Prepared For:

BSkyB

Some Comments on Ofcom's Second Consultation Document

Ofcom's "Dynamic Foreclosure Mechanisms"

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EXECUTIVE SUMMARY

1. This paper critically examines Ofcom's assessment of Sky's incentive to foreclose competitors by distorting the supply of Core Premium channels, as contained in Ofcom's Pay TV second consultation document: access to premium content (the second ConDoc) of 30 September 2008. Specifically, we assess Ofcom's "dynamic foreclosure mechanisms", discussed in Annex 8. It is our view that the second ConDoc lacks any such robust assessment and thus provides no basis for regulation to be imposed on the pay TV industry.

2. Two annexes set out our position on two further topics: first, in Annex A, Ofcom's treatment of the Harbord and Ottaviani model that we have referred to in previous submissions; and then, in Annex B, the likely unintended consequences of Ofcom's proposal to "widen the minus" in a retail minus scheme for regulating wholesale access to Core Premium content.

Ofcom's "dynamic foreclosure mechanisms"

3. It is accepted by all sides in the current investigation (including the Complainants) that, in a static setting, Sky's incentives to foreclose rivals are highly uncertain (Ofcom's own analysis of such incentives implies in our view unrealistically long pay-back times). Hence, the conclusion that the supply of Core Premium content is distorted depends strongly on dynamic considerations. In Annex 8 to the second ConDoc Ofcom focuses on three of the four "dynamic mechanisms" it has identified, two concerning the supposed advantage conferred by Sky's retail market share in competition to acquire premium content rights, and the third arising from claimed economies of scope and scale in the retailing of basic and premium channels.

4. In fact none of the three "dynamic mechanisms" identified by Ofcom stands up to closer economic scrutiny. On the third argument, we have seen no attempt by Ofcom to quantify the magnitude of the claimed economies of scale and scope, nor of any fixed costs that must underlie any coherent theory in which bundling might have an exclusionary effect.

5. Underpinning Ofcom's first two alleged "dynamic mechanisms", related to the acquisition of content rights, is the assumption that a broadcaster with a larger retail base has a persistent advantage over its rivals in acquiring content rights. First, Ofcom has not established that a broadcaster with a larger retail base could earn greater revenues from premium content than would a smaller rival (especially given that the rival would benefit from regulated access to Sky's satellite platform). Secondly, even if this were the case, it does not necessarily mean that Sky would be willing to pay more for the content. And finally, even if it could be demonstrated that having a larger retail base increased willingness to pay, a further step is required: the effect must operate in such a way as to create an incentive for exclusivity over *existing* premium content (or to supply this to rivals only on disadvantageous terms),

overturning the finding from static analysis showing a strong incentive to supply. The conditions for this are demanding, and Ofcom has not demonstrated that these are met.

6. In conclusion, it is disappointing to see Ofcom applying the label of "dynamic foreclosure mechanisms" to certain "size advantages" allegedly held by Sky. This exercise simply does not meet the level of economic analysis required to establish an incentive for dynamic foreclosure on Sky's part, nor to impose regulation on the industry.

Annex A: Ofcom's treatment of the Harbord and Ottaviani model

7. As an example of Ofcom's dismissive approach to economic models, Annex A explains why Ofcom's dismissal of the framework set out in the Harbord and Ottaviani paper is unjustified.

Annex B: Unintended consequences of "widening the margin"

8. Annex B examines Ofcom's preliminary suggestion to "widen the minus" in a retail-minus regulatory scheme. Existing research in this area suggests that widening the minus would not unambiguously increase welfare, and there is a danger of harmful unintended consequences. The regulation might not result in the wholesale price being reduced, in which case retail prices would be higher to the clear detriment of consumers. Even if the wholesale price were to fall (and there is no guarantee that it would) this would benefit competitors and their customers, but the retail price to Sky's own subscribers might be higher than in the absence of regulation. Furthermore, the regulation can be expected to reduce the revenues of the upstream sellers of content rights, in particular sports leagues such as the FAPL and the major movie studios, in contravention of Ofcom's stated aim.

1. INTRODUCTION

1. This paper comments on Ofcom's assessment of Sky's incentive to distort distribution of its premium content to favour its own retail business, as set out in Ofcom's *Pay TV second consultation: Access to premium content* ("the second ConDoc") of 30 September 2008. Specifically, Ofcom concludes "[t]his document identifies a lack of incentive for Sky to supply its wholesale Core Premium channels at prices that other retailers can afford" (para. 8.50).

2. We shall not repeat here extensive arguments that we have already made in previous submissions. Our previous reports contained a full exposition of our assessment of Sky's incentives to supply content to other retailers in the UK pay TV industry, and we find nothing in Ofcom's latest document to invalidate the arguments we have made. We are disappointed at the standard of economic analysis that is adopted in the second ConDoc in support of Ofcom's emerging position. An illustration of this – one example of many – is provided in Annex A, where we explain why Ofcom's dismissal of the framework set out in Harbord and Ottaviani's 2001 paper is unjustified.

3. In the main part of this paper we focus specifically on Ofcom's conclusion that there exist a number of "dynamic foreclosure mechanisms" that provide Sky with the incentive and ability to foreclose rivals (as discussed in Annex 8 to the second ConDoc). We explain that while these arguments – not unlike the complainants' "vicious circle" – may appear superficially plausible, they are fundamentally lacking in economic foundations.

4. In Annex B we make some initial comments on the preliminary suggestions for remedies contained in sections 8 and 9 of the second ConDoc. Specifically, we argue that Ofcom's proposal to "widen the minus" in a retail-minus remedy for wholesale pricing runs the danger of harmful unintended consequences, both to consumers and to the upstream sellers of premium content rights.

2. OFCOM'S ALLEGED "DYNAMIC FORECLOSURE MECHANISMS" ARE NOT FOUNDED ON ROBUST ECONOMIC ANALYSIS

5. Ofcom's discussion of dynamic foreclosure mechanisms contained in Annex 8 of the second ConDoc (paras. 2.32 onwards) lacks economic rigour and cannot be taken as a basis for intervention in the pay TV industry.

6. In paragraph 2.32, Ofcom states that "[f]our possible dynamic mechanisms emerge from the consultation responses." These are:

   (i) impact on the price of premium content rights;
   (ii) impact on Sky's dominant position in the wholesale supply of Core Premium channels;
   (iii) impact on competition for basic-tier only subscribers; and

(iv) impact on Sky's buyer power when purchasing basic-tier channels from third party channel providers.

Ofcom itself does not discuss the fourth alleged impact, citing the lack of supporting evidence provided by LECG and its preference for relying on the other three stories. We too therefore do not give this further consideration.

7. The first two alleged impacts relate to the *acquisition of premium content rights*, and in this sense are both aspects of a single mechanism: if Sky were somehow to gain an advantage vis-à-vis its rivals in the acquisition of premium content, this could be reflected in Sky winning rights to content at lower prices, i.e. alleged impact (i), and/or Sky winning a greater proportion of the content, with correspondingly less of this being won by its rivals, resulting in the alleged impact (ii). The third alleged impact relates to *retail competition in the wider pay TV market for basic (not premium) channels*. In this section we examine the two areas in more detail, starting with the second.

2.1. Retail competition for basic-only subscribers

8. In paragraphs 2.41 and 2.42 of Annex 8, Ofcom cites an argument advanced by LECG in support of their claim that Sky's terms of supply for premium content adversely affect competition for basic-only subscribers. This argument relies on the existence of economies of scope and scale between the retailing of basic-tier and premium packages, such that the loss of premium channel sales increases the average costs of the rivals.

9. In paras. 3.88 to 3.91 of the main part of the second ConDoc, Ofcom describes two sources of economies of scope/scale between the retailing of basic-tier and premium packages. The first is fixed retailing costs that are shared between these activities, specifically joint marketing activities. However, while some such synergies may exist, Ofcom appears to have made no attempt to quantify them.

10. As we have argued before, the claim that synergies in marketing activities are sufficiently large to have a significant impact on retail competition seems implausible. Moreover, it is interesting to note that Ofcom itself also mentions marketing synergies between content packages and platform-related services (para. 3.89). Platform-related services presumably include the telecoms services that are offered as part of the triple play of telephone, broadband and TV, which are typically marketed together. With its two-thirds share of the retail market for fixed line rental connections,[1] the greatest beneficiary of retailing synergies must surely be BT, not Sky. Yet nowhere have we seen Ofcom express any concern that this gives BT an undue advantage: thus it would seem that Ofcom itself does not truly believe that marketing synergies can possibly have such strong distortionary effects on competition.

1 As at the end of 2007. Source: Ofcom, *The Communications Market 2008*, section 5, page 314.

11. The second source of economies mentioned by Ofcom stems from *retail bundling between basic and premium services*. In para. 3.91, Ofcom extends its previous example of bundling between a sports channel and a movie channel – using the example of two consumers with negatively correlated valuations of £2 and £10 respectively – to bundling between basic and premium content. It argues that the ability to bundle with premium content increases the uptake of basic content, allowing the retailer to recover its fixed costs across a wider base and strengthening its bargaining position with third party basic channel providers. However, once again, Ofcom fails to quantify the magnitude of the alleged effect.

12. For bundling to have a possible exclusionary effect, fixed costs must be substantial. Ofcom has provided no discussion or quantification of the relevant fixed costs, and in any case, fixed retailing costs are likely to be small. Neither does Ofcom provide any comparison of fixed costs with the alleged additional bundling efficiencies to demonstrate that such an effect might be possible. Theories of anticompetitive bundling are complex and sensitive to modelling assumptions: it cannot simply be assumed that one player's ability to bundle automatically disadvantages and excludes its competitors.

2.2. IMPACT ON ACQUISITION OF CONTENT RIGHTS

13. Ofcom's first two alleged dynamic mechanisms both relate to the acquisition of content rights. The argument appears to rest on the idea that if a broadcaster can increase the size of its retail base, it gains a persistent advantage over its rivals in acquiring content rights. This premise is simply taken for granted in the second ConDoc. Although it is not spelt out, the train of thought presumably runs as follows: A broadcaster with a larger retail base would earn higher revenues from having the content, hence is willing to bid more for it, while its smaller rivals would earn smaller revenues and so bid less. Therefore the larger retailer wins the content more cheaply – rights prices being determined largely by the willingness to pay of the *second highest* bidder – generating impact (i), and/or gains a larger share of the available rights, strengthening its dominant position in the wholesale supply of premium channels (impact (ii)).

14. However, the premise calls for closer examination, as a number of considerations indicate that the matter is not quite so simple. The static analysis – which must be taken as a starting-point in building any dynamic story – tells us that a broadcaster would like to extract the willingness to pay of subscribers to all retailers, not just its own subscribers, i.e. to engage in wholesale as well as retail supply. When retailers use different transmission technologies and consumers have differing preferences towards, and even access to, these systems, this incentive is particularly strong. But then what matters is the *total* number of consumers that are willing to pay for premium content regardless of their choice of retailer, not just that retailer's own retail subscribers. As long as wholesale contracting allows the content-holder to extract the willingness to pay of subscribers to other retailers—on this point it is notable that the Parties do not complain that Sky charges them too little!—then there is no reason to believe that having a larger retail base in itself increases the revenues that a broadcaster earns from premium content.

15. There is of course a possibility that negotiations for wholesale supply may break down for a time. During such an interval, the content holder earns revenues from its own retail subscribers alone and not those of the other broadcaster(s). Such negotiating frictions, or any other inefficiency in wholesale supply, might give rise to some relationship between the size of a broadcaster's own retail base and the amount it earns (on an expected value basis) from premium content; though total (retail plus wholesale) subscribers would remain the main determinant. However, for the relationship to be a strong one the risk of breakdown, or the potential inefficiency of wholesale supply, would have to be substantial. Ofcom has provided no evidence to this effect.

16. Moreover, access to Sky's satellite platform is regulated. Thus, a rival broadcaster that obtained premium content could, in the absence of a wholesale agreement with Sky, continue to retail this to Sky's subscribers using the regulated access arrangements. Thus, a larger Sky retail base does not inhibit the ability of other broadcasters to earn revenues from premium content, as revenues may be extracted either through a wholesale agreement with Sky or through direct selling to Sky's satellite customers.

17. But even supposing it were the case that a broadcaster with a larger retail base could earn greater revenues from premium content than would a smaller rival, *this does not necessarily mean that it would bid more for this content.* In deciding how much it would be willing to pay for premium content, a broadcaster compares two situations: winning the premium content itself, and the content instead being won by a rival (after which it may still be able to purchase the content at the wholesale level). The broadcaster will pay at most the *difference* between its revenues under these two scenarios. Even if it were the case that having a larger retail base increases a broadcaster's revenues under the first scenario, when it wins the rights, it is also very likely that having a larger retail base increases its revenues in the second scenario, when it loses the rights to a rival. *The impact on the difference – and hence the broadcaster's willingness to pay for the rights – is unclear and requires further analysis.*

18. Furthermore, even if it could be demonstrated that having a larger retail base – for some reason – increased the amount that a broadcaster would be willing to bid for premium content, that would not be the end of the story. The (again) implicit assumption underlying Ofcom's mechanisms is that Sky's alleged benefit in future content acquisitions resulting from having a larger retail base gives it an incentive for exclusivity over its *existing* premium content, or to supply this to rivals only on disadvantageous terms. This step in the argument is also unwarranted.

19. Suppose there is a sequence of premium content rights which become available to competing broadcasters; for simplicity assume there are just two, A and B (these might be rights from two different Hollywood studios, for example). Suppose that Sky already holds content A, and is considering the impact of its selling arrangements for A on the future competition to acquire content B. Let us suppose (notwithstanding the discussion above) that having a larger retail base raises Sky's willingness to pay for content and inhibits that of its rivals, giving it an advantage in acquiring content B. However, we know from the static analysis that refusing to supply content A to rivals incurs an opportunity

cost for Sky: for there to be a dynamic incentive to foreclose, *the benefit in terms of the impact on the acquisition of content B must exceed the static loss from withholding supply of A.* Ofcom has not demonstrated that this is the case, and, to our knowledge, has not even attempted to do so.

20. In this sense, *Ofcom's own analysis suffers from the same shortcomings as the Parties' "vicious circle" argument*. As we have shown in our previous reports, there are strong economic reasons to believe that the "vicious circle" is flawed. Neither the Parties nor Ofcom have sought to establish their position by writing down a formal model where the alleged mechanism actually works; further, they have presented no evidence that the conditions for the mechanism to work and have significant effects are actually met in the industry. Those two steps are conspicuously absent from all of the documents filed by the Parties. Unfortunately they are not found in Ofcom's latest consultation document either.

21. Yet there are existing analyses from which some implications may be drawn. For instance Weeds (2008a)[2] describes the condition that is necessary for a dynamic incentive to exist: there must be a *convex* relationship between today's retail share (resulting from the conditions for supply of content A) and the firm's future profit (from the acquisition of content B). Thus, it is not sufficient that there is merely *some* relationship between retail share and content acquisition: the relationship must take this particular form. A convex relationship means that future profit increases with today's retail share <u>*and*</u> does so *at an increasing rate.* This implies that the marginal benefit from a further increase in market share is greater for a firm that already has a larger market share. But Ofcom does not even seem to recognise this requirement, let alone provide any modelling or evidence on this point.

22. As Weeds (2008a) explains, a convex relationship between today's share and tomorrow's profit arises when industry profit is increased by asymmetry of market shares. The source of this must be *some form of scale economy*. In its content rights acquisition stories, Ofcom has not explained where economies of scale arise, and it is difficult to see where such a relationship would arise. Even if it were the case that higher expected profit could be extracted through direct retail supply than wholesale supply to another broadcaster (e.g. if there is significant risk of breakdown in negotiations), the relationship would be linear, not convex. This would not give rise to an incentive for exclusivity.

23. Moreover, further work by Weeds (2008b)[3] looks at the relationship between content auctions and resale incentives. Her paper addresses incentives to supply both without and with bidding for content rights. In the first part, she examines whether a vertically

2 H. Weeds (2008a), "TV Wars: Exclusive Content and Platform Competition in Pay TV", mimeo, May 2008.

3 H. Weeds (2008b), "The 'Vicious Circle'? Exclusivity in Pay TV with Content", Working Document, October 16, 2008. Cited with permission of the author.

integrated broadcaster would have an incentive to refuse to supply its premium content to downstream rivals, and finds (like Harbord and Ottaviani) that, given frictionless wholesale contracting with a per-subscriber fee, resale will always occur. As in Harbord and Ottaviani, this result holds even if the vertically integrated firm has an initial advantage in the downstream market.

24. In the second part of the paper, Weeds uses this result to look at a situation where both firms also compete in bidding for the exclusive content. She asks two questions. First, would a downstream advantage (i.e. a retail offering that is more attractive to subscribers) enable the vertically integrated firm systematically to win the auction for rights? With frictionless bargaining, the answer is unambiguously negative. In the presence of bargaining frictions, however, a downstream advantage can translate into a higher valuation for the upstream content. The second question, which is at the heart of the "vicious circle" story, is then whether, *even in that case, the vertically integrated firm would have an incentive not to resell its existing content to the downstream rival in order to gain an advantage in the bidding stage for another content right.* The answer is again *negative.*

25. The reason is tightly linked to the logic for dynamic foreclosure in Weeds (2008a): there can be dynamic foreclosure only if one assumes some significant convexity in the dynamic payoffs. Weeds (2008b) shows that the alleged feedback mechanism between downstream foreclosure and upstream bidding advantage *does not include this crucial ingredient*. Since the Parties were happy to cite Weeds (2008a) as supporting the idea that there could be dynamic foreclosure in this industry, we would hope that they would not suddenly find the same underlying logic unappealing. Overall, then, Weeds (2008b) fully accounts for a reality where an incumbent with a downstream advantage would keep winning the auctions for premium rights, but *still does not find any basis for the type of "dynamic" arguments suggested by the Parties*.

3. CONCLUSIONS ON ALLEGED "DYNAMIC FORECLOSURE"

26. Ofcom's "dynamic foreclosure mechanisms" do not stand up to detailed scrutiny. Ofcom has provided no economic modelling to demonstrate how the mechanisms are supposed to operate, and no quantification of the significance of the alleged effects. In the absence of such analysis, the alleged mechanisms are no more than "stories" and cannot be taken as the basis for intervention in the pay TV industry.

ANNEX A: OFCOM’S REJECTION OF THE HARBORD AND OTTAVIANI MODEL IS UNJUSTIFIED

27. A pervasive flavour of Ofcom’s analysis appears to be that the predictions of economic models can be ignored if one or other of their assumptions does not seem to “fit” in an obvious way, or if their results do not appear entirely consistent with a naïve impression of “what we see”. Ofcom appears to regard economic models as optional elements in a competition case that it is free to ignore if it does not like their predictions.

28. We do of course agree that, to be useful in the policy world, a coherent economic analysis must revolve around a meaningful understanding of how the industry works. However, if regulatory and competition law investigations are to be anything more than story-telling contests, one must formulate the stories in precise economic terms, test their robustness and provide corroborating empirical evidence. The Complainants have done none of these things, and Ofcom appears in danger of a similar lapse.

29. As one instance of our criticism of Ofcom’s approach, consider the discussion of the Harbord and Ottaviani model. Of course, we would agree with Ofcom’s position that “economic models are always simplifications of the ‘real world’ and that, while even simple models can generate powerful conclusions, it is important to consider carefully whether the logic of the underlying economic results is plausible given the facts of a particular case” (Annex 8, para. 2.22). It is indeed because of this shared belief that we have argued that, although the Harbord and Ottaviani model predicts that resale *always* occurs, it might not do so in practice between retailers operating on the same transmission platform.

30. However, we cannot agree with Ofcom’s reasons for dismissing the implication of the Harbord and Ottaviani model altogether (Annex 8, paras. 2.23 to 2.25). It is quite true that assuming that all consumers have the same valuation for content is unrealistic. It is also correct that this assumption leads to an equilibrium where consumers do not get any benefit from the content at all, and we agree that this unlikely to be an accurate reflection of the industry outcome. However, this assumption is made *for convenience in order to be able to concentrate on the aspect of interest,* without getting into tractability problems. It does not mean that all implications from the Harbord and Ottaviani model should therefore be disregarded.

31. The lack of realism of one assumption should affect the credibility of the predictions only if these are likely to be undermined by a change of assumption, i.e. if the predictions are not robust to such a change. In particular, the fact that the specification of preferences on quality is simplified does not imply that the result that the vertically integrated firm resells the content to its rival should not be taken seriously. This result is based on the fact that the vertically integrated firm faces, in effect, a marginal opportunity cost equal to the unit price it charges to the downstream firm. *This mechanism would still work even if we were to assume that consumers are heterogeneous in their willingness to pay for premium content.* Of course, with heterogeneous consumer valuations it may no longer be

possible for the vertically integrated firm to extract the full consumer surplus from the customers of its downstream rival. But, with heterogeneous valuations, the vertically integrated firm would face a similar difficulty in extracting surplus from the customers that it would capture by refusing to resell to its rival. It cannot therefore be assumed that heterogeneity would alter the incentive to resell.

32. In a similar vein, we fail to see how assuming an alternative distribution of valuations for premium content would affect Harbord and Ottaviani's conclusion that incentives to bid upstream are independent of whether or not the vertically integrated firm has an exogenous advantage in the downstream market. Overall, then, Ofcom's dismissal of the findings of the Harbord and Ottaviani model, as expressed in paras 2.23 to 2.25 of Annex 8, is unjustified.

ANNEX B: OFCOM'S PROPOSAL TO "WIDEN THE MINUS" RISKS HARMFUL UNINTENDED CONSEQUENCES

33. The notion of "affordability" put forward by Ofcom strongly suggests that it is considering adopting a retail-minus wholesale pricing remedy (although Ofcom states that a cost-plus approach might be used jointly as a cross-check). Retail-minus and cost-plus schemes have been studied quite extensively in the regulation literature.[4] However, this literature has made very specific assumptions on the structure of the downstream retail market, and has not considered other more competitive environments.[5] This is an issue for concern: as we know from game theory as well as from applied fields such as international trade theory, constraining the behaviour of one or more player in a game-theoretic environment can lead to counter-intuitive effects.[6] Proceeding with regulation in such a conceptual vacuum therefore carries a significant risk of unintended consequences.

34. Moreover, what work exists in this area suggests that widening the minus would not unambiguously increase welfare. There are significant uncertainties involved, as well as a danger of harmful unintended consequences. Recent work again by Weeds (2008c)[7] well demonstrates this point. In this paper, a vertically integrated firm sells access to premium content to a downstream rival at a linear wholesale price. The focus is on the effects of increasing the retail margin M that is deducted from the retail price in order to obtain the regulated wholesale price, in a setting where the integrated firm is free to set its retail price as it likes.[8]

35. Weeds finds that, in a Hotelling model similar to that used in Harbord and Ottaviani (2001) and Weeds (2008a, b), the wholesale price does not fall and widening the required

4 For a survey see Armstrong, M. (2002), "The theory of access pricing and interconnection," in M. Cave, S. Majumdar and I. Vogelsang (eds.), *Handbook of Telecommunications Economics*, Vol. 1, North Holland.

5 The traditional literature on the Efficient Component Pricing Rule (essentially retail minus regulation) assumes that the retail price itself is regulated (or is fixed for some other reason). In a rare exception to this, Armstrong and Vickers (1998) (discussed in Armstrong 2002) analyse cost-plus and retail margin regulation with endogenous downstream prices, but they limit themselves to the case where the incumbent faces a competitive fringe downstream.

6 See for example Gruenspecht, H.K., 1988, "Dumping and Dynamic Competition", *Journal of International Economics*, 25: 3-4, pp. 321 – 337.

7 H. Weeds (2008c), "Competition with Retail Margin Regulation", Working Document, October 18, 2008, University of Essex. Cited with permission of the author.

8 The paper does not assess the benefits from ensuring that wholesale supply takes place: it is assumed that supply occurs. Instead the paper assesses the effect of widening the margin beyond the level that would be chosen in the unregulated equilibrium in which wholesale supply takes place.

margin actually leads to *higher downstream prices for both the integrated firm and the rival.* The policy benefits both the integrated firm and (even more) its rival, as firms make higher profits. Thus consumers are unambiguously worse off.

36. In a different (Bertrand) model with price-setting firms selling differentiated goods and elastic demand, the wholesale price set by the integrated firm and the retail price of the downstream rival both decrease. However, findings for the integrated firm's retail price are ambiguous: this falls at first for a modest increase in the margin M beyond the "unconstrained" level, but then increases above the unconstrained level as the margin is widened further. The net effects on consumer surplus are unclear, as there could be an increase in the retail price to one group of consumers (those of the regulated firm).

37. While not definitive, the sensitivity of Weeds' results to the precise setting and the severity of regulation strongly recommends extreme care in policymaking. *There can be no presumption whatsoever that the type of retail-minus regulation being suggested by Ofcom would operate to the benefit of consumers*.

38. Moreover, as Weeds demonstrates, "widening the minus" can be expected to reduce the revenues of the upstream sellers of content rights (in particular, sports leagues such as the FAPL and the major movie studios). Ofcom is clearly concerned about this possibility and its effects, stating that "*…any [wholesale pricing] mechanism that caused an artificial depression of rights values would be extremely undesirable*" (para. 9.75) and "…*any damage to [rights holders'] ability to generate attractive content would have a detrimental effect on consumers*" (para. 8.86).

39. The intuition behind this result is as follows. The willingness to pay of a given bidder is equal to the difference between its payoff if it wins the rights and its payoff if it does not (and then, if it wishes to retail the rights itself, instead has to rely on regulated wholesale access). Assuming that the regulation is binding (i.e. requires Sky to change its pricing compared with what it would otherwise have done), Sky's payoff from winning the auction must be decreased. Sky's payoff from losing is either unchanged or, if a similar regulatory obligation would bind on an alternative winner,[9] increased. Unambiguously, then, the regulation must decrease Sky's willingness to pay for the rights.

40. In a second-price auction setting,[10] however, the seller's revenue is given by the highest *losing* bid. This bid will depend on the valuations for the rights of firms other than Sky. If

9 Following Ofcom's own logic in the previous rounds of the consultation, some type of content—most prominently FAPL rights and rights to movies from major Hollywood studios— would automatically confer significant market power to the specialty channels in which this is incorporated. Again according to Ofcom, it is this market power coupled with vertical integration and other effects that is at the source of the "problem" that it has identified and is trying to remedy. One might therefore expect that any remedy would automatically apply to any bidder that acquires a significant share of these crucial rights and is vertically integrated with a retailer.

10 A similar, though more complex, logic applies to a first-price auction.

the remedy would not apply to these firms if they win, then their profits as winners are unchanged by the regulation; if regulation would also apply to these firms, then their winning profits are decreased. However, their profits as *losers* are somewhat increased by the remedy, thus their willingness to pay for the rights will decrease. It is therefore extremely likely that regulation would lead to lower bids for content and hence lower revenues accruing to content creators.[11]

41. The basic problem is that the regulator cannot satisfy all parties. Ofcom would like to have a remedy that grants easier access to Sky's downstream rivals, reduces retail prices for consumers and does not lower the revenues of original rights sellers. In practice, however, as well as in most theoretical models, these three objectives are likely to be incompatible.

11 One caveat to this conclusion is the possibility that regulation might increase the downstream profits of the winning firm: this could happen if the regulation has a "collusive" effect in the downstream market. An example of such a situation is found in the Hotelling-based model in Weeds (2008c), where regulation raises all retail prices and makes both the incumbent and its rival better off. However, this caveat is largely irrelevant, for two reasons. First, the profits of the winner would need to increase by *more* than the profits of the loser: in fact the opposite occurs in Weeds (2008c). Secondly, regulation that would result in higher retail prices seems hardly desirable anyway.