly incorrect. Sky also noted that total advertising revenue in 2008/09 was 6% lower than in 2007/08 (despite Sky's basic channels becoming available again in Virgin Media homes), and that the outlook for 2009/10 was also challenging.

1.85 In a separate submission to Ofcom[47], Sky argued that our use of its annual returns in the pricing model was inappropriate, for two reasons. Firstly, returns to Ofcom for the purposes of calculating Ofcom's licence fees are provided on a calendar year basis, whereas the pricing model is specified on the basis of Sky's financial year. Given that we have disaggregated revenue data on a financial year basis from Sky's management accounts, Sky argued that this approximation relying on Sky's returns data is unnecessary. Secondly, the advertising revenues provided to Ofcom in its annual returns are too high for the purposes of our pricing model. Not only **[✂]**[48], but they also include advertising revenues earned on versions of Sky's channels supplied to commercial premises. Sky argued that we should use the advertising and sponsorship revenues as reported in its management accounts.

1.86 We have considered Sky's arguments and have accordingly changed our approach to quantifying total advertising and sponsorship revenues. We consider that Sky's forecast is more accurate and have now used Sky's forecast for advertising and sponsorship revenues in 2009/10 from its budgeted management accounts as our starting point.

1.87 We also accept Sky's arguments that the revenues reported in its annual returns are not appropriate for our pricing model. As mentioned above, we have now used the 2009/10 forecast figures reported in Sky's budgeted management accounts[49].

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[45] Annual returns data is provided on a calendar year basis. We used returns for 2007 and 2008, and made an adjustment to account for the fact that Sky's basic channels were not available to Virgin Media subscribers for the whole of the period.
[46] Sky's response to the Third Pay TV Consultation, paragraphs 7.42 to 7.47.
[47] Sky's response dated 22 January 2010 to an informal information request dated 13 January 2010
[48] **[✂]**.
[49] For advertising revenues, we have used the line 'Advertising (spot)', which does not include revenues related to Ireland or the versions of Sky's channels supplied to commercial premises. For sponsorship revenues, we have used the line 'Sponsorship', which does include revenues related to

However, as noted above, Sky's management accounts do not provide revenues from basic and premium channels separately. Therefore, we have used the breakdown by channel in Sky's annual returns for 2008, as a means of estimating the breakdown of the 2009/10 figures from Sky's management accounts. Following our approach for the Third Pay TV Consultation, we have estimated what 2008 revenues would have been if cable had been carrying these channels for the whole year, before calculating the proportions that we apply to the 2009/10 figures.

1.88 For the Third Pay TV Consultation, we assumed that advertising and sponsorship revenues increased with inflation over the modelled period. We have refined this forecast so that these revenues increase with inflation on a per subscriber basis.

1.89 In response to Sky's concern about our forecast methodology for advertising, we think it would be disproportionate to attempt to forecast each category in detail, and would risk spurious accuracy. Therefore, we have used a broad inflation forecast for all such categories, as it would be inconsistent to specifically forecast some categories and not others. Furthermore, in practice, we think Sky's concern is somewhat ameliorated by the fact that we start from advertising revenues in 2009/10. Indeed, there is some evidence that the recovery in advertising revenues has started, with ITV reporting that its advertising revenues were up 7% in the first quarter of this year[50].

1.90 We consider it appropriate to scale total advertising revenues with subscriber numbers, given that advertising revenues are generated by the number of 'impacts'. If more people have access to a channel, then more are likely to be watching, and so advertising revenues will be higher. Scaling total advertising revenues by subscribers results in an increase in retail-minus charges of around £0.20, and a reduction in cost-plus charges of around £0.20.

Allocation of revenues between SD and HD

1.91 We have revised our calculation to ensure that advertising and sponsorship revenues are allocated appropriately to HD versions of channels. Our approach for both the retail-minus and cost-plus calculations has been to exclude the costs and revenues of HD channels. Therefore, for channels that have an HD version, we have allocated advertising and sponsorship revenues between SD and HD on the basis of Sky's revenue from SD and HD services respectively.

Discounting

1.92 As explained in the Third Pay TV Consultation, we derived wholesale charges considering a 10 year period with terminal value. As part of our retail-minus calculation we discounted per-subscriber cashflows, including a terminal value, using a rate set equal to an estimate of Sky's cost of capital. Similarly, in our cost-plus calculation, we discounted per subscriber wholesale costs over the modelled period using the same discount rate.

1.93 We have refined our calculation to ensure that cashflows are discounted back to the right point in time. For the Third Pay TV Consultation, we discounted cashflows back

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Ireland and versions of channels supplied to commercial premises. We allocate sponsorship revenues between UK and Ireland, and residential and commercial, in the same way we allocate common costs (see paragraphs 1.47 and 1.50).

[50] ITV plc news release dated 3 March 2010 in relation to its preliminary results for year ended 31 December 2009.

to start of year 1. Our approach to discounting was also based on the assumption that cashflows occur at the end of a year. As cashflows are likely to occur throughout the year, we think it is more accurate to model cashflows occurring in the middle of a year (on average). We also consider it more appropriate to discount cashflows to the middle of year 1, because we are calculating wholesale charges that will apply for the whole year. Therefore, we have changed our approach accordingly although in practice this has no effect on the resulting retail-minus or cost-plus charges.

1.94 We have updated the calculation to estimate Sky's WACC, derived using the capital asset pricing model (CAPM) approach. This results in a WACC of 10.3%, which is the same as that used in the Third Pay TV Consultation (see Appendix 1 of Annex 3).

Capital costs

1.95 For the Third Pay TV Consultation, we included ongoing capital expenditure requirements in both the retail-minus and cost-plus calculations[51].

- In the retail-minus calculation, we included an allowance for the competitor to build up an asset base over the 10 year period in proportion to Sky's basic wholesale and retail asset base. The cash required to build up this asset base is hereafter referred to as "growth capital employed". We also included the ongoing replacement capital expenditure related to these assets[52].

- In the cost-plus calculation, we treated the opening premium wholesale asset value as a cost incurred in the first year. We also included the ongoing capital expenditure related to the premium wholesale assets required in each year.

1.96 In its response[53], Sky described the calculation of capital expenditure as "very complex, hard to follow and seriously flawed". We have therefore reviewed the calculation and refined it in a number of ways. We have also corrected for errors, and updated the calculation with the most recent data available to us. We present the combined effect of these changes below in paragraph 1.110.

2009/10 capital costs

1.97 For the Third Pay TV Consultation, the calculation of capital costs in the retail-minus and cost-plus calculations was based on forecasts of Sky's capital employed and depreciation in 2009/10, which were based on a number of analysts' forecasts. In its response[54], Sky suggested that we should have used the breakdown of Sky's actual capital expenditure for 2007/08 which it provided to Ofcom in response to an information request. In a separate submission to Ofcom, Sky provided a similar breakdown of (forecast) capital expenditure breakdown for 2009/10.

1.98 Sky's current capital expenditure relates to investments that it has made at its current scale, which does not necessarily represent the volume or type of investments that a hypothetical new entrant would have to make during its growth phase. To take account of this, we have used Sky's existing asset base (which it has built up during

[51] We would expect a competitor to incur capital expenditure as well as operating expenditure. These are treated the same way in our modelling.
[52] We have used depreciation as a proxy for replacement capital expenditure. Sky made the same assumption in its response, and noted that although capital expenditure may not equal depreciation in a given year, it is likely to be correct in the long term (see Sky's response to the Third Pay TV Consultation, Section 7, footnote 27).
[53] Sky's response to the Third Pay TV Consultation, paragraph 7.83.
[54] Sky's response to the Third Pay TV Consultation, paragraphs 7.85 to 7.90.

its expansion) to derive a capital expenditure allowance for the hypothetical entrant. In the context of considering a competitor as efficient as Sky, but at smaller scale, this approach more closely reflects the investments required during development, and will allow the hypothetical entrant to build up an asset base equivalent to Sky's.

1.99 Sky noted in any case that we should be using an updated broker forecast for Sky's capital expenditure. Using a more recent analyst's forecast, we have updated the forecasts of Sky's capital employed and depreciation in 2009/10 used in the pricing model[55].

1.100 Sky[56] also argued that our calculation "entirely ignored" Sky's investment in a new production facility. Sky explained that it had already spent £34m and £92m on this project in 2007/08 and 2008/09 respectively, and suggested that at least a further £50m per annum would be spent over the next two years (2009/10 and 2010/11). We would expect our forecast of Sky's capital employed at year end 2009/10 to reflect the investment in Sky's new production facility to June 2010 (i.e. £176m). We also include in our calculation growth capital employed for Sky's wholesale business, which amounts to over £50m in the next five years. We consider that this should capture any remaining relevant capital expenditure in the new production facility.

1.101 Sky also noted in its response[57] that in our estimate of the opening asset base for premium wholesale, we had not included the contractual obligations intangible asset which Oxera had allocated to wholesale. Oxera included contractual obligations in its estimate of Sky's wholesale asset base which represent the present value of rights payments due in the next year. We believe this treatment by Oxera was conservative, increasing the size of Sky's asset base and therefore reducing the likelihood of finding high levels of profitability. However, for our pricing analysis, the costs for rights which Sky will purchase in the next year are fully captured in the cashflows we model for that period and therefore we consider that this conservative treatment would overstate Sky's asset base and result in cost-plus charges which are too high.

Allocation of capital costs

1.102 For the Third Pay TV Consultation, we allocated Sky's 2009/10 forecast TV-related capital costs between wholesale and retail using Oxera's allocations. We have updated Oxera's 2007/08 analysis to calculate the allocation proportions between retail and wholesale for 2008/09. We note that this update has no material effect on the resulting wholesale charges.

1.103 After allocating between retail and wholesale, we further allocated capital costs between business functions - and therefore subscription packages - in proportion to other operating costs. For the Third Pay TV Consultation, premium wholesale capital costs were allocated using our forecasts of Sky's operating costs in each year, and basic wholesale and retail capital costs were allocated using our forecast of the hypothetical entrant's operating costs in each year. As a result of our review of this calculation in response to Sky's general comments, we have refined our approach and now allocate all capital costs in 2009/10 using Sky's operating costs in 2009/10, rather than allocating some of Sky's asset base with reference to the hypothetical

[55] Forecast for Sky's fixed and current assets, current liabilities and depreciation from a JP Morgan report on BSkyB, 1 February 2010.
[56] Sky's response to the Third Pay TV Consultation, paragraph 7.84.
[57] Sky's response to the Third Pay TV Consultation, paragraph 7.28.

competitor's costs. Capital costs are then forecast forward on the basis of this allocation.

1.104 We have also identified that we did not include Sky's premium sports production costs in the calculation to allocate capital costs to premium wholesale. We think these production costs should be included as some capital employed will relate to these costs (e.g. production facilities). Therefore, we have included these costs in the calculation, which has the effect of allocating slightly more capital costs to premium rather than to basic. This correction has a very small effect on retail-minus and cost-plus charges.

1.105 In order to allocate capital costs between SD and HD services, we have calculated Sky's HD related costs in 2009/10, the majority of which come from Sky's budgeted 2009/10 management accounts. Although we have been able to identify some direct HD costs, most of the costs are an allocation of common costs between SD and HD (see paragraph 1.54). We have also included Sky's transmission costs related to HD versions of channels.

Forecasting the hypothetical entrant's capital costs

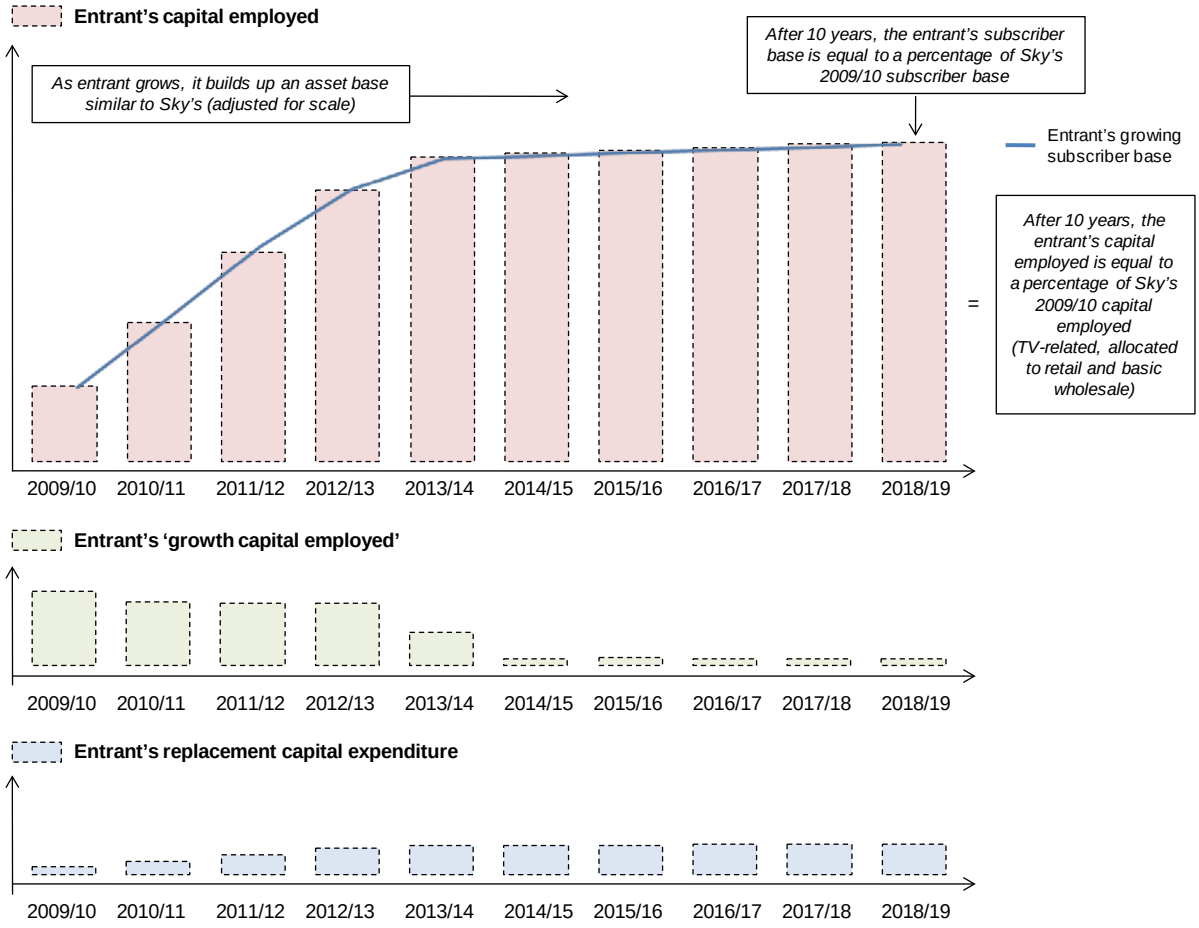
1.106 The hypothetical entrant's capital costs in each year are made up of two elements (see Figure 2 below):

- 'Growth capital employed': this is the cash required to build up an asset base similar to Sky's, in proportion to its scale. This is driven by net additions, where the capital employed per net addition is equal to Sky's capital employed[58] in 2009/10 divided by Sky's retail subscribers in 2009/10. The entrant's "growth capital employed" in each year is calculated by multiplying this figure by its net additions in each year. In this way, the entrant builds up an asset base over the 10 year period similar to Sky's, but in proportion to its scale.

- Replacement capital expenditure: this relates to the replacement of fixed assets and is taken to be equal to depreciation. Replacement capital expenditure is driven by total subscribers, where capital expenditure per subscriber is equal to Sky's depreciation in 2009/10 divided by Sky's retail subscribers in 2009/10. The entrant's capital expenditure in each year is calculated by multiplying this figure by its total subscribers in each year. In this way, its replacement capital expenditure will increase as it builds up its asset base.

[58] Allocated to basic wholesale, platform and retail.

Figure 2: Capital costs assumption in the retail-minus calculation



1.107 This approach to calculating the hypothetical entrant's capital costs in each year is very similar to our approach for the Third Pay TV Consultation, although it includes a number of small refinements:

- For the Third Pay TV Consultation, we forecasted the entrant's total retail capital costs (based on Sky's TV-related capital costs allocated to retail). We then allocated these costs between the entrant's business functions. We have now forecasted the entrant's capital costs in relation to its platform and retail functions separately.

- For the Third Pay TV Consultation, we miscalculated the entrant's net additions, resulting in capital costs which were too low (particularly in the first year). We have now corrected this error.

Forecasting Sky's premium wholesale capital costs

1.108 For the Third Pay TV Consultation, we assumed that Sky's premium wholesale asset base did not increase over time, even though the number of premium wholesale subscribers increased. This is inconsistent with our approach to forecasting the hypothetical entrant's capital costs. We have now adopted a similar approach to the way we forecast the entrant's capital costs, so that as the number of premium wholesale subscribers increases, Sky's premium wholesale asset base also increases. Capital expenditure (i.e. depreciation) also increases accordingly.

Other issues related to capital costs

1.109 For the Third Pay TV Consultation, we assumed that the proportion of Sky's current liabilities that are relevant to Sky's residential TV business is the same as the corresponding proportion of its assets. As part of our review of the capital costs calculation in response to Sky's general comments, we have refined our approach to determining the proportion of Sky's current liabilities that are relevant to Sky's residential TV business. We have now started from Sky's total current liabilities and subtracted current tax and derivative financial liabilities. This approach is consistent with our approach to assets[59], and leads to a more conservative estimate of current liabilities in the residential TV business.

Impact of changes to capital costs calculation

1.110 The combined effect of these updates and changes to the capital costs calculation is a small reduction in retail-minus charges for the Core Premium Sports packages, and an increase in cost-plus charges of around £0.20 for Sky Sports 1&2 and £0.10 for Sky Sports 1 and Sky Sports 2.

[59] Our approach to estimating the assets relevant to Sky's Pay TV operation is to subtract goodwill, investments in joint ventures, available for sale investments (ITV stake), deferred tax and derivative financial assets from Sky's total assets. This is consistent with the approach taken by Oxera in its assessment of Sky's profitability.

Section 2 - Retail-minus

1.111 This section provides details of our approach to the retail-minus calculation. In particular, we address:

- Starting retail price.
- Multiroom costs and revenues.
- Relevant costs to be deducted.
- Fixed costs.
- Rate-card approximation.
- Impact of changes.
- Incremental price-cost calculation for Core Premium Movies channels.
- Complete set of retail-minus results from the pricing model.

Starting retail price

1.112 As explained in Section 10, we have derived a retail price for each of the three Core Premium Sports wholesale products (Sky Sports 1, Sky Sports 2, and Sky Sports 1&2). The reference retail price, for each of these wholesale products, is the starting point of the retail-minus calculation, from which retail costs are subsequently deducted.

Reference retail prices

1.113 An immediate challenge is the lack of a unique retail price corresponding to a given Core Premium Sports wholesale product, given Sky's broad portfolio of retail offerings. There are a number of retail prices for each Core Premium Sports wholesale product, depending on, for example: the number of basic mixes included and whether the subscriber also purchases additional services such as Multiroom, pay-per-view, broadband and telephony.

1.114 As explained in paragraphs 10.82 and 10.87 of the main document, we have excluded from the retail-minus calculation:

- The revenues and costs associated with additional non-TV services such as broadband and telephony.
- The revenues and costs associated with additional TV services such as Sky Box Office and standalone premium channels.

1.115 We have also excluded both the additional revenue and the relevant costs of HD packages from the retail-minus calculation, as we are calculating wholesale charges for SD packages.

1.116 Therefore, we have taken Sky's published retail prices for each Core Premium Sports package, with different numbers of basic channel mixes.

1.117 In its response[60], Sky pointed out that our assumptions about prices and VAT for 2009/10 were incorrect. We have now accurately reflected actual prices and VAT rates for 2009/10 by using an average of the following:

- Two months of prices to August 2009 with VAT at 15%.
- Four months of prices from September 2009 with VAT at 15% (given Sky revised its retail prices at the beginning of September).
- Six months of prices from January 2009 with VAT at 17.5%.

1.118 VAT is deducted from these reference retail prices before we deduct retail costs[61].

Discounts

1.119 The presence of discounts means that consumers may not pay the full headline published price for a given retail package. In the Third Pay TV Consultation, we deducted an amount intended to reflect the average monthly value of discounts[62]. We calculated the average customer discount by deriving Sky's expected pay TV revenues (given headline retail prices) and comparing this with actual pay TV revenues. We then applied this discount to all Sky's retail prices.

1.120 In its response[63], Sky argued that our calculation of the average value of discounts in 2007/08 was "wholly erroneous", and pointed out that the value of such discounts is, in fact, provided as a single line in its management accounts[64]. Sky provided further information confirming that this line relates to all retail discounts to new and existing customers. We have adopted Sky's suggested approach and have calculated the average customer discount (in percentage terms) by comparing this figure with total subscription revenues. We have applied this discount factor to all Sky's retail prices.

Adjustment for bad debt

1.121 For the Third Pay TV Consultation, we included the cost of bad debt as a retail cost. To reflect the fact that bad debt relating to premium packages is likely to be higher than bad debt relating to basic packages, we allocated bad debt between basic and premium packages using a 'product units' approach. In effect, packages containing premium sports or premium movies channels were allocated twice as much cost as basic-only packages, and packages containing premium sports and movies channels were allocated three times as much cost as basic-only packages.

1.122 We have revised our treatment of bad debt, so that premium packages are only allocated twice as much cost as basic-only packages, irrespective of whether the premium package contains only sports or movies channels, or both. This is to ensure the approach is consistent with our 'subscriber product units' approach to allocating retail costs between premium and basic packages.

[60] Sky's response to the Third Pay TV Consultation, paragraphs 10.114 to 10.117.
[61] In their response the Three Parties questioned whether Ofcom had deducted VAT before deducting costs from the retail price established as the starting point for the calculation (see Three Parties' response to the Third Pay TV Consultation, paragraph 9.21).
[62] See paragraph 9.70 of the Third Pay TV Consultation.
[63] Sky's response to the Third Pay TV Consultation, paragraphs 10.121 to 10.122.
[64] **[✂]**.

Adjustment for Sky Sports 3 and Sky Sports 4

1.123 As explained in Section 10, Sky Sports 3 and Sky Sports 4 are not included within the wholesale must-offer remedy. Therefore, when deriving the wholesale price for Sky Sports 1&2, the costs of Sky Sports 3 and Sky Sports 4 have been deducted. This is because they are included as bonus channels in the retail packages containing Sky Sports 1&2.

1.124 We have deducted an amount from the retail price of packages including Sky Sports 1&2 to reflect the costs associated with Sky Sports 3 and Sky Sports 4.

1.125 For the Third Pay TV Consultation, we deducted the direct costs of sports rights and channel production allocated to Sky Sports 3 and Sky Sports 4[65]. On further examination, we have revised our approach to deduct not just these direct (incremental) costs, but also a proportion of common costs allocated to these channels. We have done this to ensure the methodology is consistent with our treatment of basic channels, to which we allocate a share of common costs.

1.126 Our revised approach results in a small reduction in the retail-minus charge for Sky Sports 1&2.

Adjustment for Disney Cinemagic

1.127 Disney Cinemagic is included as a bonus channel in the retail packages containing Sky Movies 1&2. For the Third Pay TV Consultation, we did not remove the costs of Disney Cinemagic. However, as our proposed remedy did not include Disney Cinemagic, the costs of providing this channel should have been deducted. Therefore, we have deducted an amount from the retail price of packages including Sky Movies Pack to reflect the costs associated with Disney Cinemagic. This amount is the per subscriber fee that Sky pays to provide Disney Cinemagic as a bonus channel.

Adjustment for a la carte subscriptions

1.128 For the Third Pay TV Consultation, we made a further deduction from retail prices to reflect the average revenue received from UK residential satellite subscribers paying for a la carte channels[66]. In its response[67], Sky pointed out that such a deduction is erroneous, as the retail prices we started with do not include any additional amounts paid for a la carte channels. We agree with Sky's observation and have removed this deduction from the retail prices[68].

Weighted average retail price

1.129 As explained in paragraph 10.95 of the main document, we have taken a weighted average of Sky's retail prices for each Core Premium Sports package bundled with different numbers of basic mixes. We have calculated this by weighting the prices for

[65] As explained in paragraphs 1.198 to 1.211, we have revised our calculation of premium sports programming costs, resulting in lower sports rights and channel production costs for Sky Sports 3 and Sky Sports 4. This results in a higher retail-minus charge for Sky Sports 1&2 of around £0.20.
[66] See paragraph 9.77 of the Third Pay TV Consultation.
[67] Sky's response to the Third Pay TV Consultation, paragraph 10.120.
[68] A la carte revenues were also included in our calculation of the average consumer discount. We have now amended this calculation (see paragraph 1.120).

each bundle - after making the adjustments described above - by the number of Sky's retail subscribers taking that number of basic channels.

1.130 Sky now offers 'zero mix' packages, where premium channels are available without the requirement to buy through basic channels. These premium packages are priced at £1 less than the price of the same premium package with 1 basic mix. However, we have not been able to include zero mix package prices in our weighted average price calculation. This is because Sky's forecast subscriber numbers consistent with its budget for 2009/10 did not separately identify the number of forecast zero mix subscribers[69]. As explained in paragraph 1.14, we have used Sky's high level forecast of total subscribers for 2009/10, but have assumed the same distribution of subscribers across packages and numbers of basic mixes as in June 2009, before zero mix packages were introduced. In any case, if we were able to include zero mix products, we would not expect it to have a material effect on the weighted average retail prices as they are not marketed significantly **[✂]**.

Impact of changes to starting retail price calculation

1.131 These updates and changes to the calculation of starting retail prices result in an increase in retail-minus charges of around £1.80 for Sky Sports 1&2 and around £0.50 for Sky Sports 1 and Sky Sports 2. The weighted average retail-minus charge increases by around £2.00.

Multiroom costs and revenues

1.132 As explained in paragraph 10.87 of the main document, we have included Multiroom costs and revenues in the retail-minus calculation. This increases retail-minus charges by around £1.20.

1.133 We have forecast Multiroom revenues taking account of the prevailing price[70] (excluding VAT) in 2009/10 and the number of UK subscriptions. We have based our forecast of UK Multiroom subscriptions on a recent broker's forecast, and have assumed that the price of Multiroom will increase with inflation over the 10 year period.

1.134 We have derived the costs of Multiroom from an allocation of certain common costs to Multiroom on the basis of Sky's revenues for these services relative to those for core subscription packages. We have assumed the costs per Multiroom subscription remain constant in real terms over time.

1.135 These costs and revenues have been included in the retail-minus calculation in the form of an adjustment to the effective weighted average retail price for each Core Premium Sports package. The adjustment is equal to the average Multiroom margin per subscriber per month.

Non-subscription revenues

1.136 We have included in the retail-minus calculation non-subscription revenues that Sky derives from retailing; its platform; and the provision of basic channels. Below, we provide specific details relating to basic channel carriage revenues, and platform revenues.

[69] **[✂]**.
[70] The price of Multiroom in 2009/10 is calculated as an average of: 6 months of prices from July 2009 with VAT at 15%, and 6 months of prices from January 2010 with VAT at 17.5%.

Basic channel carriage revenues

1.137 For the Third Pay TV Consultation, we took account of the costs and revenues associated with Sky's basic wholesale channel business in our retail-minus calculation. In its response[71], Sky noted that carriage revenue in respect of Virgin Media's cable network for 2009/10 and beyond had been omitted in error, and that its latest forecast assumes that Sky will receive £**[✂]** in basic wholesale revenues from Virgin Media in 2009/10 under the carriage agreement.

1.138 We agree with Sky that carriage revenues relating to Sky's basic channels should be included in the retail-minus calculation. We have therefore included the carriage revenues from Virgin Media, as well as the carriage revenues from other retailers carrying Sky's basic channels. We have assumed that these increase with inflation over the 10 year period modelled.

1.139 Sky provided its monthly carriage fee revenues for its basic channels as retailed by third parties, for each month of its financial year 2008/09. As the distribution of Sky's basic channels to Virgin Media cable subscribers did not commence until 13 November 2008, we have taken the monthly carriage fee revenue relating to Virgin Media from December 2008 onwards as the basis for estimating a full year of 2009/10 revenues.

1.140 We note that this gives an annual figure of £**[✂]**, which is lower than the figure quoted in Sky's response to the Third Pay TV Consultation (£**[✂]**). Sky told us that carriage fees payable by Virgin Media are derived from a combination of fixed annual licence fees and a capped additional annual payment based on the number of programmes on the channels achieving a minimum cross-platform audience (the latter being calculated on a retrospective basis at the end of each year of the distribution agreement). When the information was provided, the carriage agreement had been in place for less than a year, and so no additional payment had become due. Taking this explanation into account, we have used Sky's forecast for carriage revenues relating to Virgin Media of £**[✂]**, as provided in its response to the Third Pay TV Consultation.

1.141 Including the carriage revenues from Virgin Media and other retailers results in an increase in retail-minus charges of around £0.35.

Platform revenues

1.142 We have included third party channel revenues mainly relating to Conditional Access charges, Access Control charges, Platform Contribution charges and Electronic Programming Guide Listing charges. For the Third Pay TV Consultation, we used information provided by Sky to estimate third party channel revenues for 2007/08. We have updated our calculation, to take these revenues directly from Sky's budgeted management accounts for 2009/10.

Relevant costs to be deducted

1.143 We have used Sky's costs, as per its management accounts, as the benchmark for an efficient retailer and only adjusted these costs for scale.

[71] Sky's response to the Third Pay TV Consultation, paragraphs 10.124 to 10.126.

1.144 We have reviewed Sky's accounts, identifying the relevant pay TV retailing costs, and have allocated these to Sky's different functions (platform, retail and wholesale) (see Section 1 of this Annex).

1.145 As explained in Section 10, we have deducted both the incremental costs associated with retailing and basic content from our reference retail price, as well as a proportion of common costs.

Cost categories relevant to the retail-minus calculation

1.146 The main categories of cost that contribute to the retail-minus calculation, based on Sky's management accounts, are:

- Programming costs: this category relates to costs incurred in licensing and producing channels, which is relatively straightforward to allocate to basic, premium sports and premium movie channels. We have generally regarded these costs as common across residential and commercial customers, and between SD and HD services, except in the case of channels only available in SD.

- Marketing costs: a retailer of pay TV services will be expected to incur marketing costs in the promotion of its premium packages. However, Sky incurs marketing costs not only in this respect, but also in respect of its wholesale function (e.g. the promotion of specific channels) and in respect of its platform function which should be allocated accordingly. However, some marketing costs should also be considered to be common across Sky's functions.

- Subscriber management costs: a retailer incurs these costs, which include operating call centres and subscriber management IT systems, in servicing its customer base. A retailer also incurs costs for technical platform services (for example, conditional access and electronic programme guide charges). We have established these platform costs on the basis of an analysis of Sky's current platform-related costs in its management accounts which are allocated to Sky's platform business. Sky's platform access charges recover current platform costs as well as historic set-top box subsidies. Since our model is constructed on a forward looking basis it is more appropriate to use current and future estimates of platform costs than access charges which embody historic subsidies.

- Transmission costs: within this broad category of costs, a retailer incurs costs in delivery of its services to end users. In the case of Sky, a significant proportion of these costs relates to satellite transponders[72]. Sky also incurs costs (such as studio production and editing costs) in its production of channels, which should be allocated to its wholesale business, and in developing its platform which should be allocated to its platform business. It is relatively straightforward to identify the parts of Sky's businesses that these costs should be allocated to in contrast with other categories such as marketing.

- Administration costs: a retailer will also incur costs in the general administration of its retail business. These costs include corporate finance, communications and human resources functions. We have concluded that Sky's administration costs are largely common across its entire business.

[72] We consider that the costs of transmitting channels to the consumer are ultimately incurred by retailers rather than wholesale channel providers. Channels subject to the wholesale must-offer remedy are to be made available at Sky's premises for onward transmission by retailers, so we expect Sky's wholesale function to incur minimal transmission costs.

- Subscriber acquisition costs[73]: a retailer would be expected to incur costs in acquiring and connecting new subscribers. As there is no clearly delineated cost category corresponding to subscriber acquisition costs in Sky's management accounts, we had previously sought to identify these costs from various different subcategories. However, information provided by Sky has enabled us to identify the exact lines that correspond to subscriber acquisition costs (see paragraphs 1.157 to 1.160).

Transmission costs

1.147 As explained in paragraph 10.162 of the main document, we have used Sky's transmission costs (which reflect satellite transponder capacity) when calculating the allowance for transmission costs in the retail margin. In its response[74], Sky argued that the costs of transponder capacity should be allocated as a wholesale cost. We do not agree with Sky because the wholesale product we are defining is delivered to the factory gate. We therefore continue to treat transmission as a retail cost.

Satellite transponder costs

1.148 We have updated our calculation of satellite transponder costs. Total satellite transponder costs are now taken from Sky's budgeted management accounts for 2009/10, and these have been allocated to the Core Premium Sports channels using updated information provided by Sky[75].

DTT transmission costs

1.149 As explained in paragraph 10.215 of the main document, we have also calculated retail-minus wholesale prices with an adjustment for DTT transmission costs. In the Third Pay TV Consultation, we estimated DTT transmission costs to be £8m per videostream per annum. Sky[76] argued that our estimate was probably above the market rate **[✂]**. On the other hand, the Three Parties[77] and BT[78] suggested the cost of a DTT videostream may be higher than £8m per annum. We have decided to maintain our estimate of £8m per videostream, **[✂]**[79] [80].

1.150 For our Third Pay TV Consultation, we assumed that these transmission costs are shared between retailers using the same videostreams and any necessary simulcrypt arrangements. Our calculation was based on there being three entrants on DTT, each incurring one-third of the total DTT transmission costs.

1.151 A number of respondents argued that our approach was erroneous. Virgin Media[81] suggested that the assumption of three retailers on DTT was only supportable if

[73] Unlike the other five categories, subscriber acquisition costs are not a distinct section of Sky's management accounts. However, we categorise these costs separately because of the way they are incurred. See paragraph 1.157.
[74] Sky's response to the Third Pay TV Consultation, paragraphs 7.78 to 7.82.
[75] Sky provided the proportions of transponder capacity used for different services at the end of 2008/09. We also use the number of Sky's SD channels, as reported in its Annual Report (2009).
[76] Sky's response to the Third Pay TV Consultation, section 10, footnote 65.
[77] Three Parties' response to the Third Pay TV Consultation, paragraphs 9.28 to 9.29.
[78] BT's response to the Third Pay TV Consultation, paragraph 3.12.
[79] **[✂]**.
[80] We maintain the £8m figure in the absence of immediately available evidence to suggest a contrary figure. In practice, as we are setting prices based on Sky's transmission costs, our estimate of DTT transmission costs does not impact the prices we have determined.
[81] Virgin Media's response to the Third Pay TV Consultation, paragraph 7.70.

made in conjunction with the small entrant scenario. BT[82] suggested that the number of entrants was more likely to be two, but could even be one, while ITV[83] argued that three DTT entrants was implausible.

1.152 We acknowledge that in some scenarios, there was an implicit inconsistency in how we calculated DTT transmission costs, and the scale of the entrant. For example, in scenarios where the entrant acquired 3m subscribers after 10 years, our calculation of DTT transmission costs implied a total subscriber base on DTT of 9m subscribers. On closer consideration, the number of entrants on DTT is not relevant if they share transmission costs in proportion to their number of subscribers – what matters is simply the total number of subscribers on DTT.

1.153 Therefore, we have revised our calculation of DTT transmission costs faced by the entrant, so that in each year, the entrant pays a share of DTT transmission costs in proportion to its share of total subscribers on DTT. For all scenarios, we have assumed that the total number of subscribers on DTT after 10 years is 3m. Therefore, an entrant with 1.5m subscribers after 10 years pays roughly half of the total DTT transmission costs each year[84].

1.154 **[✂]**[85] argued that it is unlikely that all retailers will seek to offer the same channel streams, and that some will focus on a smaller offer. In order to derive an appropriate margin for a retailer that is as efficient as Sky but at lower scale, we have sought to minimise deviating from Sky's costs. Therefore, for the purpose of deriving retail-minus prices, we have modelled a hypothetical competitor matching Sky's offering.

Other transmission cost issues

1.155 As stated above (see paragraph 1.44), for the Third Pay TV Consultation, we took account of the costs and revenues associated with Sky's basic wholesale channel function in the retail-minus calculation. This included the transmission costs allocated to basic channels. In its response[86], Sky pointed out that, in converting an annual figure for basic channel transmission costs into a monthly cost per subscriber figure, we had not divided by 12. We have corrected this error, resulting in higher retail-minus charges by around £0.50.

1.156 Sky also pointed out[87] certain cell reference links in our pricing model that were incorrect. These have also been corrected, although the error had no effect on the resulting wholesale charges.

Subscriber acquisition costs

1.157 We have separated out subscriber acquisition costs from Sky's other marketing costs since subscriber acquisition costs are driven by the number of gross additions[88], unlike other operating costs which are driven primarily by the total number of subscribers.

[82] BT's response to the Third Pay TV Consultation, paragraphs 3.13 to 3.14.
[83] ITV's response to the Third Pay TV Consultation, page 7.
[84] In practice, this calculation should be done on a year by year basis. However, we assume that the total number of subscribers on DTT grows at the same rate as the entrant's subscribers on DTT, so it is sufficient to base the calculation on the number of subscribers after 10 years.
[85] **[✂]**.
[86] Sky's response to the Third Pay TV Consultation, paragraph 10.123.
[87] Sky's response to the Third Pay TV Consultation, Section 7, footnote 56.
[88] Gross additions = net additions + churned subscribers.

1.158 As noted above in paragraph 1.146, there is no clearly delineated cost category in Sky's management accounts corresponding to subscriber acquisition costs, so in the Third Pay TV Consultation we sought to identify these costs from various different subcategories. By multiplying Sky's per subscriber SAC by its gross additions, we calculated Sky's total SAC costs in 2007/08, and then subtracted an equal amount from the marketing costs in Sky's management accounts.

1.159 In refining and updating our pricing model, we asked Sky to identify the exact lines (or parts of lines) in its management accounts that correspond to subscriber acquisition costs, which it provided in relation to its 2008/09 management accounts. We have identified the same lines in Sky's budgeted management accounts for 2009/10, and where Sky identified part of a line in 2008/09 as corresponding to SAC, we have assumed the same proportion for 2009/10.

1.160 Our revised approach means that we are able to separate out SAC from other operating costs more accurately. One consequence is that some marketing lines in Sky's management accounts which we had previously incorrectly identified as potentially containing SAC costs have now been allocated wholly to Sky's platform business.

Allocation of subscriber acquisition costs

1.161 For the Third Pay TV Consultation, we included all SAC in the retail-minus calculation. We have revised our calculation to ensure that SAC is appropriately allocated to HD and PPV services. We have allocated SAC to HD and PPV services on the basis of Sky's revenues from these services.

Subscriber acquisition costs in Sky scale scenario

1.162 As explained in Section 10, we have also calculated retail-minus charges at Sky's scale. For the Third Pay TV Consultation, we included the cost of acquiring Sky's existing subscriber base at the start of 2009/10. We calculated this cost by multiplying Sky's opening subscribers in 2009/10 by its SAC per gross addition in 2009/10.

1.163 For the profitability analysis, Oxera estimated the value of Sky's existing subscriber base at the start of 2009/10. To retain consistency, we have revised our calculation by assuming Oxera's valuation, in place of our SAC-based calculation. As per the SAC calculation, we have allocated a proportion of Oxera's valuation of Sky's existing subscriber base to HD and PPV services, on the basis of Sky's revenues from these services.

1.164 Oxera also allocated its valuation of Sky's existing subscriber base between retail and wholesale for 2007/08. We have followed its approach for 2008/09 and have allocated the valuation between retail and wholesale in the pricing model, as per Oxera's allocation. We have then allocated the wholesale component between basic and premium, as basic wholesale costs are relevant to the retail-minus calculation, while premium wholesale costs are relevant to the cost-plus calculation[89].

1.165 The effect of using Oxera's valuation of Sky's existing subscriber base, in place of our SAC-based calculation, is to increase retail-minus charges in the Sky-scale scenario by around £0.50.

[89] Allocation as per paragraph 1.66.

Subscriber acquisition costs in DTT scenarios

1.166 As explained in paragraph 10.165 of the main document, subscriber acquisition costs are likely to be lower on DTT than satellite. This is because, as noted above, Sky's satellite subscriber acquisition costs include the costs of a satellite dish and its installation, which we would not expect competitors on DTT to incur. Therefore, we have reduced Sky's subscriber acquisition costs in DTT scenarios by an amount intended to reflect these costs.

1.167 Sky has provided a breakdown of subscriber acquisition costs into five categories, including a net revenues category. These revenues arise because Sky does not always fully subsidise its set-top boxes and/or installation for new subscribers. As well as not incurring the installation and satellite dish elements of SAC, a DTT competitor will also not receive respective revenues. Therefore, as well as deducting the installation and satellite dish costs from Sky's SAC, we have removed a proportion of these revenues, to reflect revenues that a DTT competitor would not receive[90].

1.168 The effect of making this adjustment to SAC in the DTT scenarios is to reduce retail-minus charges by around £1. The overall effect is more significant because the majority of SAC is incurred in the early years (when subscriber growth is highest). However, we note that we have not used these scenarios to derive our final wholesale prices.

Scale of competing retailer

1.169 In our Third Pay TV Consultation (see paragraph 9.163), we consulted on a large competitor with 1m subscribers at three years and 3m subscribers after 10 years, and a small entrant with 330,000 subscribers at three years and 1m subscribers after 10 years. We assumed a linear growth path in the first nine years, with growth then tailing off in the final year.

1.170 As explained in paragraph 10.176 of the main document, we have now derived wholesale prices on the basis of a hypothetical competitor which reaches 1.5m subscribers after 10 years, having grown its subscriber base from zero when it launches premium pay TV services. We have also assumed the same growth profile as Sky forecasted for its Picnic business model, which results in slightly higher retail-minus charges for a given total number of subscribers after 10 years.

Fixed costs

1.171 In the Third Pay TV Consultation, we assumed that the efficient retailer will incur a set level of fixed costs, which is incurred at each and every level of output[91]. Over and above these fixed costs, the efficient retailer incurs variable costs, primarily driven by its number of subscribers.

1.172 We generated this fixed cost number by reviewing a range of data relating to certain cost categories in Sky's business. These were third party programming, news and entertainment channels, marketing, subscriber management, administration and non-transponder transmission. We also considered data from existing smaller competitors as a reasonable indicator of the minimum level of fixed cost achievable by an efficient entrant. Our marketing costs were based on a simple 'bottom up' model, where we

[90] This proportion is calculated using the ratio of the following two categories of SAC: **[✂]**.
[91] See Third Pay TV Consultation, paragraph 9.127.

estimated the minimum required expenditure to allow a competitor to run marketing campaigns each year.

1.173 In their response[92], the Three Parties argued that we had underestimated the fixed costs incurred by an efficient retailer, and that our approach of looking at smaller competitors was unlikely to provide reliable estimates of the fixed costs of pay TV following the imposition of a remedy. In particular, the Three Parties argued that our estimate of fixed marketing costs significantly underestimated the actual costs of marketing campaigns required to compete with Sky.

1.174 We have updated our estimates of the minimum level of fixed costs an efficient entrant would face in two ways. Firstly, we asked smaller competitors to provide actual cost data in order to provide us with further evidence on their fixed costs[93]. We have assessed this data and revised our estimates of the fixed subscriber management costs and fixed administration costs accordingly[94].

1.175 Secondly, we have replaced our bottom-up calculation of fixed marketing costs in favour of an estimate based on an existing competitor's actual marketing costs. We have used BT Vision's marketing costs in 2008/09 as the basis for our estimate of the competitor's fixed marketing costs. Top Up TV proposed that we use Setanta's marketing costs as the basis for our estimate, on the grounds that it is a closer comparison to the costs a competitor would face in retailing premium content[95]. However, we consider that some of Setanta's marketing costs would have been related to its wholesale function. After making an adjustment for this, Setanta's marketing costs are closer to those of BT Vision. Given our objective of using the costs of an efficient operator, we have used the lower figure, namely BT Vision's marketing cost, **[✂]**.

1.176 The net effect of updating our estimates is to increase the competitor's total minimum fixed costs from £15m to £24m. For a competing retailer that reaches 1.5m subscribers after 10 years, this results in a reduction in the retail-minus prices for Core Premium Sports packages of around £0.50.

1.177 Virgin Media[96] argued that we should include fixed staff costs. We asked smaller competitors to provide their fixed costs by category, but did not ask for staff costs separately. Therefore, we expect staff costs to have been factored into the relevant categories. Virgin Media also argued that we should take account of fixed costs across the entire range of output, giving the example of marketing costs which would be higher at higher scale. Our estimates of the minimum level of fixed marketing, subscriber management and administration costs do not account for all costs in that category. For example, there are significant variable marketing costs in addition to our estimate of fixed marketing costs. Therefore, the retailer's allowance for marketing costs that we have modelled expands according to scale.

[92] Three Parties' response to the Third Pay TV Consultation, paragraphs 9.73 to 9.75.
[93] We asked BT Vision, Top Up TV and Tiscali / TalkTalk TV to provide data.
[94] We have used Top Up TV's fixed subscriber management costs and fixed administration costs over the last three years as the basis for these estimates. Tiscali / TalkTalk TV reported fixed administration costs that were lower than Top Up TV's fixed administration costs. However, Tiscali / TalkTalk TV data were insufficiently reliable to use as a basis for our estimate of fixed administration costs. **[✂]**.
[95] Top Up TV presentation to Ofcom dated 23 September 2009.
[96] Virgin Media's response to the Third Pay TV Consultation, paragraphs 7.61 to 7.65.

1.178 BT[97] stated that we did not include any platform fixed costs in our estimation of the entrant's fixed costs. However, for each of the cost categories for which we estimated fixed costs, we have then allocated these between the retail, wholesale and platform parts of Sky's business. As a result, contrary to BT's understanding, we do recognise a fixed element of platform costs.

Allocation of fixed costs

1.179 In the retail-minus calculation for the Third Pay TV Consultation, we deducted our estimates of fixed costs from Sky's total operating costs, and assumed that the remainder of costs are variable which we took to be driven by the number of subscribers.

1.180 We have refined our calculation to reflect the fact that our estimates of minimum fixed costs relate to a retailer at smaller scale. We have now deducted these fixed costs from Sky's retail and platform operating costs only, rather than Sky's retail, platform and wholesale operating costs[98]. This refinement results in a reduction in retail minus charges of around £0.15 in the 1.5m subscriber scenario.

Rate-card approximation

1.181 As explained in paragraph 10.158 of the main document, we have developed a scenario which seeks to approximate the OFT's approach, against which Sky says it cross-checks its wholesale prices. The OFT's approach adopted a return on turnover of 1.5%. We have therefore calculated the prices that would result from discounting future cashflows at the rate required to replicate a return on turnover in Sky's retail business of 1.5%.

1.182 We have revised our calculation to ensure capital costs are treated correctly. For the Third Pay TV Consultation, we incorrectly included 'growth capital employed' in the calculation of return on turnover. We also omitted to include replacement capital expenditure in the calculation of the terminal value (which is used to calculate the NPV of costs).

1.183 We have now excluded growth capital employed from the calculation of return on turnover (increasing the charges in this scenario by around £1.29), and have included replacement capital expenditure in the terminal value calculation (reducing the charges by around £1.25). The net effect of these two changes is a very small increase in the charges in this scenario.

Impact of changes

1.184 In Figure 133 of Section 10, we illustrate the impact of major changes to our calculation methodology on the weighted average wholesale price. We have reproduced this figure for the Sky Sports 1&2 wholesale price in Figure 3 below[99].

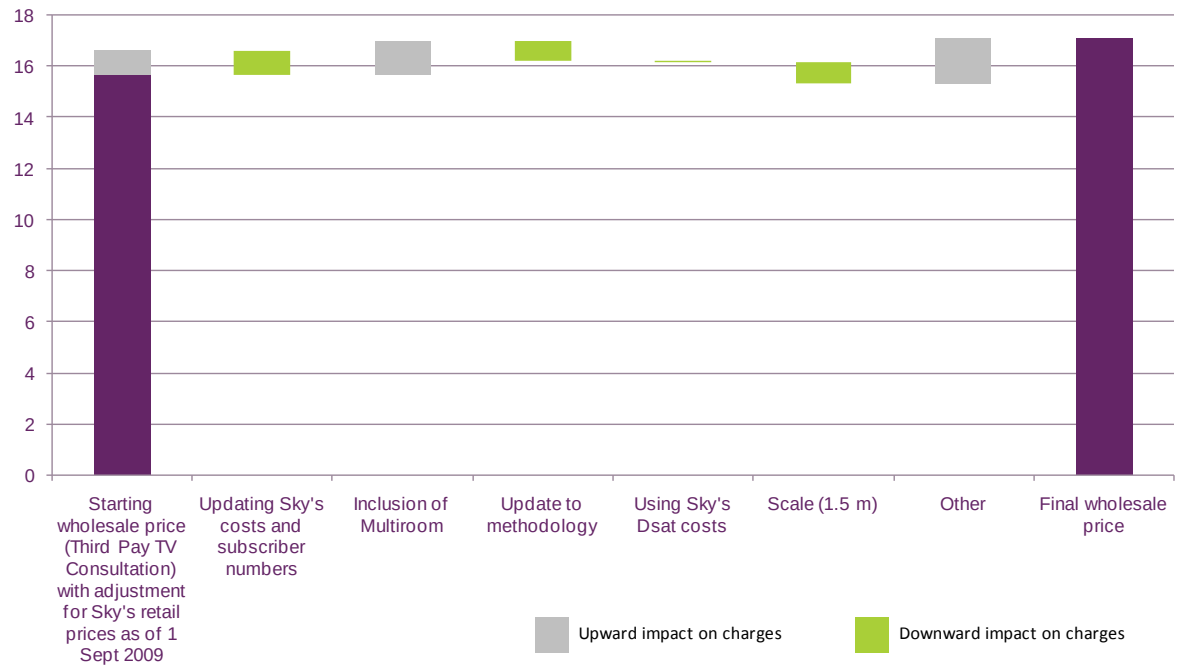
1.185 As in Section 10, we have considered the scenario corresponding to a larger competitor using a DTT platform (Scenario 4 in Table 64, Third Pay TV Consultation) as the point of comparison. This corresponds to a figure of £15.69 per subscriber per

[97] BT's response to the Third Pay TV Consultation, paragraph 3.21.
[98] We have assumed that non-rights wholesale costs are completely variable, as we have not estimated fixed costs relating to wholesale costs.
[99] Sky Sports 1&2 is the key Core Premium Sports wholesale product – at present very few subscribers take retail packages including only Sky Sports 1 or only Sky Sports 2 as opposed to Sky Sports 1&2.

month. Adjusting for Sky's change in retail prices from 1 September 2009 increases this figure to £16.62 per subscriber per month. The cumulative impact of our adjustments is to increase this wholesale price to £17.14 per subscriber per month.

1.186 As Figure 3 shows, using Sky's satellite costs without an adjustment for DTT results in a small reduction in the wholesale price for Sky Sports 1&2. This is the reverse of the effect on the weighted average wholesale price (see Figure 133 in Section 10). This is because the effect of higher transmission costs on DTT is relatively modest for Core Premium Sports channels, as only one or two videostreams are required. Therefore, for Core Premium Sports packages, the effect of lower SAC in DTT scenarios outweighs the effect of higher transmission costs. In contrast, packages containing Sky Movies require more videostreams, and therefore the effect of higher transmission costs is greater, and for packages containing Sky Sports and Dual Movies, the effect of higher transmission costs outweighs the effect of lower SAC. This results in a higher weighted average wholesale price when using Sky's satellite costs than when making an adjustment for DTT.

Figure 3: Impact of major 'changes' on the wholesale price for Sky Sports 1&2



Incremental price-cost calculation on Movies

1.187 As explained in paragraph 10.220 of the main document, we have checked that for each of the Core Premium Sports wholesale products, the incremental retail price of adding Sky Movies channels is not below the incremental cost.

1.188 The incremental retail price is calculated on the basis of 2009/10 prices[100], exclusive of VAT and after making adjustments for discounts (and Disney Cinemagic[101] in the case of Dual Movies).

[100] See paragraph 1.117.
[101] Disney Cinemagic is included as a bonus channel in the retail packages containing Sky Movies 1&2. We have deducted an amount from the retail price of packages including Sky Movies Pack to

1.189 The incremental cost is calculated on the basis of Sky's Movies rights costs in 2009/10, which are made up of a fixed element and a variable (per subscriber) element. We have calculated the incremental cost of Movies channels on a per subscriber basis, equal to the variable element plus the fixed element (UK residential SD only) on a per subscriber basis. Note that we have not included other direct costs of Movies channels, although these represent only around 1% of the total direct cost of Movies channels.

1.190 For each wholesale product (i.e. Sky Sports 1, Sky Sports 2, and Sky Sports 1&2) we consider the test for Single Movies and Dual Movies in aggregate. Therefore, having calculated the incremental retail price and incremental cost of Single Movies and Dual Movies, we then take a weighted average of the margins, weighted by Sky's subscriber mix.

1.191 On the basis of the calculation set out above, we find that the incremental retail price of adding Sky Movies channels is not below the incremental cost (see Figure 4 below).

Figure 4: Incremental price-cost margin for Movies (in aggregate)

	Incremental retail price	Incremental cost	Margin
Sky Sports 1&2	[✂]	[✂]	£1.38
Sky Sports 1	[✂]	[✂]	£3.82
Sky Sports 2	[✂]	[✂]	£4.15

Complete set of retail-minus results from the pricing model

1.192 In order to generate prices for the Core Premium Sports wholesale products, as well as the weighted average price, we have refined and updated the whole pricing model in a consistent manner. For completeness, the full set of retail-minus results for all packages, as presented in the Third Pay TV Consultation, is set out in Figure 5 below.

reflect the costs associated with Disney Cinemagic. This amount is the per subscriber fee that Sky pays to provide the Disney Cinemagic as a bonus channel.

Figure 5: Complete set of retail-minus results from the pricing model

	Retail-minus charge	Absolute margin	Cost-plus charge
Sky Sports 1&2	17.14	18.91	11.36
Sky Dual Movies	14.86	19.71	4.53
Sky Sports 1 & 2 and Sky Dual Movies	20.80	22.27	15.80
Sky Sports 1 only	10.63	16.74	9.10
Sky Sports 2 only	10.63	17.03	3.32
Single Movies	9.24	17.07	4.58
Sky Sports 1 and Single Movies	15.74	19.04	13.59
Sky Sports 2 and Single Movies	15.74	19.35	7.81
Sky Sports 1 and Dual Movies	19.07	20.31	13.54
Sky Sports 2 and Dual Movies	19.07	20.56	7.76
Sky Sports 1 & 2 and Single Movies	18.97	20.45	15.85

1.193 Details of the methodology used to derive the cost-plus charges, also shown above, are discussed in the next section of this annex.

Section 3 - Cost-plus

1.194 This section provides details of our approach for the cost-plus calculation. In particular, we address:

- Market volume assumptions.
- Categories of costs.
- Premium sports programming costs.
- Premium movies programming costs.
- Valuation of Sky's existing subscriber base.
- Adjustment for Sky Sports 3 and Sky Sports 4.

Market volume assumptions

1.195 Forecasts of the total addressable market for premium subscribers have an effect on Sky's forecasted wholesale costs. To the extent that some wholesale costs do not vary with subscriber numbers, a larger total premium market means that per subscriber cost-plus prices can be lower and still generate the same overall revenue.

1.196 In our Third Pay TV Consultation[102], our base case assumed a total market for premium subscribers of 10m subscribers in year 10, from around **[✂]**m at the present day. We have now revised this forecast to a total market for premium subscribers of 9.2m subscribers in year 10. This is based on premium subscriber forecasts for Sky and other retailers of Sky's premium channels (discussed in paragraphs 1.26 to 1.36).

Categories of costs

1.197 The categories of cost that contribute to wholesale channel costs are primarily:

- Programming costs: rights fees payable to sports bodies for content that is included in Sky's sports channels.
- Marketing costs: expenses that would be expected in part to benefit Sky's Core Premium wholesale customers, which are therefore legitimately recovered through cost-plus charges for Core Premium channels.
- Non-transponder transmission costs: broadly defined, including certain technology development costs which we regard as a common cost across Sky's operations, and the operation of portals which would be expected to benefit all retailers of Sky's Core Premium channels.
- Administration costs: the costs of channel production and the operations of Sky Sports channels which are relevant in their entirety to the wholesale of these channels; and the costs of overheads which are relevant to Sky's entire operations, which in part should be allocated to Sky's Core Premium Sports wholesale activities.

[102] Third Pay TV Consultation, paragraph 9.181.

Premium sports programming costs

Sports rights costs forecast

1.198 For the Third Pay TV Consultation[103], we examined Sky's current sports contracts with rights-holders and related sources and allocated these rights costs between Sky's sports channels on the basis of a detailed analysis of channel listings and programme audiences, using viewer share data from the Broadcasters' Audience Research Board (BARB) for 2008. We also assumed that sports rights fees will increase over time with both inflation and subscriber numbers, so that fees remain constant per subscriber in real terms.

1.199 In its response[104], Sky argued that there were a number of flaws in our approach. Sky noted in particular: our assumption that within a particular rights contract the payments increase by inflation each year; incorrect values used for certain contracted rights; and, no account taken of the non-annual rights information provided by Sky. Sky suggested that we should use Sky's latest forecasts of total sports rights costs as these are "considerably better informed"[105].

1.200 We have now used Sky's forecasts for the years 2009/10 to 2012/13. For years beyond this, for rights projected to still be in contract, we have assumed the annual rights fee is fixed until the end of the projected contract. Thereafter, we have assumed the annual rights fee will increase over time with both inflation and subscribers, consistent with the approach set out in the Third Pay TV Consultation[106] [107].

1.201 In their response[108], the Three Parties argued that it is more reasonable to assume that sports rights costs will remain constant in real terms over the modelled period. Noting that sports rights are not linked directly to subscriber numbers, the Three Parties considered that recent inflation in Premier League (and other non-Premier League) sports rights has been driven by competition, in particular the involvement of Setanta in the various auctions. Therefore, they argued that even with the wholesale must-offer remedy in place, it is unlikely in the medium term that more companies will be able to bid competitively for attractive rights.

1.202 As explained in paragraph 11.186 of the main document, while recognising the uncertainty around future sports rights values, we do not believe there will be a significant change in the way the rights market operates. Broadcasters' bids will to some extent be a function of what they can monetise, and therefore will take into account expectations of subscriber numbers. Also, historically there has been a positive correlation between subscriber numbers and sports rights values. Moreover, we note that our cost-plus charges are a cross-check to ensure that we do not set prices too low; and therefore, in this context, it is appropriate to err on the side of ensuring Sky can recover its costs.

[103] Third Pay TV Consultation, paragraph 9.151.
[104] Sky's response to the Third Pay TV Consultation, paragraphs 7.52 to 7.56.
[105] Sky's own forecasts are sourced from Sky's latest forecast and five-year plan.
[106] **[✂]**.
[107] Third Pay TV Consultation, paragraph 9.156.
[108] Three Parties' response to the Third Pay TV Consultation, paragraphs 11.1 to 11.11.

1.203 We have continued with our approach of allocating rights costs between channels, mainly basing it on the viewing shares used for the Third Pay TV Consultation[109].

1.204 In its response[110], Sky pointed out that we did not allocate a portion of individual sports rights costs to HD. We acknowledge Sky's observation, and have revised our calculation so that sports rights costs are allocated between SD and HD appropriately[111].

Sports production costs forecast

1.205 For the Third Pay TV Consultation, we calculated sports production costs from Sky's management accounts for 2007/08, and assumed that production costs will increase over time with inflation.

1.206 In its response[112], Sky pointed out that we had incorrectly calculated 2007/08 production costs from its management accounts. Sky also argued that our assumption for calculating future production costs takes no account of the extra rights Sky has purchased and the additional production costs required, and it ignores the production costs associated with non-annual rights. Sky argued that we should use Sky's latest forecasts for sports production costs from its five year plan, as these are "considerably better informed".

1.207 We have used Sky's forecasts for the years 2009/10 to 2012/13. Beyond this, we have assumed sports production costs increase over time with inflation, consistent with our approach set out in the Third Pay TV Consultation[113].

Allocation of sports production costs

1.208 For the Third Pay TV Consultation, we allocated UK sports production costs equally between Sky Sports 1, Sky Sports 2, Sky Sports 3 and Sky Sports 4.

1.209 In its response[114], Sky suggested an alternative approach, which allocates production costs for each sports contract based on the number of live hours on each channel in 2007/08. Sky argued that this approach is in line with the key driver of production costs.

1.210 We have adopted Sky's suggested approach and have used Sky's allocation based on live hours. At a high level, the effect is to increase significantly the production costs of Sky Sports 1, and reduce the production costs of Sky Sports 3 and Sky Sports 4. The production costs of Sky Sports 2 increase slightly.

[109] Sky's five-year plan includes separate forecasts for Guinness Premiership and RFU. Therefore, we have undertaken further analysis of the channel listing and viewing share data used for the Third Pay TV Consultation, in order to allocate these rights costs between channels. We have also refined our calculation of the channel shares applied to rights costs below £5m, by reference to viewing share data for sports programming not covered by rights fees over £5m.
[110] Sky's response to the Third Pay TV Consultation, Section 7, footnote 47.
[111] We have allocated sports rights costs between SD and HD on the same basis as other costs. See paragraph 1.54.
[112] Sky's response to the Third Pay TV Consultation, paragraphs 7.57 to 7.60.
[113] We take an inflation adjusted average of the four years' production costs in Sky's forecast, and assume that this increases with inflation. This reflects the fact that some production costs are associated with non-annual rights.
[114] Sky's response to the Third Pay TV Consultation, paragraphs 7.61 to 7.65.

Allocation to PPV services

1.211 For the Third Pay TV Consultation, we allocated a share of sports production costs to PPV services. In its response[115], Sky noted that such an allocation is erroneous, as all PPV production costs are identified separately in Sky's management accounts. We acknowledge Sky's observation, and have revised our calculation so as not to attribute any production costs to PPV.

Impact of changes to premium sports programming costs

1.212 The overall impact of these changes to premium sports programming costs is a reduction in cost-plus charges of around £0.90 for Sky Sports 1&2, around £0.60 for Sky Sports 1 and around £0.25 for Sky Sports 2.

Premium movies rights costs

1.213 For the Third Pay TV Consultation, we assumed that Sky's total movies rights fees will increase over time with both inflation and subscribers[116]. **[✂]**[117].

1.214 In its response[118], Sky argued that there were a number of flaws in our calculation to forecast movies costs. Sky noted in particular: incorrectly splitting costs between rights and production; no account taken that some costs are fixed and some are variable; and no account taken that most of the costs are paid in US Dollars and therefore affected by movements in the exchange rate. Sky suggested that we should use Sky's latest forecasts of movies rights costs as these are "considerably better informed"[119]. These forecasts all took account of fixed and variable movies costs.

1.215 As a result, we have now used Sky's forecasts for the years 2009/10 to 2012/13. For years beyond this, we have assumed that the variable cost per subscriber per month increases with inflation, and the fixed cost increases with inflation and subscribers[120]. In other words, beyond 2012/13, Sky's total movies rights costs are assumed to increase with inflation and subscribers over time. **[✂]**. As explained in the Third Pay TV Consultation, this may lead to a slight over-recovery of costs from subscribers to only the least popular of Sky's channels. However, given that our objective in calculating cost-plus prices is to serve as a cross-check against our retail-minus prices being too low, we continue to regard this pragmatic approach as appropriate[121].

1.216 In their response[122], the Three Parties argued that it is more reasonable to assume movies rights costs will remain constant in real terms over the modelled period, noting that Sky has successfully negotiated down its payments for movies programming in recent years. We note that there is still a direct link between subscriber numbers and the amount Sky pays for movies rights. Moreover, given the

[115] Sky's response to the Third Pay TV Consultation, Section 7, footnote 49.
[116] Third Pay TV Consultation, paragraph 9.156.
[117] **[✂]**. Third Pay TV Consultation, paragraph 9.151.
[118] Sky's response to the Third Pay TV Consultation, paragraphs 7.66 to 7.70.
[119] Sky's own forecasts are sourced from Sky's latest forecast and five-year plan.
[120] Although these fixed costs are fixed within the contract, we would anticipate increases on renewal. We also consider that this is a pragmatic assumption, given that our object in calculating cost-plus prices is to serve as a cross-check against our retail-minus prices being too low.
[121] Third Pay TV Consultation, paragraph 9.151.
[122] Three Parties' response to the Third Pay TV Consultation, paragraphs 11.4 to 11.6.

role of our cost-plus prices is to serve as a cross-check against our retail-minus prices being too low, we continue to think that our approach is appropriate.

Valuation of Sky's existing subscriber base

1.217 As explained in paragraph 1.164, we have included in the first year of the cost-plus calculation an allocation of Oxera's valuation of Sky's existing subscriber base to Sky's premium wholesale business. This results in a small increase in cost-plus charges.

Treatment of advertising revenues in the cost-plus calculation

1.218 In our Third Pay TV Consultation (see paragraph 9.152), we explained that because Sky earns advertising and sponsorship revenues through its premium sports and movie channels, the costs incurred in producing wholesale premium channels support not only subscription revenues, but also this advertising revenue. We took account of this by allocating a percentage of wholesale channel costs to the advertising function, such that the advertising of premium channels has the same operating margin as Sky's total group operating margin.

1.219 In its response[123], Sky argued that this approach required an unnecessary assumption, and that this revenue should be recognised as a revenue rather than a negative cost. Sky also noted that such an approach would also be consistent with our treatment of advertising and other revenues in the retail-minus calculations. Similarly, Top Up TV[124] argued that as advertising revenue is earned by the wholesale (i.e. channel) business, any margin on advertising should properly be considered as part of the wholesale channel business.

1.220 We agree with Sky and Top Up TV and have followed Sky's proposed approach of including premium advertising revenues as revenues in the cost-plus calculation. These revenues are netted off premium wholesale costs, resulting in a small reduction in cost plus charges.

Adjustment for Sky Sports 3 and Sky Sports 4

1.221 As explained in paragraphs 1.123 to 1.126, we have revised our approach to making an adjustment to Sky's retail prices for Sky Sports 3 and Sky Sports 4, and have now deducted a proportion of common costs allocated to these channels. This means that fewer common costs are allocated to the channels Sky Sports 1 and Sky Sports 2, resulting in a small reduction in cost-plus charges.

[123] Sky's response to the Third Pay TV Consultation, paragraphs 7.48 to 7.51.
[124] Top Up TV presentation to Ofcom, dated 28 October 2010.

Section 4 - Price changes over time

1.222 This section sets out a mechanism for how Sky's regulated wholesale premium channel prices should change over time. We first summarise the mechanism and its intended characteristics, then set out the detail of the mechanism and present a worked example.

Our approach

1.223 We intend that the mechanism described here should, to the fullest extent possible, have the following characteristics:

- **Simple** – it should be readily understood, and ideally should not rely on manipulation of the detailed pricing model.
- **Transparent** – it should be clear to all parties what the expected outcome of an adjustment would be.
- **Robust** – it should not be significantly open to gaming by Sky or any other party.

1.224 We set a retail-minus margin, rather than a wholesale price per se. In terms of implementation of the wholesale must-offer remedy, and at the start of the initial three-year period, we specify for each wholesale product a retail-minus margin and a wholesale charge consistent with that margin. For subsequent periods, wholesale prices are to be determined by reference to this margin: if Sky's retail prices change, its wholesale prices should change in line with the margin. The margin is a fixed absolute margin, as specified in paragraph 10.233 of the main document. For each wholesale product, Sky should calculate its wholesale charge by deducting from its corresponding retail price the absolute retail margin (adjusted for inflation). Sky should undertake this exercise whenever it changes its retail prices (as defined below). This wholesale charge will then be available to all recipients of the wholesale must-offer.

Details of the mechanism

1.225 The calculation applies to **each wholesale product** rather than to a basket of products. That is, we set a margin for each of Sky Sports 1, Sky Sports 2 and Sky Sports 1&2. Note that we set different margins for Sky Sports 1 and Sky Sports 2, even though the wholesale charges consistent with those margins are the same. The margin for Sky Sports 2 is higher because subscribers to Sky Sports 2 take, on average, more basic mixes than subscribers to Sky Sports 1[125]. However, this is reflected consistently in a greater allocation of the costs of basic mixes to Sky Sports 2, resulting in very similar retail-minus charges for Sky Sports 1 and Sky Sports 2. See paragraph 10.218 of the main document.

1.226 Sky's retail price corresponding to each wholesale product is calculated based on the **closest equivalent premium product** at the retail level. That is, for each wholesale product, it is based on the set of retail products containing the smallest equivalent set of premium channels. For example, we set the wholesale price for Sky Sports 1 based on the retail price for packages containing Sky Sports 1 (and no other premium channels).

[125] **[✂]**.

1.227 For each wholesale product, the reference retail price is an average of satellite price points for different numbers of basic mixes (including zero), **weighted by Sky's UK residential satellite subscriber numbers** at the most recent month-end for which Sky has data available when undertaking the calculation.

1.228 Sky's reference retail price is for **UK residential satellite** customers. That is, prices for Republic of Ireland, commercial and Sky Player customers are not taken into account in the mechanism. This is in order to retain consistency with the basis on which the retail-minus margin is calculated.

1.229 Sky's reference retail price is calculated to **exclude VAT**, to enable the mechanism to be broadly neutral as to the VAT rate.

1.230 The mechanism works on the basis of Sky's **advertised retail prices** rather than actual prices paid after discounts, as advertised retail prices are more transparent to market participants. The expected level of discounts (based on 2009/10 figures) is reflected in the retail-minus margin. Likewise, Sky's **non-subscription retail revenues** (such as advertising income from Sky's customer web sites) and the occurrence of **bad debt** are not included in the calculation of retail prices. These too are reflected in the retail-minus margin.

1.231 Sky's **Multiroom revenues** are included in the calculation of the reference retail price. This should be calculated by multiplying Sky's ex-VAT Multiroom price by the Multiroom penetration rate (this being the ratio of total UK residential satellite Multiroom subscriptions to total UK residential satellite subscribers). Figures should be for the most recent month-end for which Sky has data available when undertaking the calculation.

1.232 Sky should calculate retail prices based on the combination of standalone premium and 'basic+premium' prices, **not including any additional products** other than Multiroom[126].

1.233 Sky should recalculate wholesale prices only when it makes changes to its retail prices.

1.234 In each case, Sky should provide **45 days' notice** to wholesale customers of any wholesale price change. This is consistent with the current cable rate-card terms and conditions. Sky should make reasonable efforts to undertake the calculation in advance of making changes to retail prices, such that the application of revised wholesale prices happens at the same time as changes to retail prices.

1.235 The retail-minus margin is fixed unless there is **a material change to Sky's cost base.** A material change may require us to recalculate the retail-minus margin during the charge control period. See paragraph 10.254 of the main document.

1.236 Sky should calculate the **inflation-based adjustment to the absolute margin** by comparing the most recent RPI value, at the point at which it notifies retailers of the wholesale price change, with the RPI value for December 2009[127].

[126] Under the incremental price-cost test, we would expect Sky to adjust its wholesale prices downwards if it added non-TV elements which had a lower incremental price than long run incremental cost.
[127] RPI value for December 2009 = 218.0 (January 1987 = 100), RPI Index (all items), Office of National Statistics.

Worked example

1.237 The following text presents a worked example of how the rule would apply for a particular wholesale product, Sky Sports 1, for prices in September 2010.

Ofcom year 1 calculations

1.238 For each wholesale product, we present the absolute retail-minus margin, as derived from the pricing model. As per numbers presented in this statement, the calculation for Sky Sports 1 in 2009/10 can be summarised as follows:

- Weighted average ex-VAT retail price (for reference): £27.37.
- Absolute retail-minus margin: £16.74.
- Resulting wholesale charge in year 1 (for reference): £10.63.

Sky calculations

1.239 Suppose Sky changes its prices in September 2010 by increasing all its headline prices by £1.00, for example, to take account of inflation. Continuing with this example for Sky Sports 1, when Sky changes its retail price for Sky Sports 1, it should calculate its average retail price consistent with our methodology. That is:

- It takes its ex-VAT advertised retail prices for all TV-only products containing Sky Sports 1 (and no other premium channels) for UK residential satellite customers. It does not include revenues from non-core subscription products. It does not reflect any expected discounts to customers, other revenues or bad debt. It calculates a weighted average of these prices, based on the proportions of UK residential satellite subscribers taking the product.
- Figure 6 below sets out the calculation with some example numbers. These example figures are for prices which Sky would intend to apply from the month September 2010.

Figure 6: Calculation of the reference retail price (an example)

	Retail price (incl. VAT at 17.5%)	Retail price (excl. VAT at 17.5%)	% of SS1 customers taking mix at most recent month end
0 mix + Sky Sports 1	£27.00	£22.98	[✂]
1 mix + Sky Sports 1	£28.00	£23.38	[✂]
2 mix + Sky Sports 1	£29.00	£24.68	[✂]
3 mix + Sky Sports 1	£30.00	£25.53	[✂]
4 mix + Sky Sports 1	£31.00	£26.38	[✂]
5 mix + Sky Sports 1	£32.00	£27.23	[✂]
6 mix + Sky Sports 1	£33.00	£28.09	[✂]
Weighted average	-	[✂]	-

- Sky should then add the additional retail price contribution from Multiroom subscriptions. Sky first derives the Multiroom penetration rate: for example, if it has 3m UK residential Multiroom subscriptions, out of a total UK residential subscriber base of 10m subscribers, this is a penetration rate of 30%. If Multiroom has an ex-VAT retail price of £8.51, multiplying this by the penetration rate gives a Multiroom price contribution of £2.55.

- Sky should then calculate the inflation-based adjustment to the absolute margin by comparing the most recent RPI value at the point at which it notifies retailers of the wholesale price change with the RPI value for December 2009 (218.0). In this example, if we assume the most recent RPI value is 223.5, the absolute margin will be 2.5% higher after adjusting for inflation (i.e. (223.5/218.0) - 1 = 2.5%). Therefore, the absolute margin to be deducted from the relevant reference retail price is £17.16.

- From this calculation, it is evident that the relevant reference retail price from September 2010 is **[✂]** (i.e. **[✂]** + £2.55). The retail-minus margin is set at £17.16. Sky then deducts the margin from its corresponding retail price resulting in an adjusted wholesale charge of £**[✂]**.