the Internet was shown on delay, sometimes of more than a day.[365] Moreover, NBCOlympics.com streamed Olympic events on delay *provided that Internet users could verify a subscription to participating cable or satellite providers*.[366]

161. The reduction in real-time, online sports programming was significant. NBC provided 2,200 hours of live streaming for the Beijing Olympics (61 percent of its 3,600 total hours of event coverage); in contrast, NBC provided only 400 hours of live streaming for the Vancouver Olympics (48 percent of its 830 total hours of coverage).[367] According to Gary Zenkel, the president of NBC Olympics, NBC's decision turned on the relative importance of television revenues to Internet revenues: "When we roll out our digital coverage, there are some financial considerations to take into account. The lions' share of advertising revenue continues to be generated by our television coverage."[368] It bears noting that, at the time of this decision, NBCU had agreed to be purchased by Comcast. Accordingly, as in the case of Hulu's decision to block access to Boxee, the impact on Comcast's profits may have played a role in NBC's decision. Given NBC's bundled sale of television and Internet advertisements for the Olympics,[369] it is not clear how NBC suffered a revenue loss if viewers watched some live events via the web portal, as NBC's allocation of the bundled price across its television and Internet divisions was inherently arbitrary.

162. NBC owns the rights to the 2012 Summer Games in London. In 2010, the International Olympic Committee will sell the rights to the 2014 Winter Games in Sochi, Russia, and the 2016 Summer Games in Rio de Janeiro.[370] In April 2010, the United States Olympic

365. *Id.*
366. *Id.*
367. *Id.*
368. *Id.*
369. *Id.*
370. Richard Sandomir, *ESPN sets sights on different way to show Olympics*, NEW YORK TIMES, Feb. 25, 2010, at 13.

Committee and Comcast ended their plans to create an Olympic channel.[371] Richard Carrion, an executive board member of the International Olympic Committee, told the *New York Times* that Comcast's acquisition of majority control of NBCU "probably played a part" in the end of the U.S. Olympic Committee's network.[372]

III. THE PROPOSED TRANSACTION WOULD INCREASE COMCAST'S ABILITY AND INCENTIVE TO ENGAGE IN THESE ANTICOMPETITIVE STRATEGIES

163. NBCU's portfolio of programming is vast and impressive. In this section, I identify NBCU's marquee programming that Comcast would acquire, and I explain why the acquisition of that programming would increase Comcast's incentive and ability to engage in exclusionary conduct vis-à-vis independent networks, downstream MVPD and broadband access rivals.

A. NBC's Marquee Network Programming

164. NBCU's marquee network programming consists of the ten O&O local NBC affiliates and national sports programming.

1. Local NBC Affiliates

165. NBCU owns local NBC affiliates in ten major DMAs: Philadelphia, PA; Chicago, IL; Miami-Fort Lauderdale, FL; San Francisco-Oakland-San Jose CA; Washington, DC (Hagerstown, MD); Hartford & New Haven, CT; New York, NY; Dallas-Fort Worth, TX; Los Angeles, CA; San Diego, CA. Collectively, these DMAs cover 30.6 million television households or 26.7 percent of all U.S. television households.[373] In addition to covering local news, these affiliates carry the most popular network programming from 2002 to 2009, including *Friends* (2001-02, 24.5 million total viewers), *ER* (2000-01, 22.4 million total viewers), *The*

371. Richard Sandomir, *U.S.O.C. Ends Plans for Its Own Olympic Channel*, NEW YORK TIMES , Apr. 22, 2010, at 13.
372. *Id.*
373. U.S. TV Household Estimates Designated Market Area (DMA) — Ranked by Households, *available at* http://www.tvb.org/rcentral/markettrack/us_hh_by_dma.asp.

Apprentice (2003-04, 20.7 million total viewers), *Law & Order* (2001-02, 18.7 million total viewers), *Will & Grace* (2000-01, 17.3 million total viewers), *The West Wing* (2001-02, 17.2 million total viewers), *Leap of Faith* (2001-02, 16.5 million total viewers), *The Apprentice 2* (2004-05, NBC 16.1 million total viewers), *Frasier* (2000-01, 15.9 million total viewers), *Scrubs* (2002-03, 15.9 million total viewers), *Just Shoot Me* (2000-01, 15.6 million total viewers), and *Deal or No Deal* (2005-06, 15.6 million total viewers).[374] In the 2009-10 season, NBC's *Sunday Night Football* (described below) was the second most popular network show (19.6 million total viewers).[375]

2. National Sports Programming

166. NBC Universal Sports & Olympics is home to many of today's top sporting events, including the U.S. Open Championship, The Ryder Cup, Presidents Cup, Kentucky Derby, Preakness Stakes, Notre Dame football, Wimbledon, French Open, Stanley Cup Finals, Summer and Winter Olympic Games through 2012, and NBC Sunday Night Football. Table 5 lists the top sports assets owned by NBCU, and includes contract length and terms where available.

374. Decade's Top 125 Most-Watched TV Shows (2000-2009), *available at* http://blog.newsok.com/television/2010/01/12/decades-top-125-most-watched-tv-shows-2000-2009/.

375. Top 20 Most-Watched TV Programs in 2009-10 (through Dec. 20), *available at* http://blog.newsok.com/television/2010/01/12/top-20-most-watched-tv-programs-in-2009-10-through-dec-20.

TABLE 5: MARQUEE NATIONAL SPORTS PROGRAMMING OWNED BY NBCU

Sports asset	Length of contract	Financial terms
U.S. Open Championship	2008-2014[1]	Financial terms of renewal unknown. NBC acquired the rights to the U.S. Open from ABC in 1995 with a three-year $40 million contract.[2]
The Ryder Cup	2008-2014[3]	Financial terms unknown.
Presidents Cup	Through 2011[4]	Financial terms unknown.
Kentucky Derby & Preakness Stakes	2006-2010[5]	$43 million contract. NBC is in negotiations to renew its contract for the Kentucky Derby and the Preakness Stakes and hopes to add the Belmont Stakes to its lineup in 2011.[5]
Notre Dame Football	2010-2015[6]	Not disclosed, but previous contract, which expires in 2010, is reported to be worth $9 million per year.[6]
Wimbledon	Through 2011[7]	"[E]stimated to be worth $12 million to $13 million per year through 2011."[7]
French Open	2006-2013[3]	Financial terms unknown.
NHL, Stanley Cup Finals	- 2011 Stanley Cup Finals[8]	The extension is a continuation of their revenue-sharing partnership.[8]
Summer and Winter Olympics	Through 2012[9]	$2.2 billion (for 2010 and 2012 games).[9]
NBC Sunday Night Football	Through 2013[10]	Financial terms of renewal unknown. The original six-year deal, which was signed in the spring of 2005, was worth $3.6 billion.[11]
U.S. Figure Skating	Through 2014 Winter Games[12]	Financial terms unknown.

Sources: 1 Press Release, *USGA, NBC Extend Broadcast Contract Through 2014*, USGA (Jan. 24, 2005); 2 Milton Kent, *Enberg, NBC are up to par in U.S. Open*, BALTIMORE SUN (June 19, 1995); 3 Attachment 53-1 on NBCU production; 4 Press Release, *PGA TOUR reaches television agreements,* PGA (Jan. 11, 2006); 5 *NBC To Keep Kentucky Derby, Preakness Stakes Broadcast Rights*, BLOODHORSE.COM (May 4, 2005); Matt Hegarty, *Derby handle, ratings post gains*, ESPN.COM (May 3, 2010); 6 *Notre Dame agrees to five-year extension with NBC*, ASSOCIATED PRESS (June 19, 2008); 7 Chris Pursell, *NBC, ESPN Close in on Wimbledon Renewals*, TV WEEK (2007); 8 *NHL, NBC Extend Revenue-Sharing Agreement Through '10-11 Season,* SPORTS BUSINESS DAILY (July 16, 2009); 9 *NBC lands U.S. Olympic broadcast rights through 2012*, CBC SPORTS (Jun. 7, 2003); 10 *NFL & NBC Announce Two-Year Contract Extension*, NBC.COM (Aug. 19, 2009); Joanna Weiss, *NBC: Sunday night's all right for football*, BOSTON GLOBE (July 24, 2006); 11 Joanna Weiss, *NBC: Sunday night's all right for football*, BOSTON GLOBE (July 24, 2006); 12 *U.S. Figure Skating, NBC Sports Announce Broadcast Contract Extension*, SPORTS MEDIA NEWS (Aug. 27, 2009).

B. NBC's Marquee Online Programming

167. NBCU owns or partially owns several marquee online properties. Hulu, a joint venture of NBC Universal (GE), Fox (News Corp), and ABC Networks (Disney) launched in early 2008, offers video content from those programmers as well as others for free typically on a delayed basis (that is, some number of days after the programming is broadcast). According to comScore, in the month of March 2009, 380 million videos were viewed on Hulu.com by over 41 million unique viewers.[376] By February of 2010 the number of videos watched was up to 912

376. *Hulu Continues Ascent in U.S. Online Video Market, Breaking Into Top 3 Properties by Videos Viewed for First Time in March,* comScore press release April 28, 2009, *available at* http://www.comscore.com/Press_Events/Press_Releases/2009/4/Hulu_Breaks_Into_Top_3_Video_Properties.

million.[377] Among the most popular shows watched on Hulu.com on April 16, 2010 were ABC's *Modern Family*, Fox's *Glee*, and Fox's *Family Guy*. In March of 2010, Viacom removed some of its very popular Comedy Central shows from Hulu, including *The Daily Show* and *The Colbert Report*.[378] According to Laura Martin, an analyst at Needham & Company, "the content companies continue to experiment with how to monetize their premium content on digital platforms. Hulu.com is a failed experiment for Viacom."[379] In addition, NBCU owns NBC.com, MSNBC.com, CNBC.com, and iVillage.com.

C. Ownership of These "Must-Have" Inputs Would Facilitate Comcast's Anticompetitive Schemes vis-à-vis Independent Networks and MVPD Rivals

168. If the proposed transaction were approved, Comcast would acquire significant must-have content that could be withheld from downstream MVPD rivals at both the local level (with NBCU O&O networks) and at the national level (with NBCU national programming and online programming); it would also increase Comcast's market power vis-à-vis independent networks, OTT video providers, and broadband access providers.

169. The proper economic lens through which to analyze Comcast's refusing to supply affiliated cable network programming (from NBCU) to downstream MVPD rivals is exclusive dealing. Not all exclusive dealing is anticompetitive. To reduce welfare, the exclusive arrangement must impair the ability of downstream rivals' to compete effectively in the MVPD market and there must be no redeeming efficiencies.[380] This outcome can be achieved by either

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377. *comScore Releases February 2010 U.S. Online Video Rankings*, comScore press release April 13, 2010, *availabel at* http://www.comscore.com/Press_Events/Press_Releases/2010/4/comScore_Releases_February_2010_U.S._Online_Video_Rankings.

378. Brian Stelter, *Viacom and Hulu Part Ways*, NEW YORK TIMES, March 2, 2010, *available at* http://www.nytimes.com/2010/03/03/business/media/03hulu.html.

379. *Id.*

380. Patrick Rey & Jean Tirole, *A Primer on Foreclosure* (reprinted in III HANDBOOK OF INDUSTRIAL ORGANIZATION, Mark Armstrong & Rob Porter, eds., 2145-2220, 2007), at *1 ("An input produced by a dominant firm is essential if it cannot be cheaply duplicated by users who are denied access to it.").

(a) raising rivals' costs or (b) reducing rivals' quality.[381] Both conditions are satisfied here. Comcast can directly raise a rival's costs by increasing the wholesale price of Comcast's affiliated networks. And to the extent the withheld network constitutes "must-have" programming, Comcast can also reduce the quality of the rival MVPD's offering, thereby weakening its ability to constrain Comcast's price for MVPD service.

170. The proper economic lens through which to analyze Comcast's requiring verification of a subscription to both its cable television and cable modem service to access its online content portfolio (Fancast) is tying. Not all tie-ins are anticompetitive. The Chicago School one-monopoly-profit critique showed that if (1) the tying and tied products are consumed in fixed proportions, (2) the tied product has no separate utility for consumers, *and* (3) if competition in the tied and tying markets are fixed, then a tie-in is likely motivated for procompetitive reasons. However, if the products are not used or bundled in a fixed ratio, then a tie-in can be used to create intra-product price discrimination or to create interproduct price discrimination.[382] If the products are used or bundled in a fixed ratio, but if the tied product also has separate utility when not used with the tying product, and if competition in the tied market is not fixed (due to, for example, economies of scale in the supply of the tied product), then tying can diminish rival competitiveness due to significant foreclosure in the tied market.[383] Alternatively, even if the products are used or bundled in fixed ratios and lack separate utility, foreclosing the tied market might still create anticompetitive effects if it alters the degree of tying

381. Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L. J. 234 (1986) ("The simplest and most obvious method by which foreclosure of supply can raise rivals' costs is that purchaser's obtaining exclusionary rights from all (or a sufficient number of) the lowest-cost suppliers, where those suppliers determine the input's market price. Competitors of the purchaser experience a cost increase as they necessarily shift to higher cost suppliers or less efficient inputs. Antitrust literati know this as the 'Bottleneck' or 'essential facilities' problem.").

382. Einer Elhauge, Tying, *Bundled Discounts, and the Death of the Single Monopoly Profit Theory*, 123 HARVARD LAW REVIEW 399, 404-05(2009).

383. *Id.* at 416.

market power (due to, for example, the tied market competitor evolving into a rival in the tying market).[384] Once again, the necessary conditions for Comcast's tie-in to be anticompetitive are satisfied here. With regard to the first theory, consumers clearly do not consume online video and MVPD service in fixed proportions; some consumers will consume ten hours of online video per month (alongside a single MVPD subscription) while others will consumers 100 hours per month. With regard to the second theory, customers have a separate utility for online content (the tied product) when not used with MVPD services (the tying product); and there are fixed costs to supplying online video and large economies of scale, as the marginal cost of producing the last download is close to zero. With regard to the third theory, competition in the supply of MVPD services is not fixed. In particular, OTT video providers could evolve into significant MVPD suppliers, and thereby erode Comcast's tying market power. With respect to the requirement that Comcast have significant tying market power, Comcast's share of nationwide MVPD subscribers alone constitutes significant foreclosure. Because Comcast has partnered with Time Warner and other MVPD suppliers, however, the resulting foreclosure share faced by OTT video providers is even larger. Even if Comcast perceives online video to be a complement to its cable television service today, as its economists unconvincingly argue, to the extent that a vibrant, online-video offering could one day induce Comcast's subscribers to disconnect their cable television subscriptions, Comcast's tie-in of its affiliated online content portfolio to its cable television service could prevent that evolution from occurring.

384. *Id.* at 417.

1. Refusing to Supply Affiliated Programming to Rival Distributors on Reasonable Terms

171. A standard foreclosure calculus reveals that Comcast would likely withhold (a) local NBC affiliates from MVPD rivals in markets where Comcast has significant downstream market power (shares in excess of 40 percent) and (b) the new-and-improved Versus from MVPD rivals nationwide.

a. NBC Local Affiliates

172. Comcast is acquiring local must-have programming via NBCU's ten owned-and-operated (O&O) NBC affiliates. These properties will also increase Comcast's market power vis-à-vis MVPD rivals, but only in the DMAs in which NBCU owns a local NBC affiliate. In the seven local markets in which NBCU owns a broadcast affiliate *and* Comcast owns an RSN (the "overlapping markets")—Chicago, Philadelphia, Dallas-Ft. Worth, San Francisco-Oakland-San Jose, Washington, DC (Hagerstown), Miami-Ft. Lauderdale, and Hartford-New Haven—Comcast will realize a substantial increase in market power vis-à-vis its MVPD rivals. In particular, Comcast can now target customers of rival MVPDs who were unwilling to switch on account of access to local sports but would switch on account of access to NBC. Comcast serves approximately 70 percent of MVPD subscribers in the Philadelphia DMA, and it serves approximately 60 percent of MVPD subscribers in the Chicago, Miami, and San Francisco DMAs. With such significant downstream market shares, Comcast can count on recouping any upstream losses associated with the withholding of the NBC affiliate with ill-gotten downstream gains. And given the fact that Comcast is often the largest provider of local advertising in these local markets, the acquisition of an NBC affiliate would increase Comcast's ability to raise local advertising rates.

173. Rather than presenting an original foreclosure calculus here, I generally embrace the calculus used by Comcast's economists with the caveat that several parameter values must be revised to reflect realistic assumptions. My critique of their parameters is presented below. Even without making *any* adjustments to their parameters, the foreclosure calculus reveals that, in local markets in which Comcast has a significant market share (defined as 40 percent or greater), a very small amount of customer departure to Comcast (to follow the withheld NBC content) would be needed to render the foreclosure profitable—that is, the "critical departure share" is very small. In particular, according to Comcast's own economists, the low-end of the critical departure shares under the "permanent foreclosure" simulation for six DMAs (Chicago, Hartford & New Haven, Miami-Ft. Lauderdale, Philadelphia, San Francisco-Oakland-San Jose, and Washington-Hagerstown) ranges from {{[redacted]}} (Philadelphia) to {{[redacted]}} percent (Hartford & New Haven).[385] A reasonable proxy for the actual departure share is the loss in DBS share in the Philadelphia DMA for failing to secure Comcast SportsNet Philadelphia. In this event, the actual departure share would likely exceed the critical level—several economists have estimated the share shift in the Philadelphia DMA to be on the order of ten percentage points.[386] Accordingly, Comcast would find it profitable to withhold the local NBC affiliate in each of those six DMAs, as the actual departure share would likely exceed the critical departure share.

174. It bears noting, however, that the foreclosure calculus used by Drs. Katz and Israel does not consider the possibility that Comcast raise its wholesale price. Relative to a standalone NBC broadcast affiliate, Comcast's ownership reduces the cost to the affiliate of

385. *Israel & Katz NBCU, supra*, 46 (Table 2).

386. *Lexecon October 2005 Analysis, supra* (predicting that, given its market characteristics, DBS penetration in Philadelphia should have been approximately 21 percent in 2005); Willig & Orzag, *supra* (finding that Dish Network's penetration rate in the Philadelphia DMA was reduced from 9.5 percent to 3 percent as a result of Comcast's conduct); *Bamberger and Neumann March 2006 Analysis, supra* (estimating that the actual DBS penetration rate in Philadelphia is approximately 10 percentage points smaller than it should be based on Philadelphia's characteristics); Singer & Sidak, *supra* (estimating that DBS penetration in the Philadelphia DMA should be 15.4 percent compared to the then-actual level of 9.4 percent).

withholding programming from Comcast's MVPD rivals. When faced with the prospect of not watching NBC programming long-term, some MVPD customers in the relevant DMAs will switch to Comcast; as a result, Comcast will earn incremental (downstream) profits. These profits will offset the cost to Comcast of withholding the NBC affiliate. Recognizing these tradeoffs, Comcast will be able to bargain for higher programming prices for programming previously owned by NBC than NBC would otherwise be able to negotiate on its own. This is true even if the loss in upstream programming profit from withholding the NBC affiliate exceeds the gain in downstream MVPD profit due to customer switching. And MVPD consumers will be harmed because these higher programming prices will be passed through to them in the form of higher cable bills.

b. National Sports Programming (Versus)

175. By transferring some of NBCU's national sporting events from NBC's networks to Versus, Comcast would form a national sports network that would rival ESPN. But unlike ESPN, which is owned by Disney, Versus will be owned by the *largest* MVPD, serving roughly one-quarter of all U.S. MVPD subscribers. Consideration of Comcast's downstream profits would severely distort the joint venture's pricing incentives for Versus. In particular, Comcast would be willing to incur losses (relative to the standalone profit-maximizing price for those rights) in its upstream content division (Versus) in exchange for ill-gotten gains in its downstream distribution division, even if some of those downstream "benefits" were to spill into non-Comcast territories. And MVPD consumers will be harmed in either of two possible contingencies: (a) if Comcast merely raises the price of Versus to rival MVPDs, these higher prices will be passed through to MVPD subscribers in the form of higher cable bills; or (b) if Comcast outright refuses to supply this programming to rival MVPDs—for example, by moving the future marquee Versus programming online to escape the program access rules—then non-

Comcast customers will be forced to incur switching costs to follow this programming (as they switch back to Comcast) and higher cable bills due to the reduction in MVPD competition.

176. In addition to seeking control of NBCU's national sports programming, Comcast has recently acquired equity interests in several national sports networks, including MLB Network, NHL Network, and NBA TV. (Comcast also owns the Golf Channel, a national sports network.) Consistent with the discrimination hypothesis outlined here, Comcast re-tiered those three national sports networks from its lowly penetrated sports tier to its highly penetrated "Digital Classic Tier" shortly after it acquired equity in those networks. Indeed, this is precisely how Comcast extracts equity from rights holders of sports programming; refusal to grant equity lands an independent programmer on the sports tier, which severely limits advertising opportunities. And the best way out of this predicament is to offer equity to Comcast. These acquisitions of national sports networks alongside NBCU's national sports-programming portfolio will vastly increase Comcast's market power vis-à-vis its MVPD rivals *throughout* Comcast's service area.

177. In the Internet Age, sports programming is critical to an MVPD because viewers demand to see it in real-time, often on their big-screen televisions. This "must-have" nature of sports programming is recognized by advertisers, which explains why such programming commands high advertising rates. By acquiring NBCU's national sports content, Comcast seeks to exploit this unique opportunity to protect its cable television profits. In particular, Comcast could withhold affiliated national sports programming from downstream rivals to impair MVPD competition. Non-sports or non-event programming that can be watched on delay without any significant diminution in viewer utility is relatively less valuable, as MVPD subscribers

increasingly have alternative means for accessing that content after it originally airs, including via the Internet.

178. To compute the "critical departure share" under which Comcast would find it profitable to withhold Versus from downstream MVPD rivals, I use the Commission's foreclosure calculus from the News Corporation/DirecTV proceeding. For the purpose of this modeling exercise, I assume that Comcast would withhold Versus from all MVPDs on a permanent basis. Assuming that 100 percent of Comcast's MVPD profits accrue to the integrated firm, the critical departure share for a permanent foreclosure strategy is simply:

$$d^{crit} = A/\left[A + M\alpha\right], \tag{1.1}$$

where A is Comcast's forgone licensing revenue per subscriber per month associated with Versus, M is Comcast's MVPD margins per newfound subscriber per month, and α is the share of those customers who depart the foreclosed MVPD who specifically choose Comcast as their new MVPD.[387] Assuming that α is Comcast's national MVPD market share of 23.4 percent,[388] M is Comcast's monthly profit margin per MVPD subscriber (on video services only) of {{[redacted]}},[389] and A is Versus's projected 2010 average monthly license fee per subscriber of \$0.33,[390] the critical departure share is 3.8 percent. If Versus were to carry all of NBC's national sports programming, then the network would command higher rates. Assuming A is \$2.20, or

387. The incremental loss is $(1 - d)A$. The incremental gain is $dM\alpha$. Setting the incremental loss equal to the incremental gain and solving for d yields $A / [A + M\alpha]$.

388. *Israel & Katz Online Content*, *supra*, ¶ 107 (citing MediaBusiness Corporation).

389. *Id.* ¶ 104. This is a conservative assumption, as Comcast would likely capture the margins on cable modem and voice services for some portion of switching customers. Indeed, Drs. Katz and Israel made this assumption when modeling the foreclosure calculus for the NBC affiliates. *Israel & Katz NBCU*, *supra*, ¶ 36.

390. Kagan, The Economics of Basic Cable Networks (2009), at 52.

approximately half the license fee for ESPN in 2010,[391] then the critical departure share is 20.8 percent.

179. It is difficult to measure with precision the likely departure rate here, as Comcast has not withheld Versus from MVPD rivals to my knowledge. One proxy is the loss in an MVPD's national share for failing to secure a license agreement with ESPN. Another proxy is the loss in DBS share in the Philadelphia DMA for failing to secure Comcast SportsNet Philadelphia. To the extent that the latter is a reasonable proxy, the actual departure share would likely exceed the critical level, especially if it were closer to the low-end of my estimate (3.8 percent). In any event, because Comcast's per subscriber margins are so much larger than Versus's license fee, the foreclosure calculus suggests that the Commission should be concerned about this prospect.

2. Denying Access to Independent Programming Networks

180. By expanding its broadcast and cable network holdings, Comcast increases its market power vis-à-vis independent cable networks. Comcast is sending a chilling signal to independent networks—in order to be carried on Comcast's cable system, a network must acquiesce to Comcast's demand for equity. As the NFL Network, MASN, and Tennis Channel program-carriage complaints against Comcast make clear, Comcast has discriminated against independent sports networks (and in favor of its affiliated networks like Versus and CSN Mid-Atlantic) in its tiering decisions. With the NBCU networks, Comcast would have a fresh incentive to advantage its affiliated networks vis-à-vis independent, similarly-situated networks. For example, Comcast could disadvantage an independent news network by relegating it to an inferior tier relative to the tier on which it carries CNBC and MSNBC; on an inferior tier, the independent news network would be impaired in its ability to compete for advertisers and for

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391. *Id.* at 52 (projecting ESPN's license fee to be $4.41 in 2010).

programming rights. In the absence of the affiliation made possible by the proposed transaction, no such incentive to discriminate in favor of NBCU cable networks exists. The same incentives for discriminatory carriage would arise with respect to the new-and-improved Versus (for independent sports networks), Telemundo (for independent Spanish-language networks), and Oxygen (for independent women's programming networks). Moreover, Comcast's threat not to carry independent networks that seek to post some of their content online becomes more credible as Comcast expands its own online content portfolio; if an independent network refuses to place its online content behind Comcast's walled garden (and not on the network's website), then Comcast can simply deny carriage on its cable system. As the walled garden grows, the incremental value of the next independent network to Comcast declines.

3. Tying Affiliated Internet Content to the Purchase of Cable Television Service

181. Comcast has addressed this increasing threat of Internet-based television primarily in three ways. *First*, Comcast has made some of the video content it distributes available online, but only to paying customers of both its video and Internet services through its TV Everywhere service, which is branded in Comcast markets as "Fancast."[392] The proper lens to view this conduct is a tie-in, with Comcast's cable television service serving as the tying product and the online content serving as the tied product. *Second*, Comcast requires that unaffiliated cable networks not make their content available online as a condition of being carried on Comcast's cable television systems.[393] The proper lens to view this conduct is an exclusive deal; Comcast insists that a cable network not license its content to OTT video

392. Fancast provides access to network shows and movies integrated with television-related news and a viewing guide for their video service. Information about Comcast's Fancast is available at http://www.fancast.com.

393. *Cable TV*, *supra*, at *1 ("As the cable companies scramble to get these technologies out of the lab, they are trying to prevent cable networks from putting their shows online. In recent months, Big Cable has reminded USA, Bravo, TNT (TNT), and hundreds of other channels that the cable companies provide about half their revenues, in the form of fees to carry their shows. The implicit warning: put your content online and forfeit nearly $30 billion. 'If I don't have a customer,' says Time Warner Cable's Britt, 'the programmers aren't going to have a customer.'").

providers or post content to its own website as a condition of carriage on Comcast's cable system. *Third*, Comcast maintains complete control of the set-top box used to access its cable television service by requiring its cable television customers to purchase the set-top box from Comcast to enjoy the full suite of interactive services. The proper lens to view this conduct is another tie-in; in this case, the tied product is the set-top box.

182. These three, exclusionary strategies will slow the growth of Internet-only television and thereby protect Comcast's market power in the supply of cable television service. Because the marginal (or imputed) price of accessing Comcast's online portfolio is zero as a result of the tie-in (and Comcast's pricing structure), providers of OTT video seeking to compete against Comcast will be forced to raise revenues from advertisers only, which could undermine their business model. By preventing unaffiliated cable networks from posting their content online as a condition of carriage, and by denying access to its affiliated online content, Comcast can deny a critical input to OTT video providers, further impairing Internet-only television. When Comcast's affiliated online properties are combined with those of Time Warner, which also participates in TV Everywhere, the resulting collection of withheld content could significantly impair OTT providers. By denying its online portfolio to in-region rival Internet service providers ("ISPs")—that is, by tying Fancast to *Comcast's cable modem service*—Comcast and other members of TV Everywhere can induce substitution away from fiber/DSL connections offered by telephone companies. And by controlling the set-top box, Comcast can ensure that its video subscribers cannot access the Internet from the comfort of their televisions. An independent set-top-box maker would be more inclined to add features, including the ability to connect to and download video from the Internet via a Wi-Fi connection, that could threaten a cable provider's cable television revenues.

183. Comcast's acquisition of NBCU's online content portfolio would facilitate these exclusionary strategies, both on a unilateral basis and on a coordinated basis with other cable operators. Denying access to NBCU's online content portfolio, especially Hulu.com, would significantly impair the ability of OTT providers to compete effectively for online video customers. And to the extent that TV Everywhere does not provide access to rival ISPs on reasonable terms, denying access to NBCU's online content portfolio would also impair the ability of in-region ISP rivals to compete effectively for broadband subscribers. Although it may be possible to achieve these outcomes through (exclusive) contracting, having these must-have assets under ownership greatly facilitates the exclusionary objective, as the possibility of defection by the affiliated, online content provider (Hulu.com and others) decreases.[394] When done in conjunction with Time Warner and other cable operators that join TV Everywhere, the foreclosure share associated with this exclusionary strategy increases, which in turn would increase Comcast's market power in the supply of online video. Independent cable networks and movie studios naturally fear upsetting Comcast by posting their video content online or making it available to OTT video providers; by including other cable operators, including Time Warner, in TV Everywhere, the combined leverage vis-à-vis independent networks is even stronger.[395] Having NBCU's content portfolio also would increase Comcast's market power vis-à-vis independent programmers. In particular, Comcast's threat not to carry independent networks that seek to post some of their content online becomes more credible as Comcast adds to its online video content portfolio, as Comcast's online platform (Fancast) would become the most valuable

394. It is no accident that the initial trial of TV Everywhere in the summer of 2009 allowed viewers to tap into programming provided by TNT and TBS, both of which are owned by Time Warner. *See Revenge of the Cable Guys, supra*.

395. *Revenge of the Cable Guys, supra* ("Back at Time Warner Center in New York and One Comcast Center in Philadelphia, the cable operators began to realize they ***had the studios locked down***. As Frank Biondi, former president of the media giant Viacom (VIA), puts it: 'Why would [the studios] make a deal with a competitor to their largest customer and risk angering them?') (emphasis added).

platform for accessing online video content. Finally, Comcast's acquisition of NBCU's online content portfolio would increase Comcast's incentives to thwart set-top-box technologies that would enable cable television customers to access the Internet from their televisions. If a Comcast cable customer could access Hulu.com, for example, from his television without having to authenticate his being a Comcast cable television customer, then the value of Comcast's cable television platform would be compromised.

D. Comcast's Economists Do Not Effectively Rebut the Presumption That Comcast Would Withhold NBCU's Programming from MVPD Rivals

184. In this section, I review the reports by Drs. Katz and Israel ("Comcast's economists") that analyze the foreclosure calculus for both NBCU's O&O broadcast affiliates and NBCU's online content.

1. Katz's and Israel's Claim That Comcast Would Not Withhold NBC Affiliates

185. In their first report, Drs. Katz and Israel employ the Commission's foreclosure model from the *News Corp.-DirecTV* proceeding to determine whether Comcast would have an incentive to withhold, on either a permanent or temporary basis, NBCU's O&O affiliates from rival MVPDs.[396] They proceed in two steps: *First*, using a theoretical model, they compute the "critical departure shares"—that is, the fraction of rival MVPD subscribers who must depart in response to the denial of access to an NBC affiliate such that the foreclosure would be profitable. *Second*, using an econometric model of Comcast's share gains in response to Dish Network's temporary loss of a local affiliate, they attempt to estimate the actual departure shares. They then propose a simple test that involves the comparison of the critical departure shares to the estimated departure shares. If the estimated departure shares exceed the critical departure shares, then they would infer that foreclosure would be profitable; else, foreclosure would be

396. *Israel & Katz NBCU, supra*, ¶¶ 21-23.

unprofitable. Upon implementing their test, Katz and Israel find that the estimated "actual departure shares" are generally less than the "critical departure shares." Their test therefore finds that Comcast would not have an incentive to withhold NBCU's O&O affiliates from MVPDs that rival Comcast.

186. Below I explain that although the proposed framework that Katz and Israel have suggested is acceptable, their implementation of the test is poor. The end result is to conduct a very "low-power" test. In the economics parlance, this means the test is unacceptably likely to find that Comcast would not have incentive to withhold NBCU's O&O affiliates from rival MVPDs in instances when such incentive does indeed exist. Therefore, the results presented in Drs. Katz's and Israel's first report should be discarded as they are uninformative.

a. Drs. Katz and Israel's Critical Departure Shares Are Inaccurately High

187. Assuming that 100 percent of Comcast's MVPD profits accrue to the integrated firm, the critical departure share for a permanent foreclosure strategy is simply:

$$d^{crit} = \frac{(1-a)B}{B+M\alpha}, \tag{1.2}$$

where a is the share of MVPD subscribers who remain with the foreclosed MVPD but obtain access to the NBC affiliate through alternative means (for example, by receiving the signal over the air). The variable B is the NBC affiliate's forgone advertising revenue per subscriber per month, M is Comcast's MVPD margins per newfound subscriber per month, and α is the share of those customers who depart the foreclosed MVPD who specifically choose Comcast as their new MVPD. As a matter of economic theory, I agree with this general framework.[397]

397. Comcast's economists argue that the Commission's model likely overstates the critical departure share for a few, non-compelling reasons. For example, they argue that the model "fails to account for the possibility that attempted foreclosure would trigger a Commission enforcement action, which would be costly to the firm." *Israel &*

188. The values of the critical shares are ultimately determined by the parameters of the model, which are estimated. In estimating these parameters, Drs. Katz and Israel make several aggressive assumptions, which have the effect of artificially inflating the critical departure shares. For example, they argue that the Commission's suggested value for *a*—the share of MVPD subscribers who remain with the foreclosed MVPD but obtain access to the NBC affiliate through alternative means—should be increased (from 22 percent or twice the fraction of television households that receive video programming only via broadcast reception) to account for the possibility that a subscriber to a foreclosed MVPD could access NBC content online.[398] Setting aside the notion that the Commission's default assumption is too generous to begin with (most MVPD subscribers who do not use bunny ears would not find bunny ears to be an acceptable substitute to traditional MVPD service), this adjustment presumes incorrectly that a non-Comcast MVPD subscriber would have access to NBC's online properties. Under Comcast's current tying arrangement (Fancast), an online customer cannot access Comcast's affiliated online portfolio *unless he can authenticate that he is a Comcast cable television subscriber*. It follows that a non-Comcast MVPD subscriber could not access Comcast-affiliated online content via Fancast. Presumably, Comcast would treat NBCU's online properties the same as it treats its other affiliated online content—that is, tie access to those properties to Comcast's cable television service. Moreover, Hulu.com currently blocks OTT providers from accessing its website, which implies that subscribers of OTT video would not have alternative paths to NBC

Katz NBCU, supra, ¶ 88. Clearly, these considerations have not tempered Comcast's inclination to deny access to its affiliated regional sports programming in the past. Several program access complaints brought by rival MVPDs against Comcast are underway. Drs. Katz and Israel also argue that the Commission's model fails to account for the possibility that denial of NBC programming in a given DMA "could hurt NBC's ability to attract the best local talent and content in that DMA." *Id.* ¶ 89. It is not clear what type of local "talent" Comcast's economists have in mind.

398. *Israel & Katz NBCU, supra*, ¶ 37.

content. Accordingly, their scenarios in which the variable *a* exceeds 22 percent should be discounted.

189. With regard to estimating the parameter α, the share of those customers who depart the foreclosed MVPD and choose Comcast as their new MVPD, Comcast's economist make at least three aggressive assumptions that also serve to inflate the critical departure share. *First*, they assume that the likelihood that a departing customer would choose Comcast is proportional to Comcast's MVPD share in the DMA. But if a customer is seeking out Comcast-affiliated content, then the likelihood that he turns to Comcast exceeds Comcast's MVPD market share—that is, the customer would not be indifferent between Comcast and some other MVPD supplier that might also be foreclosed from NBC programming.

190. *Second*, the MVPD shares used by Comcast are generally less than those reported by SNL Kagan, the Television Bureau of Advertising (TVB), and Warren's *Advanced TVFactbook*. For example, Comcast's economists assert that Comcast's MVPD share in the Hartford-New Haven DMA is {{[redacted]}}. According to TVB, Comcast sells local advertising to 751,320 households ("local market interconnects") in the DMA or 76.8 percent of television households.[399] According to Warren's, Comcast supplies 49.6 percent of the television households in the DMA. According to SNL Kagan, Comcast serves 40.7 percent of MVPD subscribers in the DMA. Table 6 compares the market shares across the three data sources.

TABLE 6: COMCAST'S MARKET SHARE BY DMA

	DMA	Katz & Israel*	SNL Kagan**	Warren's***	TVB****
1	Philadelphia, PA	[redacted]	68.5%	68.9%	74.4%
2	Chicago, IL	[redacted]	63.2%	n/a^	62.8%

399. U.S. TV Household Estimates Designated Market Area (DMA)—Ranked by Households, *available at* http://www.tvb.org/nav/build_frameset.asp?url=/arc/politicaldatabank/politicaldatabank.asp. Local Cable Reach Guide DMA Interconnect UEs Feb.10, at 5 (showing "COMCAST SPOTLIGHT – HARTFOR" as the largest MVPD in the DMA with 73.7% of television households). TVB defines an interconnect as "a group of two or more wired-cable systems within a DMA handled by the same ad sales entity."

3	Miami-Fort Lauderdale, FL	[redacted]	61.2%	50.9%	67.7%
4	San Francisco-Oakland-San Jose, CA	[redacted]	59.3%	73.4%	68.5%
5	Washington, DC (Hagerstown, MD)	[redacted]	48.0%	44.7%	71.1%
6	Hartford & New Haven, CT	[redacted]	40.7%	49.6%	76.8%
7	New York, NY	[redacted]	9.8%	11.1%	n/a
8	Dallas-Fort Worth, TX	[redacted]	0.0%	0.0%	n/a
9	Los Angeles, CA	[redacted]	0.0%	0.0%	n/a
10	San Diego, CA	[redacted]	0.0%	0.0%	n/a

Notes and Sources: * *Israel & Katz NBCU, supra*, Table 1, at 29. Percentages represent Comcast share of "MVPD Subscribers," in late 2009. *** Comcast basic subscriber data available from Advanced TVFactbook, Warren's Communications News, May 2010. Data on DMA Cable/ADS penetration taken from TVB Local Cable Reach Guide Feb. 2010, Television Bureau of Advertising, *available at*: http://tvb.org/nav/build_frameset.aspx. **** Percentages represent Comcast share of "Local Market Interconnects" as a percentage of HHs reached by Cable/ADS. Data on DMA Cable/ADS penetration taken from TVB Local Cable Reach Guide Feb. 2010, Television Bureau of Advertising, *available at*: http://tvb.org/nav/build_frameset.aspx. ^ Data for Chicago, IL DMA from the Advanced TVFactbook was incomplete.

As Table 6 shows, similar discrepancies appear in the nine other DMAs, with Comcast's share estimates generally being lower than SNL Kagan's, TVB's, and Warren's estimates.[400]

191. *Third*, Comcast's economists assume that a substantial share of Verizon's, Dish Network's, and DirecTV's customers could not switch due to "long-term subscriber contracts" for at least a year.[401] Setting aside the reliability of their estimates of the customers under long-term contracts,[402] at least some customers (for example, those with a strong affinity for NBC programming and high incomes) would be willing to incur the penalty for early termination. Verizon's early-termination fee for FiOS customers who joined in 2009 or earlier is $179.[403] Yet Comcast's economists claim that customers "under long-term contracts *cannot*, in fact, switch."[404]

400. *Compare* Table 1, *infra*, with Table 1 in *Israel & Katz NBCU*.

401. *Israel & Katz NBCU, supra*, ¶ 57.

402. *Id.* Comcast's economists cite a DBS survey conducted by Comcast and an estimate for Verizon customers supplied by the director of competitive analysis at Comcast.

403. Fee information is available at http://www.dslreports.com/shownews/Verizons-FiOS-ETF-360-Starting-January-17-106253. Although the fee was increased in 2010, the fee is reduced by $20 per month for each month into the contract.

404. *Israel & Katz NBCU, supra*, ¶ 57.

192. With regard to estimating *B*, the NBC affiliate's forgone advertising revenue per subscriber per month, Comcast's economists assert that the "trend" toward retransmission consent fees dictates that those fees should be added to NBC's forgone advertising revenues.[405] In a recent paper for the National Cable & Telecommunications Association, Dr. Katz argued that the nascent retransmission consent "system significantly harms consumer welfare through higher subscription fees and the periodic (and to consumers, unpredictable) loss of access to retransmitted broadcast signals."[406] He reports that only 72 percent of telco video customers subscribed to an MVPD that paid retransmission fees in 2009;[407] yet for the purposes of the foreclosure calculus, he implicitly assumes that 100 percent of those telco video subscribers (and all other foreclosed MVPD subscribers) belong to an MVPD that paid those fees. Dr. Katz concludes his NCTA report with the suggestion that the entire system "be reviewed to determine the consumer benefits of restoring the balance between the parties in retransmission consent negotiations," and suggests that MVPDs should be allowed "to import broadcast signals from neighboring areas," presumably for free.[408] Hence, if the Commission followed Dr. Katz's policy prescription in the retransmission consent proceeding, then those fees should not be included in the foreclosure calculus.

193. Despite these aggressive assumptions, given Comcast' high MVPD market shares in many of the relevant DMAs, Drs. Katz and Israel estimate that the low-end of the critical departure shares under the "permanent foreclosure" simulation for six DMAs (Chicago, Hartford & New Haven, Miami-Ft. Lauderdale, Philadelphia, San Francisco-Oakland-San Jose, and Washington-Hagerstown) ranges from {{[redacted]}} (Philadelphia) to {{[redacted]}} percent (Hartford &

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405. *Id.* ¶ 66.

406. Michael Katz, Jonathan Orszag and Theresa Sullivan, An Economic Analysis of Consumer Harm from the Current Retransmission Consent Regime, Nov. 12, 2009, at 1.

407. *Id.* at 34 (Table 3). That share is estimated to increase to 87 percent in 2011.

408. *Id.* at 41.

New Haven).[409] Stated differently, by their own model, if just six-to-ten percent of MVPD subscribers in the relevant DMAs departed their MVPD in response to the denial of access to NBC programming, then Comcast's foreclosure would be profitable in those DMAs! (The low-end of the critical departure share in the New York DMA is 29.1 percent, largely due to Comcast's small share of MVPD subscribers.) These modest shares, which are likely inflated for the reasons described above, would be trivially satisfied to the extent that Comcast's *permanent* withholding of RSN programming from DBS operators in the Philadelphia DMA is a reasonable proxy for the predicted departure level here. Recall that several studies,[410] including two by the Commission,[411] have estimated the effect of that foreclosure on DBS shares, concluding that Comcast's denial of RSN programming led to a decrease in DBS market share well in excess of 10 percent.

b. The Katz-Israel Empirical Methodology of Actual Departure Share Is Conducted in a Manner that Likely Understates the True Departure Shares

194. Setting aside the implementation of the FCC's foreclosure model, a key component of the Katz-Israel test for foreclosure is their econometric model of foreclosure. With that model they seek to empirically estimate the market share that Comcast could *expect to gain* from a foreclosure strategy. Matched against a critical departure share, if the expected increase in market share is less than the critical value, then, presumably, Comcast would not have incentive to withhold content from a rival MVPD. Consequently, the accuracy of the test hinges not only on the parameterization of the critical departure share (discussed above), but also on the accuracy of the econometric model that estimates the actual departure share. If the econometric model

409. *Israel & Katz NBCU, supra*, 46 (Table 2).

410. *FCC Adelphia Order, supra*, ¶ 149 ("We find that the percentage of television households that subscribe to DBS service in Philadelphia is 40% below what would otherwise be expected given the characteristics of the market and the cable operators in the DMA."); FCC *2007 Program Access Order, supra*, ¶ 39 (finding that DBS penetration in Philadelphia was significantly below the predicted level).

411. *Israel & Katz NBCU, supra*, ¶ 77 (Table 2).

produces estimates of the actual departure share that are inaccurately low, then the Katz-Israel test could conclude incorrectly that Comcast had no incentive to engage in foreclosure when in fact it did. Unfortunately, it is just this type of error that is embedded in the authors' econometric estimates. Therefore, the Katz-Israel test vastly understates Comcast's likely incentive to engage in the foreclosure of NBC affiliates.

195. The Katz-Israel econometric analysis understates actual departure share for two main reasons. *First,* it analyzes the departure share from temporary loss of broadcast stations by only one MVPD. Specifically, the underlying data upon which the Katz-Israel estimates are based involve retransmission disputes that tended to last only a matter of days and only involved DISH Network. *Second,* the data compiled by Drs. Katz and Israel only measure actual departure to Comcast. There are, however, multiple MVPDs that could have captured any share that departed DISH Network during its disputes with the broadcasters in question. As a result, the Katz-Israel analysis does not accurately measure the actual departure share that Comcast could capture by sequentially excluding rival MVPDs from affiliate O&O content.

196. The first problem with the empirical model that Drs. Katz and Israel estimated is that the majority of the "experiments" that comprise their dataset involve retransmission disputes that last only a handful of days. The Katz-Israel study relies on four recent retransmission disputes involving DISH Network. Three of those disputes lasted for between 46 hours and three days, which is an unreasonably short time period in which to measure the "actual departure share" that could take were Comcast to foreclose NBCU's O&O affiliates from rival MVPDs. This set of short retransmission disputes cannot serve to reasonably estimate the true departure share that would occur were Comcast to withhold NBCU's O&O affiliates from rivals, and,

consequently, the analysis that Drs. Katz and Israel draw from their analysis of these disputes is unreliable.

197. Drs. Katz and Israel do analyze a retransmission dispute that was longer in duration than those mentioned above. A dispute between Fisher Broadcasting and DISH Network lasted approximately six months. In applying their regression methodology to Comcast market share data in geographies affected by this dispute, Drs. Katz and Israel again find no significant effect on Comcast's market share. Again, however, their test is set up to fall in Comcast's favor, as they fail to test whether market share for another MVPD, such as DirecTV, increased during this time and in these media markets. If a customer has already shown a preference for DBS service by choosing DISH, then that customer would be likely to switch from DISH to DirecTV, which had the Fisher Broadcasting content, were the absence of that content burdensome to the customer.

198. The failure to account for the possible movement of customers in the event of a retransmission dispute to an MVPD other than Comcast is highlighted when one considers that Drs. Katz and Israel calculated their critical departure shares by grouping DISH Network with DirecTV. Because both DBS providers will be negotiating over rates for access to NBCU's O&O affiliates at roughly the same time, however, the effect of withholding that content from *both* DBS providers would be more beneficial to Comcast's market share than the gains accrued from withholding it from only one MPVD. Consequently, the timing of the expiration of existing NBCU O&O agreements would give Comcast an opportunity to engage in withholding that is significantly more extensive than any positive effect that might have been experienced during retransmission disputes involving DISH and various broadcast companies.