

Unclassified

DAF/COMP/GF(2013)6

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

26-Feb-2013

English - Or. English

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE**

Global Forum on Competition

COMPETITION ISSUES IN TELEVISION AND BROADCASTING

Contribution from Mr. Allan Fels

-- Session II --

This contribution is submitted by Mr. Allan Fels (Professor of Government and Director International Advanced Leadership Programs, Australia and New Zealand School of Government) under Session II of the Global Forum on Competition to be held on 28 February and 1 March 2013.

JT03335281

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**COMPETITION ISSUES IN BROADCASTING AND INTERNET CONTENT –
NAVIGATING THE UNKNOWN AND THE UNKNOWABLE**

-- Contribution from Mr. Allan Fels* --

1. What are the key competition issues in broadcasting?

1. Market power over the physical infrastructure used to supply programming to end users has traditionally been of concern to regulators internationally. The substantial sunk costs and economies of scale associated with the deployment of transmission networks and programming distribution networks (including set-top boxes and conditional access systems) have in past led some regulators to mandate access those underlying networks.

2. For example, in the EU broadcasting transmission services were included in the European Commission's 2003 recommendations as a market that was susceptible to ex ante regulation.¹ Conditional access systems had been required to be provided on fair, reasonable and non-discriminatory terms in the EU and the Access Directive explains that this obligation could be extended to electronic programme guides (EPGs) and application program interfaces (APIs).² In Australia, wholesale access to digital set-top boxes is available at through a special access Undertaking made to the Australian Competition and Consumer Commission by the largest pay TV network, Foxtel.

3. Increasingly the focus of competition authorities and regulators has turned to content supply and the way in which the sale and distribution of content affects competition in downstream markets. Content is an essential input into the supply of programming and retail pay TV services. Limitations in its availability, for example through exclusive supply arrangements, the aggregation of content into bundled wholesale content rights or other barriers to participation in the acquisition of content, can therefore restrict competition in downstream markets.

4. The competition assessment conducted by the UK Competition Commission of pay TV movie content supply is an example of potential concerns surrounding content acquisition (see Case Study 1 below). In that case, a key concern of Ofcom was that Sky's strong position in the retail pay TV market enabled it to acquire the rights to virtually all premium movie content, thereby perpetuating its market power in the supply of retail pay TV services. The Competition Commission found that, taking into account consumer preferences and market developments that had occurred the course of the investigation,

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¹ Commission of the European Communities, Commission Recommendation of 11/02/2003 on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services, C(2003)497.

² Official Journal of the European Communities, Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), Article 10.

new suppliers using ‘over-the-top’ OTT methods of supply were able to contest content rights. Consequently, there was not an adverse effect on competition of Sky’s role in acquiring and distributing premium movie content.

Case Study 1 (UK): Competition Commission’s assessment of pay TV movie content

In 2010, Ofcom referred to the Competition Commission its concerns regarding Pay TV movie content sale and distribution.³ Ofcom was of the view that Sky Television (Sky), the largest provider of pay TV services in the UK, effectively had control of rights to premium movie content and was concerned that it would use its market power in distribution of content to restrict distribution of premium movie content and charge excess prices. Ofcom was also concerned that as Sky expanded further into the provision of subscription Video-on-Demand (SVOD) it could effectively transfer its market power in traditional Pay TV service provision to SVOD provision, given the joint sale of licensing rights of premium linear channel and SVOD content.

Ofcom considered that in the absence of a commercial resolution to these competition concerns, remedies that could be applied would include: (1) regulations on the way that premium movies rights are sold – for example, rules which limit the aggregation of content; and (2) a regulatory mandate for Sky to provide wholesale access to premium movie content.

The Competition Commission published its findings on pay TV movie rights in August 2012. It found that it was likely that Sky had market power in the distribution of content in the retail pay TV market due to barriers to large-scale entry and expansion using traditional distribution networks, as indicated by the low level of switching and the high market concentration.⁴ However, it also found that: (1) based on survey information, premium movie content did not have a significant impact on consumer choice of retail Pay TV supplier; (2) new SVOD suppliers had entered the market and captured a significant share of subscribers within a short period of time; (3) barriers to the acquisition of premium movie content has fallen because over the top (OTT) providers are able to quickly acquire the subscriber base necessary to bid effectively against Sky for content; and (4) Sky’s position as an acquirer and distributor of premium Pay TV movie content would not have a significant adverse effect on competition.

5. The UK case study demonstrates that the way that retail Pay TV services are supplied and contested is evolving, which can alter the ability of a firm to use market power and the need for regulatory intervention.

6. A proposed acquisition in Australia by an investor in the free-to-air Seven network of additional shares in a sports producer and broadcaster further examples the importance of content acquisition arrangements to competition in the downstream market. In the Australian example, the competition authority considered that the ability of the free-to-air (FTA) broadcaster to enter into joint bids with the cable network operator was an important means by which FTA channels could acquire sports content. The main competition concern was that with one FTA channel having significant ownership of a key sports producer and broadcaster and the pay TV networks, other FTA channels would be constrained in the sports rights they could acquire. That constraint would in turn limit their ability to offer adequate content to TV subscribers and hence reduce their effectiveness as competitors.

³ Ofcom (August 4, 2010), Premium pay TV movies – Decision. Available at: http://stakeholders.ofcom.org.uk/consultations/movies_reference/statement/

⁴ Competition Commission (August 2, 2012), Movies on pay TV market investigation - A report on the supply and acquisition of subscription *pay-TV movie rights and services*. Available at: http://www.competition-commission.org.uk/assets/competitioncommission/docs/2010/movies-on-pay-tv/main_report.pdf

Case study 2 (Australia): Acquisition by Seven of CMH

In 2012, Seven Group Holding (Seven) sought informal clearance from the Australian Competition and Consumer Commission (ACCC) to acquire the remaining shares of Consolidated Media Holdings (CMH) that it not already own.

At the time of the proposed transaction, Seven held investments in a number of media companies, including those that operate the commercial free-to-air television Seven network. CMH had a 50% share in the sports producer and broadcaster Fox Sports Australia (FSA) which supplied sports programming to Foxtel, Australia's largest provider of subscription television to end customers. FSA had a 50% shareholding of Foxtel and as a result CMH held an indirect share of 25% of Foxtel.

In February 2013 the ACCC published its Competition Assessment of the acquisition which concluded that it would oppose the acquisition, finding that: "the proposed acquisition by Seven of the remaining shares it did not hold in CMH would be likely to have the effect of substantially lessening competition in the market for the supply of free to air television services in Australia, in contravention of section 50 of the (Competition and Consumer) Act."⁵

The ACCC reached this view because it considered that "the proposed acquisition would put Seven Network in a position of advantage relative to other free to air networks with respect to entering into joint bids and other commercial arrangements with FSA and FOXTEL for acquisition of sports rights. Being able to come to such arrangements with FSA or FOXTEL would enhance Seven Network's ability to acquire the rights to premium sports. Given the importance of premium sporting content to a free to air network's ability to compete strongly with other free to air networks, the ACCC considered that the advantage that Seven Network would gain with respect to the acquisition of such content would be likely to lead to a substantial lessening of competition in the market for the supply of free to air television services."⁶

7. Vertical integration across the functions necessary to provide retail Pay TV services has also been of significant concern to regulators and competition authorities in recent times. Functions necessary for the supply of retail pay TV include:

- The production of content;
- The supply of programming;
- The broadcast of programming; and
- The use of the physical infrastructure used to disseminate programming (cable networks, DSL networks, satellite facilities etc)

8. Examples of the potential anti-competitive effects of vertical integration between 2 or more layers of the supply chain include:

- Refusal to supply essential inputs to rival downstream firms;
- Margin squeezes;
- Raising rivals' costs; and
- Other discriminatory practices.

⁵ ACCC (February 15, 2013) Public Competition Assessment: Seven Group Holdings Limited - proposed acquisition of remaining shares in Consolidated Media Holdings Limited, para 50.

⁶ ACCC (February 15, 2013), para 34.

9. A recent example of where a competition authority has identified vertical integration concerns in the broadcasting markets is in regard to the Comcast acquisition of NBCUniversal in the US. Issues of concern regarding vertical integration between content supply and the cable pay TV network included whether the acquisition would result in the competing pay TV networks no longer having access to some content or having to pay inflated prices.

10. A second type of vertical integration concern identified in the Comcast matter was that Comcast may have the incentive to restrict traffic travelling on its cable network to online video distributors (OVDs) who compete with Comcast's newly acquired OVD, Hulu.

Case study 3 (USA): Comcast acquisition of NBCU

Comcast is the largest cable network operator in the US, supplying almost 24 million cable subscriptions in 39 states plus the District of Columbia.⁷ In 2011 it entered a joint venture with General Electricity which gave Comcast a controlling 51% share in NBCUniversal.⁸ Comcast has recently announced that it will be acquiring the remaining 49%.⁹ NBCUniversal owns broadcast networks, television stations, cable programming networks, television and motion picture studios, and the online video distributor, Hulu.

The US Department of Justice in assessing the joint venture in 2011 identified a number of competition concerns associated with the vertical integration between of content supply and distribution. As discussed by Kimmelman, key concerns associated with the joint venture and the acquisition of a 51% share by Comcast were that Comcast would have incentives to:

- raise content licensing fees charged to rival content distributors;
- or refuse access to content entirely; and
- potentially stream online traffic away from competing OVD services.¹⁰

As a result of these concerns, a number of obligations were required under a Consent Decree, including:

- the provision of economically equivalent video programming terms to OVDs
- the supply of comparable video programming to OVDs
- that OVDs have rights to commercial arbitration
- and relinquishing control of Hulu.¹¹

Specific conduct constraints were also applied to Comcast through the Consent.

⁷ FCC (January 20, 2011), In the Matter of Applications of Comcast Corporation, General Electricity Company and NBCUniversal Inc for Consent to Assign Licenses and Transfer Licenses, MB Docket No 10-56, p.6.

⁸ Comcast (January 31, 2011), "Comcast and GE complete transaction to form NBCUniversal, LLCC", Comcast media release.

⁹ Gustin, Sam (February 14, 2013) "Comcast's NBCUniversal Deal: As One Media Era Ends Another Begins" TIME.

¹⁰ Kimmelman, Gene I. (Chief Counsel for Competition Policy and Intergovernmental Relations Antitrust Division U.S. Department of Justice) (June 21, 2012), "Antitrust Enforcement and Media Industries: Competition and Beyond", Remarks as Prepared for the American Antitrust Institute's Civil Liberties and Competition Policy Conference Washington, DC, p.5.

¹¹ United States District Court for the District of Columbia (September 1, 2011), United States of America, State of California, State of Florida, State of Missouri, State of Texas and State of Washington – Final Judgement, Case 1:11-cv-01106 Judge Leon, Richard J.

In addition, the FCC review of the joint venture transaction resulted in a number of requirements implemented under an FCC order which, as explained by Kimmelman, included:

“a requirement that the joint venture license all of its programming to traditional distributors, enhancements to its existing process for commercial arbitration for licensing disputes involving traditional distributors, and a requirement that the joint venture license content to OVDs on reasonable terms, along with an arbitration mechanism for resolution of any resulting disputes.”¹²

2. How do technology trends affect competition in the broadcasting markets?

11. Changes in technology in the broadcasting markets have a variety of effects on competition. Technological developments alter, among other things:

- The range and quality of services provided;
- The underlying costs of provision;
- The extent of barriers to entry – for example, new technologies can provide new means by which the market can be contested;
- The ability of customers to switch supplier; and
- Pricing mechanisms that can be used – for example, digitisation allows for pay per view services to be provided.

12. Digitisation, which leads to a larger volume and range of content being made available, has in combination with the roll-out and upgrade of high-speed broadband networks, generally reduced barriers to entry.

13. There are now a greater range of platforms over which content can now be disseminated. In addition to the use of traditional Pay TV platforms (eg, via cable, satellite and terrestrial networks), OTT technology allow the provision of SVOD over high speed broadband networks regardless of the underlying broadband technology type (such as cable, fibre or DSL). As a result, as was found by the UK Competition Commission in Case Study 1 above, competition from OVD can now at least to some degree constrain the conduct of pay TV operators. Nonetheless, as the US case study demonstrates, it is possible that cable operators could affect the quality of service of competition from OVDs in a discriminatory manner.

14. Despite the general presumption that increased platform competition is beneficial for consumers there is some evidence that increased inter-platform competition can result in increased prices and lower penetration. For example, Ramello and Silvia (2008) find that in Italy following competitive entry in the Pay TV market, the cost of providing subscriptions increased by 25.6% from 1998 to 2000 which they attribute to the effects of fragmenting the market.¹³

15. While new platforms may increasingly provide enhanced levels of competition it seems clear that certain premium content can remain a source of market power. Sports content is a one such example. Seabright (2006) observes that post-digitisation: “content rights replace transmission bottlenecks as source of market power.”¹⁴

¹² Kimmelman (June 21, 2012), p. 7.

¹³ Ramello, Giovanni B. and Francesco Silva (2008), “Exclusion, Competition & Change: The Shifting Boundaries of the Television Market” Review of Economic Research on Copyright Issues, vol. 5(1), pp. 55-74

¹⁴ Seabright (2006) pp 14-15 .

16. Domenech (2009) finds in an econometric analysis of the Spanish Pay TV market that while price per view is not a significant explanatory of platform penetration, owning the rights to the rights to broadcast Spanish Professional Football League matches in pay-per-view is a crucial variable.¹⁵ Domenech expresses the view that these results suggest that pay TV platforms compete primarily in terms of content rather than price. This further emphasises the importance of close scrutiny of content supply and acquisition, particularly of scarce premium content.

17. Accompanying digitisation has been the introduction of and growth in personal video recorder (PVR) set top box units. PVRs allow customers to easily record content, including programmes that are broadcast simultaneously. During playback customer can readily fastforward advertisements, increasing their enjoyment at the expense of the commercial viability of traditional Free to Air broadcasting models. If PVR use grows sufficiently the FTA model will need to evolve, for example, through the use of product placement advertising (as explained in Seabright 2006) in order to achieve the revenues necessary to compete with Pay TV operators.

3. Some economic considerations

18. A key concern that emerges from these cases is that a downstream broadcasting service provider (SP) may be able to leverage its market position to gain power in an upstream market for content. This concern amounts to a claim that the SP would be able to corner an upstream market—that by having access to a large number of viewers or subscribers in the downstream access market, the SP would be able to buy up or otherwise control upstream supply, consolidating its downstream position. At face value, this sounds bad enough, but there is also the concern that this upstream “buyer’s” power would enable the exercise of additional market power in the downstream market. The question is the circumstances under which such outcomes can occur.

19. Analysis suggests that such anticompetitive leveraging is more likely to be possible profitable in some circumstances than others. As a result, it is important for competition authorities to undertake a careful assessment of market structure in examining potentially troublesome conduct. So as to illustrate the relevance of market structure to this assessment, it is useful to consider two mutually exclusive cases. In the first, the downstream broadcasting market is initially competitive; in the second, there is provider in that market with a substantial degree of market power.

3.1 Case 1—A competitive downstream market

20. In this section we assume that the downstream market (for instance, for pay TV services) is initially competitive. However, the structure of the upstream market also has an important impact on market outcomes. In the case where upstream markets are structurally competitive, then it is impossible to corner upstream output. Alternatively, if upstream supply is competitive but less responsive to price, then for a downstream firm must pay a high price to corner the market. Finally, if upstream supply is monopolized it is very difficult for a downstream firm to profitably corner all output. We deal with each of these cases in turn.

3.1.1 Competitive and responsive upstream supply

21. In this section we demonstrate that in a competitive market for content, if supply is highly responsive to price, then it is rarely, if ever, possible to profitably foreclose the content market. This is simply because the downstream firm must increase its purchases of content by an amount sufficient to

¹⁵ Domenech, Laia, Competition between TV Platforms (October 1, 2009). XREAP 2009-09. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.1825103>

restrict the availability of content. That is, it must purchase enough to increase the price of content. Of course, buying more at higher prices is expensive, but even worse, when supply is highly responsive to price, a very large amount of content must be bought to have this effect. As a result, such large purchases can be highly unlikely to be profitable.

22. The responsiveness of suppliers to price is called supply elasticity. Supply is highly responsive to price if a small increase in price leads to a relatively large increase in output levels. As a matter of terminology, economists equate responsiveness to elasticity, thus the more responsive supply is, the more elastic it is. This means that if, as a result of increased demand, the price for content were to rise, supply would quickly also rise. Only a very substantial increase in demand could effect a substantial increase in price.

23. Now consider a strategy by a downstream firm to corner the market in content. Imagine it substantially increases its exclusive purchases of content (and note exclusivity raises the price it would have to pay). It hopes by doing so it will reduce the availability of content to the point where it will be able to dictate terms both to suppliers of content and to other downstream firms that need content to compete with it. But if it is to have any chance of success, its new purchases must make content considerably more scarce than it was in the past. If it does not, downstream competitors will simply be able to buy elsewhere at only slightly elevated prices and the downstream market will remain competitive. However, if supply is very responsive to price then a very large increase in demand will have limited effect on price. Increased demand will put some upward pressure on price, but this will immediately result in substantial increases in supply. Demand will be met after price has risen only a little. In fact, when demand is highly responsive to price it is virtually impossible to have a substantial impact on price.

24. Worse, the ultimate goal in the leveraging argument is not to raise price—in fact this is expensive to the firm undertaking the conduct since it must buy more at higher prices. Rather, the ultimate goal is to be able to raise downstream prices in a manner that increases its profit. However, an elastic upstream supply function means that one must buy an enormous amount of upstream output to even effect a small rise in price. But if only a small upstream price rise can be achieved, then this can only raise downstream prices by a small amount (remembering that price is passed to cost downstream). The net effect is that while the firm's downstream competitors will indeed reduce their supply of services a little, and price in that market will rise, the additional revenues the firm attempting to corner the upstream market earns in the now slightly higher priced downstream market cannot hope to cover the costs of the voluminous upstream purchases necessary to effect this result. It is therefore virtually impossible to profitably raise downstream prices by seeking to monopolise the upstream content market when upstream supply is relatively elastic.

3.1.2 *Competitive and inelastic upstream supply*

25. In the previous section, where upstream supply was elastic, we showed it was extremely unlikely (indeed, usually impossible) to profitably purchase upstream output in order to set a high or even monopoly price downstream. On the other hand, if upstream supply is inelastic, the conditions are much more favourable to this strategy. In fact, under certain circumstances the profit gained by a firm that successfully monopolises upstream supply can exceed the price of purchasing that content.

26. If upstream supply is highly inelastic then output—let us call it content for concreteness—does not expand much with increases in demand. Instead, prices rise. This means that if a large downstream operator sought to monopolise upstream output it would not have to purchase much to begin to have a real impact on the upstream content prices. Unfortunately, in order to have this effect on price that operator must pay a high price. As a result, for this strategy to be profitable, the operator has to make substantial additional downstream profits thanks to its foreclosure strategy. It turns out that when competitive supply

is greater than monopoly levels—and with a highly inelastic supply function the reverse is at least possible¹⁶—then this may be achieved. A content monopolist could indeed earn more than what would be necessary to bribe competitive content suppliers to exclusively provide a limited amount of content to itself (as a monopolist it will reduce output) and to not engage in any further production.

27. However, even if the facts necessary for this possibility were in place, care must be exercised in concluding that such profitable ‘cornering’ of the content market is indeed likely. This is for two reasons: first, there must be questions of credibility; and second, this possibility seems to require the leveraging of a position of no market power to obtain a position of power. We consider each of these in turn.

3.1.3 *Credibility*

28. Assume upstream supply is highly inelastic, but competitive, and output exceeds monopoly levels. In these circumstances, it is possible for the cost of acquiring exclusive rights to all content to be less than the profit associated with being a monopolist over content. The issue that must be addressed before concluding that this is likely is why such a strategy is not open to any other firm as well, including those upstream, or even outside of the industry. After all the strategy is simple—buy up exclusive rights to an inelastic upstream output, and then monopolise its use downstream, either by “own use” if the buyer is a large downstream operator, or by selling to other downstream operators. Of course, competition by firms seeking to implement such a strategy would be self-defeating. Put another way, for this strategy to be credible, the firm that engages in the strategy must in some respect be unique.

3.1.4 *Leveraging in the absence of market power*

29. There is an ongoing controversy in economics as to whether market power can be leveraged from one market to another. However, what is proposed here is leverage into another market from a position of no market power (the case of a downstream firm having market power is dealt with below). There is no theory in economics that suggests that can be done. Rather, if the downstream market is competitive, then inelastic upstream supply does not in itself create an opportunity for leverage by a downstream operator.

30. However, matters are more complex where an upstream firm already has market power. This raises the possibility that market power might be leveraged from the upstream market into the downstream market. The orthodox view, which is associated with the Chicago school, is that leverage from a position of market power, into a market where the firm has no power, is impossible. More recent work has suggested that under a number of circumstances, this need not always be the case.

31. In short, where both the downstream and upstream markets are structurally competitive, monopolisation by ‘cornering’ the content market is likely to be impossible. It will also be impossible if the upstream market has highly elastic supply, regardless of downstream conditions. However, where a firm dominates the upstream market, it may have incentives to seek to leverage its power into the downstream market, though whether that will be possible and profitable depends on a number of special conditions being met.

3.2 *Case 2—Market power downstream, and both upstream and downstream*

32. Up to this point it was assumed that the downstream firm had no substantial market power. This assumption is now relaxed. This means that, putting aside views of the Chicago school, there is at least

¹⁶ To see this consider a supply function shaped like a L reflected about its vertical. The steeply rising part of the supply function may well cross demand to the left of point at which a monopolist would operate if the vertical part of the L was less steeply sloped.

some market power which may be used to engage in leverage. Of course, that fact need not change the results set out above: for example, when upstream supply is competitive and highly elastic, which may be the case in at least some content markets, it remains impossible to prevent one's competitors from accessing content. Notice also that the more market power the downstream firm has, the less interested it is in engaging in such an action. Indeed, if the firm is a monopolist it has no need to exclude competitors as it has none.

33. This impossibility result changes, under some circumstances,¹⁷ as upstream supply becomes increasingly inelastic. Whether this will be profitable depends on the precise circumstances; after all, since the downstream firm is already claiming some monopoly rents, the gain from engaging in such behaviour is reduced, and in the extreme case where the firm in question is a monopolist, it has no need to monopolise content.

34. The most complex case in this respect is where there is market power *both* up and downstream. In these circumstances, it remains the case that absent any anticompetitive vertical relationships, there is no reason to believe that a downstream firm could leverage power in an upstream market, especially when the upstream firms have countervailing power. However, even if the Chicago school position is wrong, one should also note that the possibility remains that other upstream firms with market power could also vertically integrate with downstream firms and provide countervailing power across both markets. In addition, in this case, there may be efficiency-enhancing reasons for vertical integration or some other vertical relation—for example, to avoid any losses that might arise due to double marginalisation (the effect of having an upstream firm mark prices up above costs compounded by the downstream firm doing the same, resulting in a retail price that is a mark-up on a mark-up).

3.3 *Conclusion*

35. In summary, where upstream markets are competitive, and not inelastic in supply, it is extremely unlikely a downstream buyer could profitably monopolise these services. Further, even if upstream supply is inelastic, leverage remains unlikely if at least some downstream firms are reasonably evenly matched.

36. These arguments significantly qualify the possibility of leverage if both markets are competitive, or if there is competition downstream and upstream supply is elastic. This leaves three cases, each with some degree of market power. The first involves a competitive downstream, with market power upstream. In this case, and putting the doubts of the Chicago school aside, leverage is possible, through vertical links between an upstream firm with market power and a downstream operator. The second case concerns downstream market power, with an inelastic but competitive upstream. While an inelastic upstream supply function (if it exists) creates the prospect of market rents, and downstream power provides something to lever off, this case relies on a vertical relationship being established between the upstream and downstream provider, and the possibility that leverage itself is a likely strategy. The last case has market power both up and downstream. Leverage in this case is again possible through vertical integration, though subject to the usual Chicago school objections. However, it should also be noted that the presence of multiple firms upstream with market power would create the opportunity for other vertically related firms to compete with any vertically integrated entity that came into being.

37. In practice, competition authorities become most concerned when a merger between a downstream broadcaster and a provider of 'premium' content threatens the availability of that content to competing broadcasters. This obviously depends on the elasticity of supply of competing content; but where that supply is highly elastic, it seems unlikely that it would indeed be regarded as 'premium' or 'must have'.

¹⁷ For example, that supply is extremely inelastic, but crosses demand to the right of monopoly levels.

However, even if competing supply is relatively inelastic, it does not follow that it will inevitably be profitable for the merged entity to refuse supply to downstream competitors.

38. Rather, that depends on the profits it can gain by doing so—which in turn depends on the balance between (1) the loss of profits from foregone sales to downstream competitors, compared to (2) the increased profits from greater sales in the downstream market. The appendix sets out a simple mathematical framework for making this assessment; it emerges that (depending on mark-ups in the two markets and on the extent to which sales lost by downstream competitors are gained by the merged entity) in some cases, a refusal to deal will be profitable; in others, it will not.

39. In short, competition concerns in content markets certainly cannot be ruled out as a matter of economics. However, any assessment of the likelihood of those issues arising depends on a complex, and often counterintuitive, analysis of market structure and conduct in both the upstream and downstream market.

4. Policy responses and dilemmas

40. Finally, we consider some policy issues and dilemmas. It is clear that the markets at issue are being reshaped by rapid technological change. In the past, communications services were largely defined by the technology used for their delivery. For example, the free to air broadcast industry was predominantly developed around wireless unidirectional broadcast technologies, while the telecommunications was based on centralised switches using circuit-switching technologies to create a continuous link between the two parties communicating. However, technological change is allowing the delivery of multiple communications services through multiple technologies using common—or converged—digital platforms.

41. Convergence in the traditional broadcast media markets, bringing new entrants using communications technologies, has already occurred. Satellite, fixed-wireless and fixed network provision of broadcast television compete with traditional free-to-air broadcasters, and may indeed be displacing them. This has brought new competing suppliers in broadcast transmission and in broadcasting. Moreover, it is likely that, within a decade, the emerging two way broadband market will subsume both the broadcasting and data markets.

42. A major impact that the convergence process and the associated technological changes have had, and will continue to have, is the dramatic levels of uncertainty it has introduced into business planning.

43. More specifically, service providers face at least four types of increased uncertainties as a result of convergence.

44. The first is *demand uncertainty* which has been most apparent in the markets in which online services are supplied. Firms providing these services are still endeavouring to fathom what content or applications will succeed and how these can be priced. Customer segmentation, the increased visibility and use of personalisation as part of service offerings and the fragmentation of markets, all heighten the growing irrelevance of a “one size fits all” approach.

45. A second source of uncertainty relates to the deployment of new *technologies*. With new investment occurring in new infrastructure (for example, the different forms of fibre networks) and new uses for existing technologies, technology risks have increased, in terms of choice of functionality, implementation and viability (with a real risk of stranded investment as the pace of technology development accelerates), often in the absence of any significant precedent or established standards.

46. Third, despite the obvious success of firms such as Google and Facebook, uncertainty remains as to whether, and if so what, a profitable *business model* for a particular service might be. For example, while it seems there is vast commercial potential remaining to be exploited in the internet, it is not clear precisely how the revenue model will balance the provision of access, transactions, content and advertising. Globally, no consistent, profitable business model has yet emerged in many aspects of internet service and significant experimentation is occurring with new models appearing regularly.

47. Finally, uncertainty also arises as to the potential sources of competitive products. Firms competing in converging markets may be less concerned about their traditional competitors than they are about integrated and/or specialised competitors from other industries (for example, media companies, software companies, computer hardware companies, service integrators and the financial services industry) and successful start-up companies in new markets.

48. In combination, these four types of uncertainty flowing from convergence generate significant market uncertainty. Furthermore, the above discussion underlines the deep uncertainty that exists about where profit opportunities lie in the emerging, but as yet poorly understood, markets. A heavy investor in the wrong parts of the industry may find its asset is used, but the real profits accrue to a supplier somewhere else in the production chain.

49. These uncertainties create dilemmas for competition regulators. On the one hand, the inherent uncertainty can make intervention dangerous, both as market circumstances are difficult to assess and as intervention may rule out otherwise desirable market development. On the other hand, the potential for innovation means it is crucial to keep opportunities open for future competition to develop.

50. As a general matter, this should make regulators cautious. At its simplest, that is because regulatory ignorance is exceptionally large in the presence of the uncertainty generated by the present forms of convergence. There are a number of reasons for this, derived from the characteristics of convergence enunciated above:

- the speed and unpredictability of technology change and its market consequences. The market is usually far better placed than Government or a regulator to respond flexibly and quickly to these uncertainties;
- the other uncertainties which characterise rapidly changing markets – for example, uncertainty as to levels and patterns of demand for new services. In such an environment, a light-handed regulatory approach can maximise the flexibility of market participants to seek viable business models undistorted by regulatory intervention; and
- convergence implies a broadening of markets and enhancement of competition. Whereas competition has traditionally been limited within industries, or even within segments of industries, a definitive characteristic of convergence is increasing substitutability of goods and services, across traditional industry boundaries. Absent regulatory distortion, this should be so for both infrastructure and services markets. Emerging competition will lessen the need for, and heighten the potential distortion of, regulatory intervention.

51. That said, some of regulatory risks are unavoidable, so that the appropriate task is to seek to minimise, where possible, both the risk that regulatory errors will occur at all and the economic impact of those errors that do occur and which cannot be avoided.

52. In considering how this might be done, it is useful to consider the paradigm of sequential innovation—in which market change occurs through relatively abrupt shifts from one form of supply to

another. For example, Google displaced earlier search engines and expanded into a wide range of services; it now faces intense competition from social networks expanding into its area of operation. Equally, both free to air broadcasters and traditional cable TV operators face ever stronger competition from the myriad forms of Internet-based broadcasting, as do conventional radio stations. It seems reasonable to suggest competition regulators should put a high priority on ensuring this process can continue—in other words, **that new generations of supply can displace the existing generation.**

53. Conversely, where competition issues essentially involve the rents accruing to established suppliers—the gain they make from any market power they may enjoy—that should be of somewhat less concern, so long as the manner in which those operators seek to secure or retain their rents does not undermine inter-generational competition.

54. There is an analogy here to the traditional analysis of inter-brand versus intra-brand competition. In essence, what is being suggested is that competition authorities should be less concerned about ensuring competition within an existing broadcasting platform **so long as** new platforms can displace it.

55. In practice, this will not be an easy line to draw—an exclusive content agreement may both undermine existing competitors and deter new competitors and types of supply from emerging. However, the greater the extent to which the exclusivity is specific to a particular, narrowly defined, type of platform, the lower that risk is; conversely, the greater the degree to which it covers all existing and prospective types of platforms, the greater the scrutiny it should receive.

56. Overall, as the process of convergence continues, competition issues about broadcasting content and transmission are likely to be more acute. However, technological change is also reducing the entry barriers into the production of content and expanding the range of transmission options—both of which should serve to reduce competition concerns. At the same time, the speed and unpredictability of technological change makes it vital competition authorities recognise the risks of ‘getting it wrong’: in the sense of mistaking transient commercial success for market power; or, conversely, in over-estimating the corrective efficacy of entry and of new competition. Striking the balance between these errors will undoubtedly be challenging for competition regulators, and at times frustrating for market participants, in developed and developing countries alike.

**APPENDIX: A SIMPLE FRAMEWORK FOR EXAMINING THE PROFITABILITY OF
REFUSING THIRD PARTIES ACCESS TO PREMIUM CONTENT**

1. In this appendix, we consider a simple case in which a pay TV operator (PTV1) acquires a provider of premium content (CS1). The question is whether it will be profitable for CS1, once it is acquired by PTV1, to refuse content to PTV1's competitors. A simple framework is set out for considering this issue. It is important to note that this framework is intentionally mechanical—it abstracts from competing entry and from complex dynamics between market participants. Rather, its purpose is to illustrate, in an essentially static framework, the trade-offs inherent in any refusal to supply.

1. Partial Foreclosure

2. We first analyze the potential concern of “partial foreclosure”. This refers to the hypothetical scenario in which CS1 would not completely foreclose PTV1's rivals (or would completely foreclose a few small rivals only). In this scenario, the amount of foreclosure would be relatively small and therefore it is unlikely that there would be any significant price effects. Partial foreclosure (i.e., foreclosure on a relatively small scale) may potentially be an optimal strategy when foreclosure on a larger scale is likely to lead to a significant price increase and thus to induce entry or backward integration by competitors.

3. If the merged firm engages in partial foreclosure, then it foregoes a profit equal to:

$$m_U \times \Delta Q \quad (1)$$

4. Here m_U is the upstream margin earned by CS1 on sales made to the foreclosed rivals, and ΔQ is the reduction in the rivals' volume of business with CS1 caused by the foreclosure strategy. (All margins are denominated in dollars per unit.)

5. However, the foreclosure strategy also will tend to increase PTV1's profits as some of the former customers of the foreclosed rivals will switch to PTV1. This corresponds to a gain equal to:

$$\delta \times \Delta Q \times (m_U + m_D) \quad (2)$$

6. Here δ is the diversion ratio and thus $\delta \times \Delta Q$ is the volume of sales diverted from the foreclosed rivals to PTV1. For every unit diverted to PTV1, the total margin earned by the merged firm is equal to $m_U + m_D$, where m_D is the downstream margin of PTV1.

7. It follows that partial foreclosure is profitable if and only if the gain in Eq. (2) is greater than the loss in Eq. (1). Equivalently, partial foreclosure is profitable if and only if the diversion ratio, δ , is greater than the following *critical diversion ratio*:

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

8. For example, if the upstream margin is three times as large as the downstream margin (i.e., $m_U = 3 \times m_D$), then the critical diversion ratio is equal to 75%.

9. The main empirical question then is the following: Is the actual diversion ratio greater or smaller than the critical diversion ratio. If it is greater (smaller) then foreclosure is likely (not likely) to be profitable.

2. Total Foreclosure

10. We now analyze the potential concern of “total foreclosure”. In this hypothetical scenario, the merged firm would foreclose all the rivals of PTV1 either completely or almost completely. For example, the merged firm could decide to drastically reduce the quantity or quality of service supplied to each rival. Since the amount of foreclosure would be very large, we have to account for the possibility that the foreclosure strategy could allow the merged firm to increase price in the downstream market.

11. If the merged firm engages in total foreclosure, it foregoes an upstream profit equal to:

$$m_U \times Q_R \quad (4)$$

12. Here Q_R is the CS1’s total volume of business with PTV1’s rivals.

13. However, the foreclosure strategy will tend to increase PTV1’s profits in two ways. First, as in the previous section, some former customers of the foreclosed rivals will switch to PTV1. This corresponds to a gain equal to:

$$\delta \times Q_R \times (m_U + m_D) \quad (5)$$

14. Second, the merged firm may now have the ability to raise price in the downstream market. Assuming for the moment that PTV1 could raise price by Δ dollars per unit without losing any sales, this corresponds to a gain equal to:

$$\Delta \times (Q_T + \delta Q_R) \quad (6)$$

15. Here $Q_T + \delta Q_R$ is PTV1’s total volume of sales post-foreclosure.

16. It follows that total foreclosure is profitable if and only if Eq. (4) is smaller than the sum of Eq. (5) and Eq. (6). Equivalently, total foreclosure is profitable if and only if the actual diversion ratio, δ , is greater than the following *critical diversion ratio*:

$$\delta > \frac{m_U - \frac{s\Delta}{1-s}}{m_U + m_D + \Delta} \quad (7)$$

17. Here s is PTV1’s current share of CS1’s output. For example, suppose that $s=25\%$ and $\Delta = m_D$ (i.e., PTV1 would be able to double its downstream profit margin). Assuming that $m_U = 3 \times m_D$ (as in the previous section), then the critical diversion ratio is equal to about 53%.

18. A main criticism of Eq. (6) is that it implicitly assumes that demand is perfectly inelastic (with respect to a price increase of Δ dollars per unit). In reality, PTV1 might be able to raise price by, say, 10% and that might lead to, say, a 5% reduction in the volume of PTV1's sales. It is fairly straightforward to adjust Eq. (6) to account for a reduction in the volume of sales. Eq. (7) then becomes more cumbersome. A simpler approach is to continue to use Eq. (7) but assume a smaller price increase – say, 5% instead of 10% – to grossly capture the fact that a likely reduction in sales volume would make the foreclosure strategy less profitable (or more unprofitable).

19. There is in fact an even simpler approach. Intuitively, foreclosure increases the demand faced by PTV1. The critical diversion ratio in Eq. (3) assumes that PTV1 does not respond to this increase in demand by raising price but instead responds by increasing its volume of sales at the current price. Alternatively, PTV1 could respond to the increase in demand (due to the foreclosure strategy) by raising price by a certain amount while maintaining its current (pre-foreclosure) volume of sales. The *critical price increase* is defined as the minimum price increase that PTV1 would have to be able to implement (while keeping its current volume of sales) for the foreclosure to be profitable. The formula for the critical price increase can be found by setting $\delta = 0$ in Eq. (7) and then solving for Δ :

$$\Delta > \frac{1-s}{s} m_U \quad (8)$$

20. (The downstream gain, Δs , must be greater than the upstream loss, $(1-s)m_U$.)

21. The main question now becomes: Is it likely that foreclosure would allow PTV1 to raise price by more than this critical amount while keeping the same volume of sales as it currently has? The answer may depend critically on whether entry (or backward integration) is easy.

22. That brings us back to the issues discussed in section 0 above about the extent to which competing supply could expand—and its timeliness and effectiveness in so doing.