



**Prepared For:**

BSkyB

# Sky's "Incentives" to Foreclose Competition in the UK Pay TV Industry

A response to the complaint  
by BT *et al.*

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## EXECUTIVE SUMMARY

1. Together with Prof. John Van Reenen, CRA has been asked by Sky to review and comment on allegations in a complaint (“the Complaint”) submitted to Ofcom by a number of competitors (BT, Virgin Media, Setanta and Top Up TV – hereinafter “the Complainants”), that Sky has “incentives” to foreclose competition in the UK pay-TV market (“*Submission to Ofcom on the need for a market investigation into the pay TV industry*”).
2. Allegations about Sky’s incentive (and ability) to foreclose competition form the centrepiece of the Complaint, which also includes claims about “consumer harm” based on an econometric study produced by LECG. Based on these, the Complainants call for a fresh in-depth review of the UK pay-TV industry by means of a reference to the Competition Commission, and for far-reaching remedies including the vertical separation of Sky’s retail function from its channel production function. LECG’s empirical analysis is addressed in a companion report (*A Comparison of Average Pay TV Revenue per Subscriber across European Countries*), and found to be flawed. We do not therefore address it here. This note focuses instead only on the question of Sky’s alleged “incentives to foreclose”.
3. We find that the Complainants’ case suffers from a number of flaws. The Complaint alleges that – as a result of vertical integration, size and incumbency – Sky has “incentives” to *foreclose competitors downstream* (by making its “key content” available to rival retailers on uneconomic terms); as well as to *foreclose competitors upstream* (by enjoying a broader retail customer base, which rivals have no access to on the same terms, and thus being able to bid more aggressively for “key content”). The Complaint elevates these alleged concerns into a wide-ranging “market failure”, by introducing the notion of a “vicious circle”. Using a combination of evocative language (Sky is a “compulsory trading partner” for third party broadcasters, has a “first mover advantage” in the acquisition of “key content”, benefits from “mutually reinforcing upstream and downstream bottlenecks”, etc.), and a few references to the economic literature, it concludes that the competition problems in the UK pay TV industry are so severe and pervasive, as a result of Sky’s position and actions, that no “piece-meal” regulatory intervention could ever hope to solve them.
4. The Complaint proceeds from a description of the pay TV industry that contains a number of inaccuracies bearing directly on the subsequent analysis – for instance, the casual aggregation of “platforms/ retailers” in the “distribution function”. When the key features of the industry are properly understood, it becomes clear that the Complaint has overlooked important dimensions of analysis and therefore significantly mischaracterised Sky’s incentives.

5. The Complainants' case also suffers from a number of logical and economic flaws that become clear when the key building blocks of their "vicious circle" theory are more closely analysed.
6. The first building block of the Complainants' theory of harm is a *downstream foreclosure* story. The Complainants state that, directly as a result of its vertical integration, Sky has an incentive to behave in ways that disadvantage downstream competitors (e.g. by worsening the terms of supply of its "key content" to them). At the same time, they briefly recognise that the static benefits of a foreclosure strategy "could in principle" be outweighed by the costs (e.g. ¶4.3, p.20), and therefore seek to introduce a dynamic angle to their case whereby the alleged benefits also include the preservation of Sky's position "upstream". However on any reasonable assumptions, foregoing revenues from potential subscribers on other platforms (whether served directly by Sky's retail division or via a wholesale contract with a third party retailer) implies significant costs, and these do *in fact* (rather than just "could in principle") provide a strong *disincentive* for downstream foreclosure. Conversely, the Complaint provides no analysis of the trade-offs that would be actually involved in a downstream foreclosure strategy, and fails entirely to recognise that there are strong incentives for a channel provider such as Sky, having successfully won "key content", to make its channels available on all efficient platforms in order to reach as many interested consumers as possible.
7. The second building block of the Complainants' theory of harm is an *upstream foreclosure* argument. Again as a result of vertical integration, Sky is argued to have incentives to foreclose or marginalise competing channel providers. The Complainants' case relies on alleged "platform advantages" and "retail advantages" attributed to Sky. Because of "the number of users of its platform (the platform advantage) as well as the large number of subscribers to its pay TV services (the retail advantage)" (¶4.7, p. 21), Sky is alleged to benefit from a "competitive advantage in the acquisition of contents and channels" (*ibid.*), which cannot be matched by rivals. However:
  - a) On the "platform advantage", as DSat is an open platform subject to a detailed regulatory regime, it is unclear what the "advantage" consists of; nor how Sky can manipulate access to potential subscribers on the DSat platform in order to foreclose rivals.
  - b) On the "retail advantage", it is also unclear how vertical integration of Sky's channel production with its downstream operations can create exclusionary incentives significant enough to generate foreclosure effects. No detailed analysis is provided in the Complaint. We find that when possible arguments are looked at more closely, both the sign and the order of magnitude of any effect are far from clear. What is more, the hypothetical incumbency advantages that are used to support the vertical "upstream foreclosure" story do not depend on vertical integration

between Sky's broadcasting arm and its retail operations, but arise directly from Sky's incumbency position as a *broadcaster*, and would similarly hold in the case of a non-integrated operator.

8. The Complainants themselves explicitly recognise at various points that strategies of downstream and upstream foreclosure are unlikely to be profitable for Sky (because the costs would likely outweigh the benefits). They thus seek to "square the circle" by combining their downstream and upstream foreclosure stories into a dynamic mechanism – the *vicious circle* – that is claimed to generate a tendency for concentration and "increasing dominance" in the industry. They argue that new entrants at the retail level are handicapped in winning subscribers by their inferior channel offerings. Similarly, they argue that new entrants at the upstream (broadcasting) level are handicapped in competing in individual auctions for content with Sky by not having access to subscribers on the same terms as Sky (and by having at any point in time less attractive content that can be combined to generate attractive channels).
9. We are very familiar with "dynamic" foreclosure theories, having represented Sun Microsystems in the *Microsoft* case and indeed developed dynamic arguments in that case. But this is no *Microsoft* case. "Dynamic foreclosure" (or "dynamic leveraging") theories can overcome the fundamental weakness of standard foreclosure arguments (that such strategies are often unprofitable for the firm) in circumstances where there are specific mechanisms that can render a short-term gain in market share persistent, and irreversible. Unless such specific mechanisms are identified (for instance some source of network effects), there can be no credible "dynamic" story. To give the "vicious circle" any credibility, one would thus need to identify not only a clear source of downstream advantage, but also a clear mechanism that translates this into a bidding advantage and a mechanism that translates this bidding advantage into further downstream dominance.
10. However no such coherent account is developed in the Complaint. The dynamic argument is poorly articulated, as the Complaint switches back and forth between different versions and does not provide a satisfactory description of the mechanisms at play. It uses imprecise language about "feedback effects", and "mutually reinforcing upstream and downstream bottlenecks". Further it makes inappropriate references to economic articles on "network effects" in telecoms or software, without explaining or identifying the analogy with pay TV.
11. We conclude that the foreclosure mechanisms set forth in the Complaint are speculative, and the "vicious circle" theory is unsubstantiated.

## 1. INTRODUCTION AND OVERVIEW

12. In their “*Submission to Ofcom on the need for a market investigation into the pay TV industry*”, BT, Setanta, Top-Up TV and Virgin Media (“VM”) – hereafter the Complainants – call for the pay-TV industry to be referred to the Competition Commission for an in-depth market investigation under the Enterprise Act 2002. Further, they claim that the “market failures” engendered by Sky’s conduct are so pervasive that they cannot be remedied through “piecemeal regulatory intervention”, and therefore call for far-reaching remedies (including structural separation of Sky).
13. The core of the Complaint is the claim that “Competition in pay TV in the UK is not working effectively” as “a number of features” of the industry – and in particular “Sky’s incentives and ability to leverage the existing market structure” – are preventing, restricting or distorting it (¶1, Executive Summary and elsewhere). The Complainants develop arguments about Sky’s incentives to *foreclose competition “downstream”*, i.e. in the retailing of pay-TV services; as well as to *foreclose competition “upstream”*, i.e. in bidding for rights from content owners, and therefore in the production of attractive channels. Further, they argue that Sky’s foreclosure incentives at the two levels of the market are mutually reinforcing, as a result of “feedback effects” along the vertical structure, giving rise to a “vicious circle” that perpetuates Sky’s dominance and leads to prevention, restriction or distortion of competition. The result is a “negative impact on consumers in the form of higher prices, restricted choice and reduced innovation”.
14. Together with Professor John Van Reenen, CRA has been asked by Sky to examine the arguments put forward in the Complaint concerning specifically Sky’s alleged *incentives* to foreclose competition in the UK pay-TV industry.
15. The discussion below is structured as follows. After summarising the Complainants’ main arguments in Section 2, we start in Section 3 with a brief description of certain key features of the pay-TV industry and their implications for the economics of the industry. Section 4 considers the possibility of downstream foreclosure, focusing primarily on Sky’s incentives for the distribution of its premium channels on other platforms. In Section 5 we assess Sky’s ability to engage in upstream foreclosure, examining the supposed “platform” and “retail” advantages attributed to Sky, as well as other alleged “advantages” that arise from Sky’s size and incumbency position (rather than from vertical integration between Sky’s broadcasting and retail operations). Section 6 examines the flaws in the “vicious circle” argument, and Section 7 concludes.

## 2. THE COMPLAINANTS’ THEORY OF HARM

16. The Complainants’ “theory of harm” is described in Part 3, Sections 3 and 4 of the Complaint. The Complainants proceed from the statements that “Sky holds the leading market positions” at “all three key levels of the supply chain

(the acquisition of content, the wholesale supply of channels and the retail distribution of channels)" (¶3.1, p. 18), and these positions are "entrenched" (¶3.2). They go on to claim that "due to its *vertical integration*, Sky has an incentive to foreclose, or at least to marginalise, its upstream and downstream rivals and it is able to do so due to its leading market positions at each horizontal level of the supply chain" (emphasis added, ¶4.2, p.20).

17. The alleged theory of harm has thus the following main building blocks: (i) vertical integration provides incentives for "downstream foreclosure"; (ii) it simultaneously provides an incentive for "upstream foreclosure"; and (iii) an alleged "feedback effect" between downstream and upstream "bottlenecks" triggers a self-perpetuating "vicious circle".

#### *Downstream foreclosure*

18. The first component of the Complainants' theory of harm is a claim that

*"[B]ecause Sky is vertically integrated, it has the **incentive** to foreclose, or at least to marginalise, its downstream competitors." [¶4.3, p. 20; emphasis in the original].*

19. The suggestion is that a broadcaster that was not integrated downstream with a retailer would want to maximise its wholesale revenues across all retailers and platforms; however, vertical integration is alleged to imply that Sky has an incentive to withhold its premium (sports and movie) channels from third party retailers (or platforms), or worsen the terms of supply to them, in order to weaken downstream competition between pay-TV retailers to the benefit of its own downstream division. The Complainants argue that

*"[B]y refusing to provide certain third party pay TV retailers with access to its premium channels (including its enhanced, interactive and HD services) on commercially viable terms and on a non-discriminatory basis as compared with its own downstream distribution arm, Sky places its downstream competitors at a material disadvantage." [¶4.6, p.21].*

#### *Upstream foreclosure*

20. The second component of the Complainants' theory of harm is the allegation that foreclosure also occurs in the opposite direction – that Sky's position and actions enable it to prevent rivals from successfully bidding for "key content", thus preserving Sky's own position going forward.
21. The principal way in which Sky is alleged to do so is as a result of its "downstream advantage", which allows it to outbid its rivals in the acquisition of attractive content. The claim is that if Sky were not a vertically integrated broadcaster, its downstream (platform distribution and retail) businesses would not affect Sky's bidding for programme rights. However, as an integrated operator, Sky has the incentive to foreclose or marginalise its upstream competitors – by seeking to limit their access to its retail customer

base, and thus being able to systematically outbid them in contests for acquiring attractive content.

22. The supposed advantage in Sky's bidding behaviour is argued to arise specifically from two sources (¶4.7, p. 21, and elsewhere): the "platform advantage" – i.e. the number of TV viewers using Sky's (DSat) platform; and the "retail advantage" – the number of subscribers to Sky's pay-TV services.<sup>1</sup> The suggestion is that if rival bidders somehow do not have access to a critical mass of downstream consumers, then their valuation of content will be decreased, and this will in turn increase the probability that Sky will prevail in auctions for content – as well as decrease the price that it would expect to pay for this content.

*"Feedback effects" and the "vicious circle"*

23. At the heart of the Complaint is a claim that "feedback effects" along the vertical supply chain have a compounding effect on the downstream and upstream foreclosure incentives just described, leading to a complete market failure. For instance, contests for programme rights are most likely to be won by broadcasters with larger subscriber bases, or other incumbency advantages; and attractive content allows a broadcaster to retain existing subscribers and win new ones. Putting the two effects together generates, claim the Complainants, a "vicious circle" to the detriment of Sky's competitors: Sky's downstream advantage, perpetuated by its alleged refusal to supply content to other retailers on economic terms, together with the fact that rivals are alleged not to have economic access to an equivalently large subscriber base, inhibits competing broadcasters from winning key content. This increases Sky's stranglehold on key rights, which in turn increases Sky's ability to foreclose downstream rivals, leading to further dominance of Sky at the retail level, and so on.
24. We address each of the components of this vicious circle argument in turn in the rest of this document. Before that, we start with a brief discussion of certain key features of the industry that are important for the discussion that follows (particularly as some of these are either underplayed or mischaracterised by the Complainants).

### 3. SOME KEY FEATURES OF THE PAY-TV INDUSTRY

25. The Complainants' description of the vertical supply chain in the pay TV industry (in Part 2 of the Complaint) is imprecise, leading to a number of inaccuracies. Moreover the implications of a number of important industry

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<sup>1</sup> As discussed further below, it is not clear whether the Complainants refer to subscribers to Sky's sports and movie channels across all platforms (e.g., including VM subscribers purchasing the Sky sports or movie channels) or subscribers to Sky's retail packages.

characteristics are missed or underplayed, which contributes to flaws in the analysis.

26. In this section we clarify (and in places correct) aspects of the framework set out by the Complainants. In particular, we briefly describe the vertical structure of the industry and the cost characteristics at each stage. We then draw out certain relevant implications for the operation of the industry and the behaviour of market participants.
27. We do not discuss here the product and geographic market definition put forth by the Complainants – a “retail market for the supply of pay TV in the UK” – because the precise definition adopted for the downstream market is not critical to the arguments in this note. At the upstream level we focus, again following the Complaint, only on competition to acquire alleged *key* content and the availability of *premium* channels on competing platforms.

### 3.1. VERTICAL STRUCTURE OF THE INDUSTRY

28. The broadcasting industry consists of a number of distinct vertical stages or functions.<sup>2</sup> As the Complainants’ case relies on various forms of leverage or foreclosure between the vertical stages, it is important to be clear about what these are.
29. The vertical stages of the industry, and their cost characteristics, can be briefly identified as follows.
  - a) *Programme production*: this activity comprises the function of making audiovisual programmes, including, for example, television drama series, news programmes, movies and live coverage of sports events. It involves (among other things) acquiring content rights (e.g. scripts, rights to enter sports grounds) and other inputs (e.g. actors, directors, on-screen ‘talent’), filming, and potentially editing recorded footage. Programme production incurs a fixed cost but once produced, a programme can be made available to additional viewers at no additional cost. The scale of the fixed cost varies greatly – from potentially hundreds of millions of pounds in the case of a Hollywood blockbuster movie, to thousands of pounds for “filler” content. A significant amount of such content is also exploited outside television, e.g. in cinemas and on DVD.
  - b) *Channel creation* – this activity comprises the function of producing pay TV channels. Channel providers acquire audiovisual programmes and arrange them into linear schedules for broadcast to subscribers. They

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<sup>2</sup> There is often a substantial amount of confusion about the differences between these functions. A key source of such confusion is the fact that (a) vertical integration is pervasive, (b) there is often integration by operators into associated activities, such as the provision of conditional access services, and (c) both the nature of these activities, and the extent of integration between them, differs significantly among platforms. As noted above, such a confusion is evident in the Complaint.

also undertake promotion of the content on their channels (e.g. via billboards and newspaper advertisements for forthcoming programmes, inclusion of their channel schedules in channel listings in newspapers and magazines<sup>3</sup>), arrange playout and broadcast of their channels, negotiate distribution (carriage) agreements with pay TV retailers, and sell airtime on their channels to advertisers.<sup>4</sup>

There are three main methods by which channel providers acquire programming: internal supply (if they are vertically integrated into programme production), commissioning of the production of new programmes from third party programme producers, or licensing of copyright in completed works from programme producers (e.g. new Hollywood films, new U.S. television series, content 'libraries'). Clearly, the economics of these different methods of content acquisition – in particular, with regard to long term ownership of copyright in the content – differ substantially, and this plays an important role in the nature and scale of costs incurred by channel providers in relation to content. At a very general level most programme commissions and licensing of completed works are done on a 'fixed price' basis, with a key exception being the licensing of rights to broadcast first run Hollywood movies by pay TV broadcasters, which are typically licensed on a 'per subscriber' basis.<sup>5</sup> The magnitude of content costs (whether fixed or variable) is generally determined by the perceived 'quality' of the content acquired by the channel provider.

Where channel providers are vertically integrated into programme production, the nature and level of the cost of making programmes (including the costs of the rights and other inputs required to make programmes) is likely to be an important component in determining the nature and level of their combined 'upstream' and 'downstream' costs.

- c) *Channel delivery* - Delivery of channels to consumers by broadcasters requires access to a delivery system, of which there are now five in the UK available for delivering pay TV services: satellite, digital terrestrial (DTT), cable, IPTV and the internet.<sup>6</sup> The first four of these provide the following types of delivery methods: transponder capacity (satellite),

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<sup>3</sup> Where appropriate (e.g., Sky's DSat platform) channel providers are also responsible for acquiring listings in an EPG for their channels.

<sup>4</sup> Accordingly, pay TV channel providers operate in a two-sided market.

<sup>5</sup> Minimum revenue guarantees may introduce a fixed component in such contracts.

<sup>6</sup> IPTV refers to closed networks that deliver TV-like services using communication protocols such as Internet Protocol (IP), rather than video downloading over the open internet. There are currently two main operators of IPTV networks in the UK, Tiscali and BT. A number of pay TV broadcasters (e.g. Discovery, Setanta) now retail content via the internet. We exclude analogue terrestrial from this list as there is no spectrum available for the delivery of pay TV services on that platform.

multiplex capacity (DTT), and cable and IPTV network transmission capacity, respectively. While the development of delivery systems in these cases involves incurring significant fixed costs (e.g. in building a cable network, terrestrial transmission tower network, or building and launching satellites), where capacity is made available to broadcasters it is normally provided on a variable cost basis.

These delivery methods differ in both availability and cost. For example:

- Virgin Media, which controls nearly all the cable network in the UK, does not make transmission capacity available to third parties – it only self-supplies transmission capacity on its network. The variable cost to Virgin Media of carrying additional channels on its network is zero where its network has spare capacity.
- The amount of terrestrial spectrum available for digital television services is currently relatively limited, and is fully utilised. Where DTT spectrum has come to market, it is relatively expensive, reflecting its scarcity.

The only fully 'open' platforms are satellite and the internet.

Current pricing for satellite capacity is around £90,000 per Mbit per annum. Standard definition TV channels typically use between 2-4Mbits capacity, implying a cost per TV channel of £180,000 - £360,000 per annum, which is relatively modest. The low cost of satellite capacity has been a significant contributory factor to the proliferation of TV and radio channels available via DSat in the UK.

The case of delivery over the internet is different. In principle, delivery of services to subscribers via the internet is free to the channel provider – they 'piggyback' on investments made by network operators, whose costs currently are recovered from consumers. Whether such a situation should continue to prevail lies at the heart of the debate over 'net neutrality'.

- d) *Pay TV Retailing* - This involves (*inter alia*) the licensing of rights to distribute pay TV channels to subscribers from channel providers, the development of 'packages' of channels, subscriber acquisition and retention activities, subscriber management (e.g., query handling, and billing), and procurement of conditional access (CA) services in relation to the channels carried by the retailer. True fixed costs at this level are relatively modest. Most costs are either quasi-fixed costs – i.e. costs over which the retailer has a level of discretion (e.g. subscriber acquisition expenditures such as advertising campaigns and customer management centres<sup>7</sup>) - or incurred on a per subscriber basis (e.g.

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<sup>7</sup> If outsourced to third parties, contracts are typically specified on a predominantly variable cost basis (e.g. per subscriber, per call handled).

payments to third party channel suppliers and, where applicable, CA fees).

30. Closely associated with these activities is the role of *platform operators*. Platform operators develop and operate platforms which can be used to provide pay TV services to consumers. The activities involved vary among platforms (for example reflecting their different technologies), as does the extent to which these activities are undertaken by a single firm or a number of different operators. These activities are likely to include some or all of the following: development and distribution to consumers of reception equipment (principally set top boxes) which include CA technology; management of CA systems; provision of electronic programme guides; and investment in roll-out of platforms (e.g. cable infrastructure, IPTV networks, satellites, DTT infrastructure and spectrum, subsidisation of consumer reception equipment).

### 3.2. ECONOMIES OF SCALE IN CHANNEL PRODUCTION (AND DELIVERY)

31. There are typically economies of scale in channel production: after incurring an initial cost, further consumers can generally be supplied at practically no additional expense. The size of the initial cost varies greatly depending on the nature of the content on a channel, and thus economies of scale are most significant for channels containing expensive content. Acquired content is typically purchased on a fixed cost basis (the main exception being pay TV movie rights, which are generally sold on a per subscriber basis). Similarly, for an integrated programme producer and channel provider, the cost of making programmes typically does not vary with the number of viewers or subscribers. This includes sports programming, for which rights required to make programmes based on coverage of sporting events are purchased almost invariably on a fixed price basis.<sup>8</sup> A channel provider whose costs are predominantly fixed has a strong incentive to reach as many consumers as possible. This can be achieved by supplying the channels to as many retailers as possible, or by retailing directly on as many platforms as possible. The costs of channel delivery are relatively modest (subject to capacity constraints), but are also not directly related to the number of consumers supplied (at least on each platform).<sup>9</sup>

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<sup>8</sup> Of course programme costs for acquired content are endogenous, as input prices are determined by bidding between buyers. In this case expected viewing reach and/or expected subscriber numbers determine input prices, rather than input prices necessitating some level of viewership (or number of subscribers). However, even in these cases quality and investment are likely to increase with the price paid, thus greater reach and/or greater expected subscriber revenues tend to improve programme quality.

<sup>9</sup> For example, in respect of the DTT and DSat platforms a channel provider would incur fixed costs for a slot on a DTT multiplex or a satellite transponder. In respect of a cable platform, the cable operator takes responsibility for distributing channels over its cable network and a broadcaster simply needs to deliver the channel to the cable head-end.

32. At the retailing level, the structure of costs is weighted towards costs which either vary directly with the number of subscribers (such as payments to third party channel suppliers and CA services) or are quasi-fixed but still related to subscriber numbers (such as subscriber handling costs, marketing or acquisition costs, as described above). There are some fixed overheads (e.g. setting up a billing system), but economies of scale at this stage are generally more limited.

### 3.3. MITIGATING EFFECTS OF HETEROGENEITY IN CONSUMER PREFERENCES

33. Programme content is enormously differentiated, reflecting heterogeneity in consumers' preferences towards television content, and a general preference for programme variety. While total production costs would be minimised if all viewers watched the same limited output, this would not be welfare maximising: given heterogeneity in preferences, it is socially desirable for a wide variety of programmes (although not every possible programme) to be produced.<sup>10</sup> Economies of scale are thus mitigated by consumers' desire for diversity, which gives rise not just to programme differentiation, but also to different channels and packages of channels.
34. The Complainants fail to acknowledge this, and rest their argument that Sky's "downstream advantage provides it with an ability to outbid its rivals in the competition for key content" (¶2.12, p. 17) on a claim that "[e]conomies of scale in conjunction with network effects may give rise to market leadership for a single product, regardless of whether more efficient products exist" (footnote 52, p. 17).
35. The argument is imprecise and it is not substantiated. Economies of scale clearly exist at the level of programmes and channels, but there are offsetting effects arising from consumer preferences for variety. The Complainants state that Sky benefits from a "first-mover advantage", but do not characterise this effect in any detail. Moreover, despite liberally referring to "network effects" to justify claims of Sky's "increasing dominance" (for instance, see footnote 53, quoting a few reference articles for the telecoms and software industries), they fall short of actually identifying credible network effects – e.g. a plausible mechanism whereby the value of the product to one consumer depends on how many others also consume it.

### 3.4. PLATFORM PROLIFERATION AND DIFFERENTIATION

36. The number of distribution platforms available to consumers has expanded recently. Until the early 2000's only two systems, satellite and cable, carried pay-TV services in the UK (and the latter to only some 50% of households).

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<sup>10</sup> This trade-off and the private and socially optimal outcomes are examined *inter alia* by Steven Salop (1979), "Monopolistic Competition with Outside Goods," *Bell Journal of Economics*, 10: 141-156, and Avinash Dixit and Joseph Stiglitz (1977), "Monopolistic Competition and Optimum Product Diversity," *American Economic Review*, 67: 297-308.

Now there are five: satellite, cable, digital terrestrial (DTT), IPTV and the internet, with availability of the last two becoming increasingly widespread.

37. Individual households differ in the platforms available to them and in their preferences towards these. Availability of any given platform is less than universal: some premises cannot install a satellite dish with the required line-of-sight because of obstructions or local planning restrictions, and consumers living in multi-dwelling units may have restrictions on installing a satellite dish; almost half of UK households are not passed by a cable system; DTT is currently available to approximately 70% of the UK population. Even where multiple platforms are available, consumers have varying preferences: they may refuse to install a satellite dish for aesthetic reasons, or be influenced by additional services that are supplied (e.g. telephony, broadband access, mobile phone services). Thus, even if the same channels were available in similar packages/combinations and at equivalent prices on each platform, consumers are still likely to choose different ones.
38. Heterogeneous consumer preferences, platform differentiation, non-universal availability of platforms (and, to the extent that they exist, any switching costs between platforms), mean that other platforms' share of end users will tend to display some degree of persistence. This will limit Sky's ability to expand the DSat platform's share of pay-TV homes further, and provide an incentive for Sky to distribute its channels on other platforms in order to reach incremental consumers.
39. Because it is highly unlikely that consumer preferences towards platforms and channels coincide (i.e., some sports lovers will prefer or have no other choice than to use cable, and some satellite), to maximise its potential subscriber base – an important consideration given economies of scale – a channel provider will have strong incentives to reach potential subscribers on all platforms.

### 3.5. SUMMARY AND IMPLICATIONS

40. The Complainants briefly acknowledge that the economics of channel production imply significant returns to scale (e.g. ¶2.11, p.16). However they fail to recognise that because the economies of scale mostly arise at the *channel production* level, they are independent of whether Sky is vertically integrated as between channel production and retail distribution: Sky could benefit from the same economies as a *channel producer*, wholesaling its content on multiple different platforms. The Complainants indeed fail to acknowledge at all that economies of scale generate strong incentives for wide distribution of content on multiple platforms. Similarly they overlook that with platform differentiation and increasing fragmentation, heterogeneity of consumer preferences also provides incentives for wide distribution at least on efficient alternative platforms.

41. The description of the UK pay TV industry and its key features in the Complaint is thus incomplete and partial, and does not provide a reliable basis for the inferences that are drawn by the Complainants.

#### 4. DOES SKY HAVE INCENTIVES FOR “DOWNSTREAM FORECLOSURE”?

42. The first building block in the Complainants’ theory of harm is the allegation that

*“[b]ecause Sky is vertically integrated, it has the incentive to foreclose, or at least to marginalise, its downstream competitors”* (¶4.3, p.20).

43. Put in these terms, the argument is just a version of the standard foreclosure concerns that are sometimes raised by downstream rivals acquiring an input from a vertically integrated competitor. The allegation is that by cutting off (or worsening) the terms of supply to downstream rivals (compared with the action of a non-integrated upstream firm), the integrated operator’s downstream division can gain a competitive advantage over its rivals, raising the profits of this unit. Although the profit of the upstream division is lower than it would otherwise have been (because some of the wholesale revenues are foregone), an incentive to foreclose is alleged to exist if the downstream gain outweighs the upstream loss.
44. The Complaint itself goes on immediately to recognise that a standard downstream foreclosure story does not stack up in this case. Having claimed that Sky has an “incentive to foreclose” (¶4.3, p. 20), it goes on to add that “while the wholesale revenues from the supply of its channels to competing pay TV retailers could in principle compensate Sky for the loss in downstream profits, they are highly unlikely to offset the loss of its competitive advantage upstream” (*ibid*). In other words, the Complaint acknowledges that a simple “downstream foreclosure” strategy may well not be profitable for Sky, and therefore another ‘piece’ is needed: the ‘extra benefit’ arising for Sky from preserving its “competitive advantage upstream”.
45. We will analyse in Section 6 the specific weaknesses of the Complainants’ efforts to characterise their theory of harm as a “dynamic foreclosure” story. In the rest of this section we start by clarifying why a standard, static “downstream foreclosure” story is highly improbable in this market in the first place, and therefore claims built around this concept should be discounted.
46. This is because when the *costs* of a downstream foreclosure strategy are properly taken into account, they outweigh any potential benefits. This is apparent from a simple comparison of costs and benefits we have carried out, in a “vertical arithmetic” framework. While ours is a highly stylised exercise, it does confirm that a strategy of downstream foreclosure (not making sports and movie channels available to potential subscribers on different platforms) is likely to be unprofitable for Sky. The Complainants

acknowledge that “the wholesale revenues from the supply of its channels to competing pay-TV retailers *could in principle compensate* Sky for the loss in its downstream profits” (*ibid*) – but in fact, this is not just a possibility: it is highly likely that they *would*, under reasonable assumptions.

47. We also explain that this logic holds regardless of whether Sky wholesales the channels to retailers on other platforms, or retails directly on those platforms itself. There are indeed a number of reasons why it may well be privately and socially preferable for Sky to retail its channels directly on other platforms, where it is able to act as a pay TV retailer, rather than wholesaling them; but in all cases, Sky is not better off by withholding its channels.
48. The implication is that the Complainants’ “downstream foreclosure” theory must then rely *entirely* on alleged “additional benefits” accruing to Sky from some alleged dynamic strategy: namely, preserving its advantage upstream. We will explain in Section 6 why the Complainants’ case on this “feedback link” is unsupported, and therefore the downstream foreclosure story still fails.

#### 4.1. POTENTIAL BENEFITS VS COSTS OF DOWNSTREAM FORECLOSURE

49. A downstream foreclosure strategy would benefit Sky to the extent that its own retail division would gain subscribers at the expense of downstream rivals – i.e. through a “share-shifting” effect. Against any potential benefits must be set the costs of the strategy.
50. In the presence of economies of scale in channel production and also to some extent in delivery (depending on the platform, as described in the previous section) there is a strong incentive for a channel to be supplied to as many of the potentially interested subscribers as possible. Moreover, economic analysis has shown that even without economies of scale (i.e. if the cost of “production” of each unit is constant), a firm controlling some rights has a strong incentive to “sell” to all (efficient) downstream outlets that make it possible to reach some differentiated customers. With the emergence of several, horizontally differentiated distribution systems this requires reaching potential subscribers on other platforms, not just Sky subscribers on the DSat platform. .
51. While the Complaint describes Sky’s “incentives to foreclose” as flowing naturally from its vertical integration, this is incorrect and there can be no general presumption that an integrated supplier has incentives to withhold supply of an upstream input to its downstream rivals.<sup>11</sup> On the contrary, a

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<sup>11</sup> The classic “one monopoly profit” argument of the Chicago school (e.g., Robert H. Bork, *The Antitrust Paradox*, Basic Books, 1978) shows that a monopolistic integrated supplier may well wish to sell inputs to its downstream competitors. The subsequent (“post-Chicago”) literature has shown that, while not fully general, this intuition is powerful and holds in a broad set of circumstances. The incentives of an integrated monopolist to supply downstream competitors depend on the relative size of the profits that its upstream division could make from such sales and the additional profits that its downstream division would make from the weakening of competitors. These in turn depend on the degrees of upstream and downstream market power, the form of

supplier who can charge non-linear prices for the upstream input will *always* have incentives to license to all downstream outlets.<sup>12</sup> In addition, a similar result can be obtained even *in the absence of non-linear pricing*. This is shown, for instance, in Harbord and Ottaviani (2001),<sup>13</sup> who demonstrate that an integrated firm with exclusive rights to premium programming always resells its channels to a (horizontally differentiated) retail competitor as long as some form of per-subscriber pricing may be implemented (which is typical in wholesale contracts in the pay-TV industry, and which would also be the structure of charges adopted by Sky for direct retail deals on another platform). This is the case even though by retaining exclusive rights the integrated operator would win subscribers from its rival.

52. A similar message comes through strongly from other contributions in the vertical contracting literature.<sup>14</sup> As long as suitable instruments are available, an upstream seller (whether vertically integrated or not) will want to implement the efficient outcome downstream – i.e. supply consumers with high enough willingness-to-pay, regardless of platform – since by doing so it gains higher revenues. Economies of scale make this incentive all the more compelling. The key point is that to generate downstream foreclosure incentives in a relatively simple static setting, it is necessary to introduce very special restrictions on the shape of the contract that can be adopted (for instance, prohibiting per-subscriber fees – i.e. allowing contracts with fixed fees only). In most general circumstances (e.g. in the presence of product differentiation, and/or with flexible enough contracts) the incentives simply do not arise.

#### 4.2. RETAIL VS. WHOLESALE SUPPLY

53. The previous considerations – about Sky’s incentive to distribute its channels across multiple platforms – hold *both* where Sky is able to reach a “distribution agreement” to retail its channels directly on a platform other than DSat, and where (as in the case of cable) it has no option but to enter into a “wholesale agreement” to supply its sports and movie channels through a third party retailer (receiving a per-subscriber fee from the retailer).
54. We understand that where possible, Sky prefers to retail its sports and movie channels directly on other platforms, rather than by means of a wholesale

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contracts available, the process of price formation (e.g., posted prices or iterated bargaining), and other factors. For a survey, see for instance Michael H. Riordan (2005), “Competitive effects of vertical integration” (available at <http://www.columbia.edu/~mhr21/Vertical-Integration-Nov-11-2005.pdf>).

- 12 For instance with a two-part tariff, one can use the unit fee to remove double marginalisation and align the incentives of both upstream and downstream firms to serve a larger number of customers.
- 13 David Harbord and Marco Ottaviani (2001), “Contracts and Competition in the Pay-TV Market,” mimeo, London Business School.
- 14 See, *inter alia*, Ilya Segal (1999), “Contracting with externalities,” *Quarterly Journal of Economics*, 114: 337-388.

contract with a third party retailer. This may well be both privately and socially beneficial. It is privately beneficial to the extent that Sky's direct control over the marketing of its own channels translates into greater penetration (Sky believes it is difficult in practice to design a wholesale contract that provides optimal incentives from its point of view for a third party retailer to market Sky's channels most effectively – or as well as Sky would; and that Sky is most effective at marketing its own channels).

55. But there are also social benefits that arise when a channel provider gains direct retail access to subscribers. When a channel is supplied at the wholesale level to another retailer on the basis of per-subscriber fees, the retailer faces a marginal cost per subscriber that is higher than the wholesaler's marginal cost (indeed in the case of most content, including sports, the true marginal cost of channel supply is zero). The retailer's incentive to supply the channel to subscribers depends on its own input cost (the wholesale fee). This has two implications:

a) *Pricing externality and double mark-up*: The retail price for the channel is likely to be too high, both from a social and a private perspective (even compared with an integrated monopoly), because the retailer adds a second mark-up to the wholesale price. The only exception would arise with a perfectly competitive retail market, but this is not the case in the pay TV industry because of horizontal differentiation.

b) *Inadequate investment* in channel promotion and subscriber acquisition: the retailer is the party that invests in subscriber acquisition, and may also be best placed to undertake targeted advertising of individual channels. For efficient investment the retailer needs to have the right incentives: it must determine the appropriate balance between the costs and benefits of these investments. If a significant portion of the surplus arising from a third party channel (for sports and movie channels) is extracted by the channel provider via the per-subscriber fee, and does not accrue to the retailer, the latter's incentive to invest in subscriber acquisition and promoting (premium) third party channels may be too low (unless the retailer receives some strong positive externalities from promoting these premium channels). Integration into retail avoids this rent extraction problem.

56. **To sum up**: the key features of the pay-TV industry provide a strong incentive for wide distribution of content across multiple platforms. Vertical integration into retailing is likely to be both privately and socially efficient, but at the same time the incentive to distribute widely is very strong for a content provider. This is implicitly recognised even by the Complainants, who acknowledge that their "downstream foreclosure" story does not stack up without an extra 'piece' – the additional 'benefit' of preserving Sky's alleged dominance in the acquisition of content. This point is made graphically through the "vertical arithmetic" exercise reported below.

### 4.3. A STYLISED VERTICAL ARITHMETIC EXERCISE

57. A stylised “vertical arithmetic” calculation can be used to show that the costs to Sky of implementing a strategy of downstream foreclosure would significantly outweigh the benefits. Given this, there is clearly no basis for the Complainants’ “downstream foreclosure” story, except to the extent that it rests on the additional ‘benefit’ of preserving Sky’s alleged dominance upstream. We will show in Section 6 that this additional ‘piece’ is not plausible either, and therefore no concern about downstream foreclosure should arise.
58. For simplicity, the scenario we consider is one in which Sky refuses to supply certain premium channels entirely to a rival retailer and also refuses to retail these channels directly on the retailers’ platform. The profitability of such a strategy clearly depends on the impact on Sky’s own subscriber numbers. At least some consumers would choose to switch and subscribe to Sky on the DSat platform, or other platforms where the channels may be available. Sky’s retail division would thus benefit to the extent that it captures at least some of these consumers. On the other hand, Sky would lose the revenues associated with making the channels available to the rival platform (either through wholesale supply or by retailing directly). Determining whether the strategy might be profitable overall requires an assessment of this trade-off; i.e. comparing the likely loss of revenues from withholding the channels with the gain in retail subscribers.
59. Of course a more comprehensive analysis of this trade-off would require the formulation of a complete model of the markets involved, including the pricing decisions of the various agents in those markets and an assessment of investments on an NPV basis. As a crude first approximation, a “vertical arithmetic” exercise compares those losses and gains under the assumption that all prices (including those paid for content) remain at their “current” level and using a simple amortisation rule for investments. In particular, we compare:
- (a) **[Confidential to Sky];**
- (b) the *margin obtained by Sky* as some of the customers from the foreclosed competitor switch to buying a DSat subscription from Sky. This is the same independently of where the subscriber is won from. It can be computed as Sky’s retail revenues inclusive of the sale of its basic channels, plus Sky’s incremental advertising revenues, minus Sky’s incremental programming and retail costs.
60. Comparing these two margins we can derive a “critical diversion ratio” – the minimum share of retail customers that Sky would have to win for foreclosure to be profitable. Using the available market information and assumptions about firms’ strategic responses one can then gauge whether the actual diversion of customers would be likely to be at least as high.

61. As mentioned the calculations described in Appendix 1 are calibrated on the wholesale case of VM, but the same logic applies to any third-party retailer purchasing channels from Sky, as well as to Sky's decision whether or not to retail on other platforms. The calculations assume a strategy of refusal to supply all of Sky's premium sports and movie channels to VM, a scenario that is likely to have the maximum impact on the downstream "diversion ratio". We consider two possibilities:
- a) where retail customers that Sky wins from the rival only buy (pay) TV products from Sky;
  - b) where retail customers that Sky wins from the rival buy (pay) TV products and typically generate ancillary revenues (broadband, voice services).
62. We also distinguish between a "baseline case" where we assume that the incremental costs incurred by Sky's DSat retail business consist only of per-subscriber programming costs, distribution costs and the cost of acquiring subscribers, and a "sensitivity" analysis where we also assume that some general administration and operational costs increase if there is a one-off increase in retail subscribers.
63. Based on the assumptions described in detail in Appendix 2, we calculate that the upstream margin per subscriber per year is a little over [Sky confidential], while the incremental per-subscriber margin gained by Sky on new premium subscribers on the DSat platform is a little less than [Sky confidential]. As the difference is quite small, the implication is that that Sky would need to win *nearly* [Sky confidential] of VM's subscribers currently purchasing Sky movie and sports channels to make a vertical foreclosure strategy profitable (and over [Sky confidential] in the less conservative "sensitivity case"). Thus Sky would need to believe that [Sky confidential] out of the [Sky confidential] VM customers currently purchasing Sky's sports and movies channels would switch to Sky in order to embark on the strategy. This is a large number in a context where switching to Sky is time-consuming and costly for some customers, and actually impossible for others.
64. For example, some VM subscribers would not be able to subscribe to Sky's DSat retail offer at all (no line of sight to the satellite, need for planning permission and/or landlord's permission, etc). In addition, there are switching costs, including those concerning the installation or reactivation of a BT phone line, which is required for Sky broadband or telephony services. Specifically, we understand that when a cable customer calls BT to activate a dormant BT line, they will be told that they may be charged up to £125 if an engineer's visit is necessary. Once the BT line is activated, which may take a week or more, a customer wishing to acquire Sky broadband faces a further 5-day wait for Sky to be able to carry out a DSL check, and up to 2 weeks for activation. Given these factors which discourage switching to Sky, and in some cases render it impossible, it is highly unlikely that Sky would find it profitable to attempt the foreclosure strategy.

65. The methodology and the values behind this analysis are discussed in greater detail in Appendices 1 and 2. While the analysis necessarily incorporates considerable simplifications, we believe the calculations underlying our conclusions are reasonably representative.

#### 4.4. CONCLUSION ON DOWNSTREAM FORECLOSURE

66. The Complainants' case about "downstream foreclosure" is not substantiated. Economic analysis strongly rejects the proposition that vertical integration necessarily creates incentives to foreclose downstream rivals. The economic literature shows that for foreclosure incentives to arise in a vertically integrated setting, very specific circumstances need to arise. No presumption can exist to the contrary, and a detailed fact-specific analysis needs to be undertaken in each case. Yet the Complainants characterise Sky's "incentive" to foreclose as a self-evident consequence of its vertical integration.
67. Further, while they claim that Sky has an "incentive" to foreclose rivals downstream, they fail to recognise the very powerful incentives in the opposite direction that arise from economies of scale and platform proliferation. Moreover, they provide no empirical calculations to support their claim about Sky's "incentive to foreclose", and indeed concede that "wholesale revenues from the supply of its channels to competing pay TV retailers could in principle compensate Sky for the loss in downstream profits" – i.e. a standard foreclosure strategy is not profitable, *unless* there is some other benefit to Sky.
68. Simple "vertical arithmetic" calculations confirm that – without some significant other factor at play – foreclosure of rival retailers (and/or refusal to retail directly on rival platforms) is likely to be unprofitable for Sky. The Complainants identify an additional benefit arising from alleged "feedback effects" along the vertical supply chain: Sky would benefit from foreclosing rivals downstream because this helps preserve its dominance in the acquisition of "key content". We explain below in Section 6 why claims about "feedback effects" and "vicious circle" should be dismissed. With that 'extra piece' also gone, the Complainants have no plausible case that Sky has the incentive to weaken rival platforms through withholding of content.
69. In the next section we consider the second building block of the Complainants' case: that other retailers and platforms are critically disadvantaged in terms of providing an attractive outlet to channel producers trying to gain access to final customers. We believe the Complainants' case is ill founded: either because it ignores existing regulation, or because it attributes to vertical integration advantages that do not in fact depend on integration at all. Moreover, even if Sky had any advantage in bidding for content, we see no reason why this should translate into increasing platform dominance, nor that rival bidders will be further disadvantaged.

## 5. CAN SKY'S "DOWNSTREAM ADVANTAGES" LEAD TO UPSTREAM FORECLOSURE?

70. The Complainants further allege that, in addition to incentives to foreclose downstream competitors, Sky has also "incentives" to foreclose rivals *upstream* – frustrating their ability to successfully bid for content as a result of a "competitive advantage" which is "related to its downstream advantage". Because rivals are not able to "benefit" from Sky's downstream advantages, in terms of "access to a subscriber base", competition is weakened in the market (¶4.7, p. 21).

*"[B]ecause Sky is vertically integrated, it has the **incentive** to foreclose, or at least to marginalise, its upstream competitors." [ibid., emphasis in the original].*

71. The essence of the "upstream foreclosure" story as told by the Complainants is that the integration of Sky's channel production with the DSat platform on the one hand, and with Sky's retail operation on the other, provide it with an advantage in terms of "immediate demand from its substantial and pre-existing customer base" (¶3.4, p.18). This enables Sky to outbid others in the acquisition of premium programming rights, and means that other channel providers are effectively foreclosed.
72. Underlying this claim is the assumption that competition for the acquisition of premium rights is determined by the expectation of channel providers about their ability to reach consumers. While this is not unreasonable, the Complainants appear to overstate significantly any benefits that Sky might derive from its integration with the DSat platform, and its retail arm when bidding for rights. Benefits would appear to be at best minor, and in any event fall far short of the kind of advantage required for the upstream foreclosure effect alleged by the Complainants.
73. Moreover, a number of alleged "advantages" enjoyed by Sky in bidding for rights are not to do with vertical integration as such, but rather with Sky's incumbency and/or size as a *broadcaster*. In the effort to argue that others could never hope to beat Sky at the bidding game, the Complainants seek to strengthen their vertical foreclosure story by introducing various ways in which Sky's "size" could be argued to be of significance. However, when looked at more carefully, their analysis does not amount to a convincing case that Sky's "installed base" of retail customers, or its library of content, prevents others from bidding successfully for premium rights.

### 5.1. THE "PLATFORM ADVANTAGE"

74. The first source of "downstream advantage" identified by the Complainants is the vertical integration of Sky's broadcasting function with the DSat platform. Their starting point is the assumption – in itself of course reasonable – that if a potential buyer of premium rights was able to reach only a small proportion of the potential subscribers, its willingness to pay for the rights will be

restricted. The Complainants go on from there to argue that platform access therefore plays a key role in rights acquisition, and conclude that integration of Sky as a broadcaster with the DSat platform is a major factor that inhibits other channel providers from competing effectively with Sky in the acquisition of rights.

75. This argument is undermined however by the reality of the current regulatory environment which Sky is subject to (a circumstance that is almost completely ignored in the Complaint). In addition, it is not clear to us that Sky really has credible threats should rivals win rights to attractive “key content”. As a result, it seems unlikely that rival channel providers can be seriously inhibited from winning premium rights as a result of Sky’s integration with the DSat platform. We expand on these points below.
76. Platform ownership by a broadcaster matters of course to the extent that it can be manipulated to restrict the ability of a third-party channel provider to access consumers on the platform (and the profits it can earn from them). A non-integrated channel provider can access consumers via a particular platform either by purchasing platform services from a platform service supplier, and thereby retail the channel directly, or by entering into a wholesale contract with one of the retailers operating on the platform (usually in exchange for a per-subscriber fee). The key issues that will affect the channel provider’s expectations on how much it should bid for rights are therefore *platform access* (can access be gained to the customers on the various platforms, through either a retail or a wholesale arrangement?), and *platform revenues* (what revenue can be earned from supplying consumers on the platform, in the form of advertising revenues, wholesale payments from a retailer, or retail sales net of platform access charges and other costs?).
77. Ofcom has investigated Sky’s access charges on various occasions in great detail, and the DSat platform operates in a regime of *regulated open access*. Ofcom indeed published in September 2006 a prescriptive set of guidelines designed to further improve certainty and transparency to broadcasters over the regulated terms of access to the DSat platform.<sup>15</sup> It is hard to see how this issue can therefore form the basis for opening a new market investigation.
78. As a result of existing regulation, third-party channel providers can access consumers on the platform directly – i.e. without a wholesale agreement with Sky – at regulated charges. Non-Sky retailed channels can procure CA and EPG services from Sky and set up their own retailing operation (subscriber acquisition, management, and billing). For instance, Setanta retails its sports channels (including broadcast of live FAPL matches) directly to subscribers on the DSat platforms in this way.

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<sup>15</sup> Ofcom, *Provision of technical platform services: explanatory statement and guidelines* (21 September 2006), available online at: <http://www.ofcom.org.uk/consult/condocs/tpsguidelines/statement/statement.pdf>.

79. It is therefore unclear how the Complainants can argue that Sky has a downstream advantage from “its control of the largest pay TV platform in the UK” (¶4.1). While Sky is still the only operator currently with a CA system on the platform, third-party access is open and it should be taken as a given that – unless the regulatory regime is defective – access charges do not discriminate between Sky’s own retail arm and competing retailers.
80. One might argue that as well as platform openness (right of access at non-discriminatory rates), the real issue is one of *platform revenue*: can a third-party channel provider bidding for premium rights expect to make sufficient returns from DSat viewers, to be able to outbid Sky in contests for premium rights? This however would not be a separate point: as mentioned, charges for direct access to DSat viewers are regulated, and a third-party channel provider that retailed its content directly (e.g. Setanta) therefore incurs charges on the same basis as those internally paid by Sky’s retail operation.
81. To conclude, it is hard to see how the alleged “platform advantage” attributed to Sky can be as material as the Complainants allege, and *a fortiori* how it can justify concerns about upstream foreclosure of rival channel providers.
82. In passing, we also note it is ironic that concerns about Sky’s integration with the DSat platform are raised by the Complainants in this case. While Sky operates an open and regulated platform, one of the Complainants (VM) is in effect the only cable company in the UK and operates a wholly closed pay TV platform: third-party channels have no option but to negotiate a wholesale supply agreement with VM in order to reach cable subscribers. *If* platform access really is an issue, arguably it is Sky (and third-party channel providers) that are at a disadvantage with respect to VM. IPTV networks are also closed platforms, and channel providers therefore need to reach a commercial agreement with the platform operators (currently BT Vision and Tiscali UK) in order to wholesale or retail their channels to potential subscribers.
83. Finally, Top-Up TV is at present the only provider of CA services on DTT, and any third-party channel provider would again need to agree commercial terms with them to purchase CA in order to sell directly to potential subscribers. Indeed earlier this year Ofcom issued a consultation document to assess whether the access charges to the CA system and EPG listings used by Top-Up TV on the DTT platform should be regulated as in the case of Sky.<sup>16</sup> Again, while access to the DSat platform is regulated, it is lack of access to these other platforms that may have the potential for deterring rival bidders.

## 5.2. THE “RETAIL ADVANTAGE”

84. The Complainants also claim that the size of Sky’s retail subscriber base on

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(<http://www.ofcom.org.uk/consult/condocs/tutv/topup.pdf>), However Ofcom has not yet reached a decision.

the DSat platform confers upon it an advantage in bidding for “key content” (¶4.7, p. 21).

85. We believe the Complaint is confused about the nature of the alleged advantage, and seeks to fit into a “vertical foreclosure” framework a number of features that relate to Sky’s incumbency and size as a *broadcaster*, and are not a function of the vertical structure. The distinction is important because the Complainants’ case for a reference to the Competition Commission appears to hang entirely on vertical integration of Sky’s broadcasting function with its retail function, and the “vicious circle” that this is alleged to give rise to.<sup>17</sup>
86. A logical distinction must therefore be drawn between two different types of mechanisms. Vertical integration of Sky’s broadcasting function with its retail function could be argued to create “upstream foreclosure” concerns (i.e. inhibit competition for rights acquisition) only if Sky’s actions made it somewhat difficult for third-party channel providers to reach Sky’s customer base – or meant they could only reach it on comparatively unfavourable terms. Only in this case could there be a vertical “upstream foreclosure” issue arising from Sky’s “installed base advantage”. Distinct from this are pure “incumbency/size” effects which matter for channel production, but have very little to do with vertical integration between Sky’s broadcasting function and its retail operations: *they would arise even if Sky’s broadcasting function was not vertically integrated with its retailing function.*
87. The Complainants appear to be forcing arguments about Sky’s size and incumbency position into a vertical framework, where they do not belong. We expand further on the distinction between a “vertical foreclosure” argument and an “incumbency” argument in Sections 5.2.1 and 5.2.2 below.
88. Further, when looked at more closely, both the sign and the order of magnitude of any incumbency/size effects are unclear. The Complainants seek to address this by arguing that, when bidding for content, even small advantages can have very large effects and refer to the work of Bulow, Huang and Klemperer (1999), to support this claim.<sup>18</sup> Bulow *et al.* show that when the bidders hold near-common values for the object(s) being auctioned, small asymmetries get magnified because they exacerbate the “winner’s curse” faced by disadvantaged bidders. However, the practical relevance of this argument is highly dubious in this case. For instance, it is known that their results depend entirely on the form of the auction,<sup>19</sup> and therefore this is far from a generalised finding that can support the

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17 See discussion in paragraph 9 of the Executive Summary of the Complaint.

18 Bulow, J., Huang and P. Klemperer, 1999, “Toeholds and Takeovers”, *Journal of Political Economy*, Vol 107, No 3, pp. 427 – 454.

19 On this issue, see section 8 in Bulow, J. and P. Klemperer, “Prices and the winner’s curse”, *Rand Journal of Economics*, Vol 33, No 1, Spring 2002, pp. 1 – 21.

Complainants' far-reaching conclusions.<sup>20</sup>

### 5.2.1. Vertical foreclosure?

89. A basic first requirement for making an "upstream foreclosure" case would be to show that third-party channel providers are inhibited from bidding for content because they are materially disadvantaged in reaching Sky's existing retail subscribers – for instance because they cannot get attractive enough terms from Sky for a wholesale deal. The Complaint does not show that this is the case. Indeed, there are a number of reasons why such a claim would be hard to substantiate.
90. First, it seems unlikely that – should a third party channel provider win a bid for valuable "key content" – Sky could credibly refuse to purchase channels with this content (or would offer very unattractive terms for a wholesale deal). In a wholesale deal, the level of the wholesale fees paid to the channel provider will strongly depend also on the bargaining power of the channel provider. For valuable "key content" it is not obvious that the channel provider is necessarily at a large disadvantage: Sky would want to carry the attractive content, just as the channel wants access to the retailer's subscribers – the outcome will depend on the respective bargaining powers and bargaining skills, but it cannot be assumed that the channel provider would find itself necessarily at a large disadvantage.
91. Most importantly, given the regulatory regime discussed above for access to the DSat platform, a third-party channel provider has the very real option of retailing itself directly to DSat viewers (an option which is not available with respect to cable, for instance). This will strengthen its bargaining power vis-à-vis Sky in reaching a wholesale deal.
92. Finally, to the extent that the Complaint implies that Sky's existing "relationship" with retail subscribers translates into a strong advantage in marketing content, it is unclear to us that the magnitude of any such advantage would realistically prevent a third-party channel provider from bidding for valuable content. This seems to be the case especially for premium channels, that are marketed (by Sky as well as by third parties) effectively as add-ons to an existing subscription and thus do not require customers to switch their pay TV subscription altogether – but possibly only to replace certain Sky channels for third-party channels. It is not clear that third-party channel providers with attractive content would be at a large disadvantage.
93. The Complaint does not therefore make a coherent case that third-party channel providers are foreclosed as a result of vertical integration between Sky's broadcasting function with its retail function. When looked at more

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<sup>20</sup> Moreover, it is reasonable to expect that sellers will have an incentive to design auctions/tenders in such a way as to minimise the effect of the "winner's curse", in order to maximise their own revenues .

carefully, arguments about Sky's size and "incumbency" are rather about Sky's position as a *broadcaster*, and are *not to do with vertical integration*. This is discussed below.

### 5.2.2. "Incumbency" mechanisms?

94. The Complaint brings together, under the label of "upstream foreclosure", a number of alleged "downstream advantages" that in fact do not arise from *vertical integration* of Sky as a broadcaster (channel provider) with its retail function, or its platform operation – but would similarly arise if Sky were a non-integrated broadcaster.
95. In addition, the effects of these alleged advantages on the levels which third parties are willing to bid for premium rights are ambiguous, or at best likely to be small. The main categories of effects (an installed base of customers and a library of content) are discussed in turn below.

#### *Installed base of customers?*

96. The Complaint frequently returns, at various places, to the notion that Sky has a large "*installed base*" of customers. This is presented as a significant advantage, leading to foreclosure effects, essentially because it allows Sky to recoup more rapidly its investments in the acquisition of "key content". But this appears to be more about economies of scale in *broadcasting* than about vertical integration. Indeed vertical integration is not relevant to this "installed base" mechanism: a similar "advantage" could arise even if Sky's broadcasting arm were a fully independent producer selling channels to a variety of retailers.
97. By using the concept of "installed base", the Complaint is also trying to suggest that current customers are somewhat more likely to keep patronising their current supplier (Sky) than to purchase from a competitor, even if offered the same quality at somewhat more attractive prices. In economic terms such inertia is often justified by assuming that consumers face some sort of switching costs.
98. However the Complaint does not identify specific sources of switching costs that might render Sky's subscribers especially "sticky". If a third-party channel provider were to win attractive exclusive content – e.g. cricket rights – and put together a sports channel, we see no reason why it should not expect to sell to a significant number of Sky Sports subscribers (on all platforms). As long as platform access can be obtained (discussed above), consumers need merely change their channel line-up in order to watch the matches. At worst, this might require them to subscribe to an additional channel provided by a third-party retailer but on their existing platform (e.g. DSat users or VM subscribers can subscribe to Setanta Sports as well as

Sky, without changing platforms).<sup>21</sup> Since premium sports and movie channels are typically sold as an addition to basic packages, the need to make a further payment would not seem to be a major obstacle – beyond having to deal with a second retailer. As the transaction costs seem small, we see little reason to suppose that a competing channel provider with attractive content could not gain a substantial body of subscribers to its channel(s). Installed base advantages would thus be temporary.

99. But let us assume, for argument's sake, that Sky did have a substantial number of customers who would only switch to another supplier (say, Setanta) if they got a significantly better deal. The effect on Sky's ability to bid for content rights is on economic grounds ambiguous, as there are two opposing effects at play. On the one hand, there is a *scale* effect: if each customer is willing to pay more for better quality, a firm with more customers will bid more. In that sense a large installed base locked-in by switching costs would increase the incumbent's incentive to win content rights. However, there is also a second *marginal* effect that goes in the opposite direction. High-quality content is useful to attract more customers and keep the customers that one has happy. But if the existing customers are locked in significantly, then there is no (or less) need to keep them happy. A significant mass of locked in customers can therefore *decrease* a firm's incentives to bid for high-quality content. Following Fudenberg and Tirole's terminology<sup>22</sup>, a significant installed base turns the firm into a "fat cat" that is content to "exploit" its current customers, leaving "leaner", newer/smaller firms to fight for unattached customers.
100. The net effect will depend on the precise specification of demand (especially the joint distribution of switching costs and marginal willingness to pay for quality), as well as on the firm's ability to price discriminate across various types of customers. But in the absence of detailed analysis there cannot be a presumption that even a significant installed base gives Sky a "leg up" in bidding for content rights in a way that entirely disables third parties from bidding and winning valuable content.

#### *Installed base of content?*

101. Independently of the size of its installed customer base, an incumbent might also control a certain amount of content. Where contracts for content can span a number of years, and the contracts terms for different pieces of content do not always coincide, bidding for a given set of rights is likely to occur in situations where an incumbent firm currently controls a greater share of existing rights than its rivals. Can this asymmetry bias the results of the

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21 Depending on the precise rights available some Sky Sports subscribers would simply add the additional channel to the package they currently purchase; others might substitute the existing Sky package with a cheaper Sky package and the new channel or switch entirely to the new channel.

22 See Fudenberg, D. and J. Tirole, 1984, "The Fat Cat Effect, the Puppy Dog Play and the Lean and Hungry Look", *American Economic Review, Papers and Proceedings*, 74, pp. 361 – 368.

auctions of newly available rights in favour of the incumbent? If yes, how strong is this effect likely to be?

102. The answer to the first question depends on whether an attractive set of rights is more valuable when bundled with other attractive rights, than as the “show piece” of an otherwise less attractive channel. Take for example the sale of cricket rights: as there is a significant number of cricket fans and viewers, this is a desirable piece of property for a broadcaster. But would the *incremental* revenues that this would generate as part of a channel that already shows some other popular sport (e.g. FAPL) be necessarily *greater* than the additional revenues it would generate for a channel without other popular sporting events? The first channel would be more attractive, priced higher, and generate larger total revenues. But it is not clear that the *additional* revenues linked to the new rights acquisition would be larger than if they were featured in a broader set of events. Without compelling arguments or evidence in support of that claim, it cannot be concluded that asymmetries in the control of other content would inevitably bias the bidding contest for new rights in favour of larger incumbents.
103. As even the *sign* of the effect of an installed content base on bidding behaviour is itself uncertain, arguing that the effect not only favours the incumbent but is *significant* seems to be speculative. More importantly again this argument has nothing to do with vertical integration, and could be made if Sky’s broadcasting arm were a separate company. We therefore conclude – again – that the content-based incumbency advantage does not offer a compelling basis for “upstream foreclosure” concerns.
104. We further note that the Complainants’ argument about the effects of short contract duration is also flawed. Contrary to their claims (see ¶2.4 and 2.5, p. 15), *short* contract length is an important factor in helping downstream rivals in acquiring a portfolio of rights.<sup>23</sup> Suppose that the output of a single Hollywood studio was insufficient to put together an attractive movie channel, but combining the output of two studios would achieve this. A shorter contract length reduces the period during which the competitor would have already paid for one contract but before it can produce a viable channel, *assisting* entry.<sup>24</sup> Moreover, the staggering of contracts, which the Complainants also discuss, is less of a concern when contract length is short. This point runs contrary to the argument concerning contract length

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23 Indeed, this was the rationale behind the undertaking obtained by the European Commission that contracts for new premium sports rights would not exceed two years as a condition of clearing the merger of Stream and Telepiù which created Sky Italia in 2003.

24 One should add that such a scenario exaggerates the disadvantage of the small/new competitor. A broadcaster acquiring the rights for, say, a sport event but who does not have enough other rights to put a channel together before two years might be able to “resell” the rights for this two year period to a rival (even Sky) who has reached critical mass. There are also alternative routes of entry. For example, one could, like Eurosport, enter and start as part of Sky’s basic package. From that position, it would not be that hard to move to a premium pay TV format following the acquisition of a couple of good sports rights packages.

made by the Complainants (Executive Summary, ¶8(b), and elsewhere), which is incorrect.<sup>25</sup>

### 5.3. CONCLUSION ON UPSTREAM FORECLOSURE

105. We believe the Complainants' case that Sky has incentives to foreclose rival channel producers in the purchase of content is not well founded. The Complaint simply states that this incentive exists just *because of Sky's presence at different stages of the vertical chain*. It further states that access by rival producers to Sky's "subscriber base" is distorted by Sky's vertical integration, which means Sky does not want to "enable competing channel providers and pay TV retailers from benefiting from (its) downstream advantages" (¶4.7, p. 21).
106. We find that when looked at more carefully, Sky's alleged "downstream advantages" are unrelated to vertical integration and/or unclear, or speculative. To the extent that some advantages exist, it seems to us likely that they are small in magnitude.

## 6. THE "VICIOUS CIRCLE"

107. At the heart of the Complainants' theory of harm is a claim that the harmful effects of Sky's vertical integration on competition are compounded by the existence of "feedback effects" along the vertical supply chain – whereby the ability to engage in upstream foreclosure is the main driver for downstream foreclosure, and downstream foreclosure further facilitates upstream foreclosure.
108. An example of the Complainants' "vicious circle" theory is found at ¶4.8, p.22:

*"The loss in upstream profits resulting from the increase in competition for content could be compensated in full or in part by the revenues raised in the form of downstream platform access charges or retail revenues (if Sky were to distribute the relevant third party channel(s) on satellite). However, those additional revenues would not be enough to offset the loss of its competitive advantage downstream as well as the advantages derived from the operation of the vicious circle of mutually reinforcing upstream and downstream bottlenecks. By allowing competitors effective access to its downstream bottlenecks, Sky risks losing its leading position upstream and, eventually, downstream as well. The costs of losing those pre-eminent positions at key levels of the supply chain (today and in the future) would exceed any additional revenues that Sky could obtain by granting access to its downstream assets at a given point in time".*

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<sup>25</sup> The Complainants seem to regard the payment for the contract as fixed, thus a shorter time period to recover this investment is problematic. Of course, the payment will be lower for a shorter contract, undermining this argument.

109. The Complainants explicitly acknowledge at various places that neither their “downstream” nor their “upstream foreclosure” stories are sustainable in their own right. On downstream foreclosure, they recognise that *“the wholesale revenues from the supply of its channels to competing pay TV retailers could in principle compensate Sky for the loss in downstream profits”* (i.e. downstream foreclosure would not be a profitable strategy). Similarly on upstream foreclosure they recognise that *“the loss in upstream profits resulting from the increase in competition for content could be compensated in full or in part by the revenues raised in the form of downstream platform access charges or retail revenues”* (i.e. foreclosing competition upstream would not be profitable either).
110. The Complaint does therefore accept that both “stories” need an extra “piece”. This is hardly surprising, as economic analysis has clearly shown that it is difficult to make vertical foreclosure stories credible, and this typically requires some form of network effects, or other specific features of the market as a result of which short-term shifts in market share become persistent, and competitors are marginalised as a result. However claims that Sky has incentives for downstream and upstream foreclosure do not become any more plausible by introducing language about “feedback effects”, and “mutually reinforcing bottlenecks”. Nor does claiming the existence of a “vicious circle” amount to a plausible economic story on dynamic foreclosure.

#### 6.1. A “DYNAMIC” ANGLE?

111. With the “vicious circle” language, the Complainants are seeking to address the obvious shortcomings of their downstream and upstream foreclosure arguments by introducing a “dynamic” angle. There are several references in the Complaint to the economic literature on “dynamic leveraging”. This is clearly invoked in order to address the problem that in a “static” (i.e. short term) framework Sky is not likely to have incentives to foreclose rivals at either levels of the vertical chain.
112. The Complainants are effectively saying: It may not be profitable for Sky to foreclose downstream rivals in the short-term (taking the allocation of content rights as given), but in the longer run (over which rights acquisition may be affected), profits are increased because this action strengthens Sky’s position in the upstream market. Similarly it may not be profitable for Sky to foreclose other content suppliers in the short-term (i.e. taking the distribution of customers as given), but in the longer term this would become profitable because it would preserve Sky’s position in the downstream market. The Complainants are thus well aware that standard, “static” foreclosure stories are not likely to work in this case, and are therefore introducing theories and language about dynamic effects to make their arguments more plausible.
113. The idea that foreclosure at one level of the vertical chain is ultimately intended to restrict competition at another level is not a new one at all, but falls into a distinguished tradition associated (though not only) with the

Microsoft case (see for instance Carlton and Waldman (2002), Rey and Tirole (2006), and several others).<sup>26</sup> However while the Complaint itself quotes Carlton and Waldman (2002), in doing so it greatly oversimplifies their argument. The Complaint suggests (fn. 57) that these kinds of mechanisms come into play “when entry downstream makes it more likely that the monopolist will face entry upstream, (and) this is precisely the case in the UK pay TV industry” because of “the existence of mutually reinforcing upstream and downstream bottlenecks”. For the reasons discussed below, this is a flawed rendition of the Carlton and Waldman argument.

## 6.2. NO PLAUSIBLE DYNAMIC FORECLOSURE STORY

114. The dynamic argument is poorly articulated in the Complaint, which switches back and forth between several versions without careful analysis of the mechanisms at play – except for frequently repeated references to “mutually reinforcing upstream and downstream bottlenecks”. In addition, the circumstances of this case do not lend themselves to the use of a dynamic argument.
115. It is helpful to refer briefly here to the *Microsoft* case to highlight how deploying “dynamic” arguments requires very precise conditions to be met, and not just claims about “feedback effects” in a vertical structure. The *Microsoft* case involved a clearly documented and systematic history of actions taken by Microsoft in a number of (related) markets in order to protect its own entrenched position in PC operating systems (and applications) from the threat of future replacement by rivals. Microsoft had a whole proven history of adopting “defensive leveraging” strategies, i.e. seeking to dominate a neighbouring market to protect its existing desktop monopoly, by thwarting an emerging technology or seeking to dominate it. Early well-known examples are Netscape and Java. The “server case”, at the heart of the European Commission’s decision that Microsoft had abused its dominant position, was about a deliberate strategy of limiting interoperability between PC and server operating systems, to achieve dominance in the server market and through that to insure against future erosion of the desktop monopoly (if rival server software had developed into an alternative platform to Microsoft’s dominant PC operating system, this would have reduced the “applications barrier to entry” that protected Microsoft’s desktop monopoly).
116. All the incentives that were identified in that case *relied on features very specific to the software market*, in particular *Operating System-specific application network effects*, which are well established and have been at the heart of the finding that Microsoft has monopoly power in the PC operating system market – as was well documented in the case. These effects

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<sup>26</sup> Dennis Carlton and Michael Waldman (2002), “The strategic use of tying to preserve and create market power in evolving industries,” *Rand Journal of Economics*, 33: 194-220, and Patrick Rey and Jean Tirole (2006) “A Primer on Foreclosure” in Mark Armstrong and Robert Porter (eds) *The Handbook of Industrial Organization* Volume III.

provided robust links between periods in terms of investment incentives. Our analysis at the time formally showed that there was a profit incentive for Microsoft to exploit applications network effects in order to shift market share in the first period, exclude rivals in the second period, and thus enhance its future extraction possibilities on the server OS market.

117. The basic mechanism requires doing something that is potentially costly in the first period, in order to gain surplus extraction abilities in the second period, because the competitor is less effective. What is essential is, however, a clear instrument translating the effects of current actions on the future ability to compete of the excluded (or partially excluded) party.
118. The “dynamic foreclosure” story against Microsoft thus relied on a formal analysis of Microsoft’s incentives to deliberately limit the interoperability of others as an instrument to shift share in the server market and thus achieve foreclosure of rivals. The mechanism linking first-period profit reductions to the long-run reduction in rivals’ competitiveness was very specific to software markets: the applications-barriers to entry (decreasing the quality of rival servers will bias software developers’ investment incentives against producing applications for rivals, so that future rent can be shifted through first-period actions).
119. But that was a very special case. As we said at the time, in most cases the link between today’s actions and future ability to compete is difficult to establish (a conclusion supported *inter alia* by Rey, Seabright and Tirole, 2001<sup>27</sup>). Dynamic foreclosure stories are typically speculative and hard to make in a credible way, so in most circumstances long-run anticompetitive effects are difficult to generate. Microsoft was an exception because there were clear mechanisms linking *today’s success in competition and the ability to compete tomorrow* – the most important being the *product specific network effects* and the *applications barriers to entry*. The Microsoft case should therefore not be seen as a license for proposing speculative and unsubstantiated “dynamic” foreclosure arguments in other industries.
120. Nothing like this analysis is put forward in the present Complaint. The Complainants refer several times to “feedback effects” and “vicious circle”, but they do not produce a systematic account of how exactly the dynamic effects would operate, in particular how being successful in one round of bids for “key content” today leads to *persistent and irreversible* shifts in market share to Sky, irreparably disabling rivals from being able to compete in the future.
121. The attempt to invoke dynamic foreclosure mechanisms is especially unconvincing in the context of bids for content, where – as discussed – we

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Rey, Seabright and Tirole (2001), “The Activities of a Monopoly Firm in Adjacent Competitive Markets: Economic Consequences and Implications for Competition Policy”, Institut d’Economie Industrielle, Université de Toulouse, 21 September 2001.

do not see that incumbency (i.e. having won the rights before) should provide persistent and irreversible advantages in winning rights in the future.

122. To begin to get anything like a “vicious circle”, one needs a source of downstream advantage, a mechanism that translates this into a bidding advantage, and a mechanism that translates this bidding advantage into further downstream dominance. Nothing like this is developed in the Complaint.
123. The key weakness in the “foreclosure” version of the argument is that Sky has no obvious incentives to engage into the type of exclusionary conduct alleged by the Complainants. Moreover, Sky’s ability to engage into such conduct is already severely constrained by existing regulation.
124. The “incumbency” versions of the “vicious circle” argument also fail for at least two reasons. First, as just explained the feedback effect between various aspects of incumbency and the competition for content rights is not well specified. The possible mechanisms proposed do not actually offer any clear-cut prediction as to the sign of the effect. Moreover, the size of these potential effects is likely to be quite small. Secondly, there is no real link between these mechanisms and the vertical structure of the industry.

## 7. CONCLUSIONS

125. In this note we have evaluated the Complainants’ claim that the pay TV industry in the UK is characterised by a “vicious circle” that – by compounding the effects of downstream and upstream foreclosure incentives – favours the emergence of an increasingly dominant company, and leads to progressive foreclosure of competitors.
126. The arguments put forward in the Complaint are flawed.
127. The first component of the Complainants’ case is a downstream foreclosure story; however they provide no evidence beyond a general claim that Sky is better off if it can gain customers from other retailers. But as well as benefits, a strategy of downstream foreclosure also has costs; yet the Complainants do not recognise the strong incentives for a channel provider such as Sky, having successfully won “key content”, to make its channels available on all platforms in order to reach as many interested consumers as possible. Foregone revenues from potential subscribers on other platforms, whether served directly by Sky’s retail division or via a wholesale contract with a third party retailer, provide a strong disincentive for downstream foreclosure. A few stylised calculations suggest that this is the case, and the starting point must therefore be that a downstream foreclosure strategy would not be profitable for Sky.
128. The second building block in the Complainants’ theory of harm is their “upstream foreclosure” story, whereby Sky has incentives also to undermine

the ability of rival channel providers to successfully bid for premium rights. But again this claim is flawed. The first source of Sky's alleged "advantage" in bidding for rights (the integration of Sky's broadcasting function with the DSat platform) appears significantly overstated in light of the fact that DSat is an open and regulated platform, and access to DSat viewers cannot be manipulated by Sky. Further, the potential benefit accruing to Sky's channel production function from vertical integration with the retailing operation also appears significantly overstated. Indeed a number of alleged "advantages" that are identified as inhibiting third-party channel providers from bidding for rights do not in fact depend on vertical integration, but on Sky's incumbency and size at the *broadcasting* level – i.e. they would arise also if Sky were not vertically integrated.

129. In other words, the Complainants conflate in their upstream foreclosure story two classes of "downstream advantages" leading to alleged further advantages in the bidding for content rights. The first relies on Sky's alleged ability and incentive to prevent access on fair terms to the DSat platform and therefore to DSat viewers. This is – at least conceptually – a truly "vertical" mechanism, as it is linked to the vertical structure of the industry. However it is hard to see how this argument can be justified in light of current regulations – reviewed by Ofcom as recently as 2006 – which ensure fair and non discriminatory, regulated access to the DSat platform. The second type of alleged advantage proceeds, however, mostly from Sky's *incumbency* and size *at the broadcasting level*, and *not* from the vertical structure of the industry. In addition, the impact of these alleged incumbency advantages on Sky's incentives appear ambiguous, both in terms of sign and order of magnitude.
130. The Complainants themselves recognise that both their downstream and upstream foreclosure stories are problematic in their own right, because foreclosing downstream and upstream competitors would likely be unprofitable for Sky. They acknowledge that both stories require an extra "piece" – an additional benefit at a different level of the vertical chain – in order to overcome this problem. They seek to do so by introducing the final element of their theory of harm, the notion of "feedback effects" along the vertical chain, as a result of which the competitive harm of downstream and upstream foreclosure are compounded in a self-perpetuating "vicious circle": Sky is increasingly dominant, and rivals increasingly weakened.
131. However this third element fails as well. By introducing a dynamic angle, the Complaint is trying to make reference to economic theories of dynamic leveraging. However for these to work, specific and well documented mechanisms must be identified that translate a short-term shift in market share into a persistent and irretrievable advantage that marginalises competitors. It is not a coincidence that industries where dynamic leveraging effects have been found to be credible are characterised by some form of network effects that amplify the impact of short-term share-shifting and make it persistent. No such mechanisms are identified in the Complaint for the UK pay TV industry. As a result, the entire construction of the Complainants'

case fails, and no inferences can be drawn on this basis on Sky's incentives to foreclose competition in the UK pay TV industry.

## APPENDIX 1

132. If Sky refuses to supply (some of) its sports and movie channels to VM then it foregoes an incremental profit equal to:

$$m_U^V \times \Delta Q, \quad (1)$$

where  $m_U^V$  is the incremental upstream (weighted average) margin accruing to Sky from the sale of sports and movie channels to VM (per VM retail customer subscribing to the Sky sports and movie channels, including VM's wholesale payment per subscriber and Sky's advertising revenue per viewer) and  $\Delta Q$  is the number of VM retail customers no longer purchasing Sky's sports and movie channels.<sup>28</sup>

133. Meanwhile, some customers that were subscribing to the Sky sports and movie channels via VM's retail package switch to subscribing to Sky retail. The gain to Sky's retailing division can be represented as:

$$\delta \times \Delta Q \times m_T. \quad (2)$$

Here  $\delta$  is the *proportion* of customers that switch from VM's retail offering to one of Sky's retail packages (the "diversion ratio"),  $\delta \times \Delta Q$  is the *number* of customers diverted from VM to one of Sky's retail packages, and  $m_T$  is Sky's incremental per subscriber margin. The latter margin is typically decomposed into a notional upstream margin  $m_U^S = m_U^V \equiv m_U$  (i.e., the margin that Sky's upstream division would make on internal sales to its downstream division if it treated it like any other downstream firm) and a corresponding downstream margin  $m_D \equiv m_T - m_U$ .

134. Foreclosure is profitable if and only if the gain in (2) is greater than or equal to the loss in (1). Equivalently, foreclosure is profitable (at constant prices) if and only if the diversion ratio,  $\delta$ , is greater than or equal to the following *critical diversion ratio*:

$$\delta \geq \frac{m_U}{m_U + m_D}. \quad (3)$$

For example, if the upstream margin were three times as large as the downstream margin (i.e.,  $m_U = 3 \times m_D$ ), then the critical diversion ratio would equal 75%. Accordingly, foreclosure would only be profitable if market conditions are such that Sky would win at least 75% of the retail customers

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<sup>28</sup> The example is based on total refusal to supply (i.e., we assume Sky would cease to supply VM with all its sports and movie channels). In practice, Sky might decide not to supply VM with one of its sports and movie channels and continue to supply the others. Obviously the "diversion ratio" will be highly dependent on the channel(s) and/or version of the channels that is no longer supplied (or that is newly-launched and only supplied to Sky's retail division and not to third party retailers).

who will no longer have access to Sky's sports and movie channels through a subscription to one of VM's retail packages.

135. Following the OFT's 2002 investigation, Sky's wholesale supply of sports and movie channels is "quasi-regulated". The margin squeeze test ensures that the margin allowed to a third party retailer, implicit in Sky's wholesale pricing, is sufficient to cover Sky's own retail costs (and the regulated return on sales). This means that it is unlikely<sup>29</sup> that Sky gains *less* from a sale to a third party retailer than the (notional) wholesale margin it earns when selling to its own subscribers.

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<sup>29</sup> It will depend on the precise set of assumptions used by the OFT when conducting a hypothetical margin squeeze test. For instance, the OFT might apply an "equally efficient operator" (EEO) test or a "reasonably efficient operator" (REO) test. In the latter case the wholesale charges to third party distributors might differ from the notional internal charges to Sky's downstream arm.

## APPENDIX 2

**[Sky confidential]**