46. A reasonable limitation to this requirement is that Comcast offer Xfinity by itself within its cable television footprint only; otherwise Comcast would be competing directly with out-of-region cable operators in the supply of MVPD service. In addition, Comcast cable television subscribers should be able to opt out of Xfinity from their cable television package at a rebate equal to the standalone retail price of Xfinity. With access to Xfinity at a *positive* price, customers subscribing to an OTT or some other online video provider could "cut the cord" to Comcast's cable television service and still be able to watch Xfinity content. Moreover, with access to Xfinity at a *reasonable* price, OTT providers could put forward a compelling offer to Comcast cable television subscribers.

47. Because regulating the retail price for Xfinity is anathema to economists, we would prefer to induce Comcast to price its online portal at a reasonable level by requiring Comcast to allow its cable customers to opt out of Xfinity for a rebate equal to Xfinity's standalone price. To understand why the opt-out provision is important, consider what might happen if Comcast were constrained to provide Xfinity by itself with no opt-out provision. Assume a Comcast customer subscribes to a bundle of cable television and Internet with Xfinity (the "Xfinity bundle") for $100 per month. If the customer drops her cable television service but is allowed to access Xfinity pursuant to the à-la-carte requirement, then her new monthly charge is equal to the standalone (penalty) price of cable modem service ($60 per month) and the standalone price of Xfinity (to be set by Comcast). Accordingly, an OTT provider inducing an Xfinity bundle customer to cut the TV cord has a monthly margin of $40 less the standalone price of Xfinity less the marginal cost of supplying online video service. If Comcast sets the standalone price of Xfinity at $40 per month, then the margin for the OTT provider vanishes. However, if Comcast customers may opt out of Xfinity at a rebate equal to the standalone price

of Xfinity, then Comcast's incentive to squeeze OTT providers will be tempered. Continuing this example, if Comcast charges $40 per month for Xfinity, then a Comcast customer paying $100 per month for the Xfinity bundle who opts out of Xfinity would save $40, reducing her bill from $100 to $60 per month for a bundle of cable television and cable Internet service.

48. I understand that one remedy under consideration is to compel Comcast to unbundle its Xfinity service from its digital cable television service for Comcast's cable television customers only. In our option, this remedy wonld not effectively promote the development of online video. Snch a limited requirement would leave customers no motivation to cut the cord and leave OTT providers no entrée into the MVPD market. Supposing the à-la-carte remedy were limited to existing Comcast television customers, a Comcast Internet-only subscriber could not access Xfinity—nor could a Verizon DSL or FiOS customer. Without access to Xfinity, customers would be disinclined to cut the TV cord and transition to an online video service; cutting the cord would mean loss of access to the must-have online content in Xfinity, including the soon-to-be-affiliated NBCU must-have online content likes sports and news that currently resides on Hulu and NBC.com. With little prospect for competition from OTT providers, the price of Comcast's cable television service would remain stubbornly high. In contrast, when Comcast is compelled to sell Xfinity to all comers on a standalone basis, OTT providers could thrive and thereby impose significant price disciple on Comcast's cable television service. Limiting the à-la-carte remedy to Comcast's cable television customers would be merely reinforcing Comcast's anticompetitive tie-in; no one could access Xfinity without authenticating a subscription to Comcast cable television. In sum, if Comcast is not compelled to sell Xfinity on an à-la-carte basis to all comers, then Comcast customers would not likely switch to an OTT provider because they would lose access to the must-have content that is exclusive to

Xfinity. This argument presumes that customers of an OTT provider could not access NBCU's online properties via alternative sites such as Hulu and NBC.com.

49. To be fair, a limited à-la-carte requirement might allow Comcast customers to purchase a rival online video service with the rebate from opting out of Xfinity. However, depending on how Comcast priced its standalone cable television service (that is, without Xfinity), this opportunity could be severely limited. For example, if Comcast offered its cable television customers a $5 per month rebate for opting out of Xfinity, the OTT providers would have $5 of margin (before considering their costs) within which to lure Comcast customers to their online portals. Even if OTT providers could earn a profit at $5 per month in revenues, there is still no assurance they would thrive without access to the must-have online programming behind the Xfinity portal. In sum, OTT providers can only benefit consumers if OTT providers can add as much value as consumers lose by cutting the cord. By linking Xfinity access—which would include NBCU's must-have online content if the transaction were approved—to a Comcast cable television subscription, the value OTT providers add is largely attenuated.

## CONCLUSION

50. Having fully considered the reply by Comcast and its economists, I continue to believe that the proposed transaction would reduce competition in the supply of MVPD services. NBCU's broadcast programming is must-have content, and as the Commission recognized in its 2007 *Sunset Order*, "a competitive MVPD's lack of access to popular *non-RSN networks* would not have a materially different impact on the MVPD's subscribership than would lack of access to an RSN." The best way for the Commission to preserve competition from Comcast's traditional MVPD rivals and from nascent OTT providers is to ensure that non-Comcast customers have access to NBCU's must-have content. Comcast has proven routinely that the non-discrimination provisions in the Cable Act are gameable. Comcast will not efficiently price

its affiliated, must-have content—that is, price the content as if it were an independent network—until it is exposed to the possibility that a Comcast subscriber may opt out of a network from Comcast's digital tier at a rebate equal to the wholesale price. Similarly, OTT providers will not get their legs under them until Comcast is barred from requiring authentication to access Fancast Xfinity TV or its other must-have online programming.

* * *

I declare under penalty of perjury that, to the best of my knowledge and belief, the foregoing is true and correct. Executed on August 19, 2010.

Hal J. Singer

# EXHIBIT 1

**Before the**
**Federal Communications Commission**
**Washington, DC 20554**

| | |
|---|---|
| In the Matter of | ) |
| | ) |
| Applications for Consent to the | ) |
| Transfer of Control of Licenses | ) |
| | ) |
| **General Electric Company,** | ) |
| Transferor, | ) |
| | ) |
| To | ) |
| | ) |
| **Comcast Corporation,** | ) |
| Transferee | ) |



**REPLY DECLARATION OF HAL J. SINGER**

## INTRODUCTION

1. Counsel for Communications Workers of America (CWA) has asked me to reply to the economic arguments in Comcast's response to petitions to deny[1] and in the reply report of Drs. Israel and Katz.[2] Comcast and its economists would like to turn this proceeding into a referendum on vertical integration in the cable industry.[3] To deflect attention from the relevant

1. Comcast Opposition to Petitions to Deny and Response to Comments, July 21, 2010 [hereinafter *Opposition*].

2. Mark Israel & Michael L. Katz, Economic Analysis of the Proposed Comcast NBCU-GE Transaction, July 21, 2010 [hereinafter *Katz-Israel Reply*].

3. *Id.* ¶ 9 ("The literature concludes that, in the vast majority of cases, the pro-competitive effects of internalization dominate and thus vertical integration enhances welfare.") The phrase "double marginalization," the elimination of which is purportedly driving this merger, appears at least 13 times in the Israel-Katz Reply. *Id.* ¶¶ 9, 10, 26, 35, 43, 61, 62, 63, 66, 76, 78, 79, 139. Citing the NFL-DirecTV exclusive deal for out-of-market regular seasons games, Comcast's economists also argue incorrectly that "the decision of whether or not to enter into an exclusive arrangement is *unrelated* to whether an MVPD is vertically integrated with one or more networks." *Id.* ¶ 32 (emphasis added). It is more difficult to induce an upstream supplier to refuse to deal with a downstream rival by

inquiry—namely, whether Comcast would anticompetitively maintain its significant, downstream market power after obtaining NBCU's must-have-programming properties—Comcast's economists present empirical models showing how the *typical* vertically integrated firm behaves vis-à-vis rival multichannel video programming distributers (MVPDs). Comcast offers the Commission a cozy blanket that purports to show, among other things, that prior integration of broadcast networks with regional sports networks (RSNs) generally did not affect price[4] and that vertically integrated cable operators usually are no less likely to carry independent networks than non-vertically-integrated cable operators.[5] But this inquiry is not about vertical integration in the abstract. Rather, the inquiry concerns the likely conduct of a recidivist discriminator with significant downstream market power who is obtaining the distribution rights to must-have programming. As I explain in Part I of my reply report, the most relevant history to this case is Comcast's prior discriminatory conduct in Philadelphia—refusing to supply an affiliated RSN to all direct broadcast satellite (DBS) providers—and in Chicago—seeking a penalty price for an affiliated RSN that exceeds the independent monopoly price. Philadelphia and Chicago are two of ten markets implicated in the instant merger.

2. Comcast claims its past misconduct provides *zero* predictive power regarding the company's likely behavior in Philadelphia and Chicago after buying NBCU's owned-and-operated (O&O) broadcast affiliates. Comcast's rationalization brings to mind a repeat offender seizing on some idiosyncrasy of his recent crime spree: remove that peculiarity from the circumstances ("I have a weakness for oatmeal cookies/a full moon/blondes"), and the incentives to misbehave supposedly vanish. Trust us, Comcast implores: Regional sports is a unique type of

---

contract. Vertical integration allows for the complete internalization of the upstream profits and losses by the downstream firm, and it prevents future defection or re-negotiation by the upstream supplier.

4. *Id.* at 95-102.

5. *Id.* at 110-11.

must-have programming. By arguing that Comcast's denying rival MVPDs access to a local NBC affiliate would not reduce the rivals' market share by even {{[redacted]}} percent—the trivial defection needed to satisfy the Commission's foreclosure model according to Comcast's original calculation—Comcast challenges the FCC's designating broadcast programming as must-have. However, that RSNs constitute one category of must-have programming while local broadcast networks constitute another is a distinction without a difference. We already know the outcome of this experiment.

3. The same monopoly-maintenance story applies to Comcast's tying of access to online content and Fancast Xfinity TV to its digital cable television service, except that the tying excludes not traditional MVPDs but rather nascent over-the-top (OTT) providers. By Comcast's including its Internet content portfolio at a zero imputed price in its digital cable television offer and by limiting access to its online portal to Comcast cable television subscribers, the company ensures that consumers will not be willing to pay a positive price for OTT service. Because these alternative online portals would not include Hulu's content, local NBC broadcast programming, and Comcast's RSN programming, consumers would perceive OTT service as inferior to Fancast Xfinity TV. To defend this anticompetitive strategy, Comcast and its economists once again argue that broadcast-network programming—here in the form of Hulu and NBC.com—do not constitute must-have inputs in the Internet space. Moreover, they argue without a shred of evidence that online video and traditional cable television services are and forever will be

complements[6] (and not substitutes) so that they can justify Comcast's tie-in with efficiency rationales. As I demonstrate in Part II, none of these arguments is convincing.[7]

4. Finally, Comcast's economists fail to address any of the merger-specific remedies I proposed in my original report. In Part III, I review the most important recommendations, including allowing Comcast cable television customers to opt out of a Comcast-affiliated network at the *wholesale* price of that network set by Comcast, and to opt out of Comcast's online portal at the *standalone* retail price—assuming of course that Comcast is compelled to sell access to its online portal to all comers on a standalone basis. The Commission should either deny the transfer of assets or so condition its approval to prevent Comcast's further anticompetitive discrimination lest MVPD competition suffer.

6. Comcast's economists admit in passing that "[i]t is, of course, possible that online distributors offering services that (at least partially) *substitute* for traditional MVPDs will emerge in the longer term." *Id.* ¶ 190 (emphasis added). Presumably, we will all be dead by then.

7. It bears noting that Comcast's economists commit several other errors that are unrelated to the two topics—foreclosure of MVPD rivals and OTT rivals—covered here. For example, they mistakenly claim that Comcast "is actually *more* likely than other MVPDs to carry unintegrated networks operating in the same general programming categories as Comcast's own networks. *Id.* at 7 (emphasis in original). Setting aside the fact Comcast has been the target of discriminatory carriage complaints by, among others, MASN, Tennis Channel, and NFL Network—all of whom compete in the same general category of a Comcast network—and setting aside the blatant discrimination against rivals sports networks exhibited in Comcast's channel lineup in Washington, D.C., the empirical analysis offered by Comcast's economists to support this hypothesis is fatally flawed. Comcast's economists measure carriage not by the tier on which an independent sports network is carried (often on the sports tier), but instead by "the percent of Comcast subscribers [that] are actually served by headends that carry" the network. *Id.* ¶145 n. 197. If Tennis Channel were carried on a tier penetrated by {{[redacted]}} percent of Comcast's subscribers, as their data misleadingly imply, then Tennis Channel likely would not have launched a program-carriage complaint against Comcast. *Id.* Although it is difficult to tell from their description, to the extent that Comcast's economists included mom-and-pop cable operators in their control group, then the relative carriage propensities of "non-Comcast sports and women's networks" reported in Table VI.4. are meaningless. The proper comparison is with Comcast's largest in-region rivals: DirecTV, Dish Network, and Verizon. Finally, Comcast includes several Comcast-affiliated sports networks in its sample of "*non-Comcast* sports and women's networks," including MLB, NBA, and NHL. *See* notes below Table VI.4 at 123. For these reasons, their results purporting to show that Comcast has a *greater* propensity to carry unaffiliated sports and women's networks than its MVPD rivals are completely unreliable.

Moreover, Comcast's economists rely heavily on a *legal* argument concerning the fiduciary duties owed to GE by the joint venture. They speak of "duties being violated if directors and officers made business decisions that intentionally sacrificed joint venture profits in order to increase Comcast's MVPD profits." *Id.* at 29. But they are quick to point out that these duties are effective only "[a]s long as GE has an ownership interest in NBCU," which would disappear if GE exercises its option to sell its remaining interest in the joint venture in three-and-one-half years. *Id.* at 12. As economists, they have no business opining that the "fiduciary duty terms of the contract should be taken seriously and at face value." *Id.* at ¶ 27. They should leave the lawyering to Comcast's capable attorneys.

## I. COMCAST'S LIKELY DENIAL OF ACCESS TO OR EXCESSIVE PRICING OF NBCU'S LOCAL BROADCAST AFFILIATES

5. The Commission's 2007 review of the program-access rules explained that Comcast's withholding affiliated RSN programming from DBS providers "had a material adverse impact on competition" in Philadelphia and that withholding "popular non-RSN networks" would similarly suppress competition:

> We find that access to this non-substitutable programming is necessary for competition in the video distribution market to remain viable. An MVPD's ability to compete will be significantly harmed if denied access to popular vertically integrated programming for which no good substitute exists. Because the exclusive contract prohibition applicable to satellite-delivered programming has been in effect since 1992, we do not have specific empirical evidence of the impact of withholding of satellite-delivered programming. However, for vertically integrated programming that is delivered terrestrially and therefore beyond the scope of Section 628(c)(2)(D), there is factual evidence that cable operators have withheld this programming from competitors and, in two instances – in San Diego and Philadelphia – *there is empirical evidence that such withholding has had a material adverse impact on competition in the video distribution market.* In the *Adelphia Order*, the Commission conducted an analysis which concluded that lack of access to RSN programming can decrease an MVPD's market share significantly because a large number of consumers will refuse to purchase the MVPD's service and will instead elect to purchase service from the cable operator that offers the RSN. The analysis concluded that, without access to the cable-affiliated RSN in Philadelphia, the percentage of television households that subscribe to DBS service in Philadelphia is 40 percent below what would otherwise be expected. In San Diego, the analysis concluded that lack of access to the cable-affiliated RSN results in a 33 percent reduction in the households subscribing to DBS service. *We also believe that a competitive MVPD's lack of access to popular non-RSN networks would not have a materially different impact on the MVPD's subscribership than would lack of access to an RSN.*[8]

Indeed, the Commission seems to have anticipated precisely this merger: A rival MVPD's lack of access to popular non-RSN networks such as local broadcast networks would not have a materially different impact on the MVPD's subscribership than would lack of access to an RSN.

8. *In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Sunset of Exclusive Contract Provisions, Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements,* MB Dkt. Nos. 07-29, 07-198, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 17791 ¶ 39 (2007) [hereinafter *2007 Sunset Order*] (emphasis added). Comcast's economists acknowledge the FCC's finding that DBS penetration in Philadelphia would be 40 percent greater but for Comcast's exclusionary conduct, but they immediately dismiss its relevance here. *Israel-Katz Reply*, ¶ 28. They later take issue with the FCC's conclusion that such foreclosure "has had a material adverse impact on competition in the video distribution market." *Id.* ¶ 29 (arguing that Comcast's refusal to supply Comcast SportsNet Philadelphia to DBS providers "does not necessarily represent anticompetitive foreclosure.").

Not surprisingly, Comcast and its economists go to great lengths to portray local broadcast networks as being not nearly as important as RSNs.

**A. Comcast Alleges that its History of Restricting Access to Affiliated Sports Programming in Chicago and in Philadelphia Provides No Insight to Comcast's Likely Behavior Here**

6. In their original economic report, Drs. Israel and Katz estimated the critical departure shares[9] at which Comcast would have an incentive to deny access to an NBC local broadcast affiliate.[10] They estimated that the critical departure shares under the "permanent foreclosure" simulation for the DMAs of Chicago, Hartford and New Haven, Miami-Ft. Lauderdale, Philadelphia, San Francisco-Oakland-San Jose, and Washington-Hagerstown at least ranged from {{[redacted]}} percentage points in Philadelphia to {{[redacted]}} percentage points in Hartford and New Haven.[11] Given the substantial distance between those estimates and the Commission's estimates of 33-to-40-percentage-point loss of market share after Comcast denied RSN programming to DBS providers, Comcast needed to identify an *alternative source of data* with which to calculate the actual departure shares here. In their reply report, Comcast's economists radically revised their estimates of the critical departure shares upwards; in light of "recent marketplace developments" described below, non-Comcast customers would now have to defect at roughly {{[redacted]}} the rate originally estimated by Comcast's economists to make Comcast's restricting content access profitable—conveniently large enough to withstand the kind of share shifts that occurred when rivals were denied access to RSN programming.[12]

---

9. Critical departure share is the least percentage-point change in market share of foreclosed rivals after their customers defect to Comcast sufficient to make the anticompetitive behavior causing customers to switch profitable. *See* Declaration of Hal J. Singer In the Matter of Applications for Consent to Transfer License General Electric Company to Comcast Corporation, ¶185 [hereinafter *Singer Report*].

10. Mark Israel & Michael L. Katz, Application of the Commission Staff Model of Vertical Foreclosure to the Proposed Comcast-NBCU Transaction, Feb. 26, 2010, at 46 (Table 2) [hereinafter *Israel-Katz Broadcast Report*].

11. *Id.*

12. *Israel-Katz Reply*, ¶ 9.

### 1. Like regional sports programming, local broadcast programming is a must-have input

7. The Commission has recognized that local broadcast programming is must-have programming.[13] The FCC found "substantial evidence in the record that a temporary withdrawal of regional sports programming networks *and local broadcast television* station signals would cause a significant number of customers to shift from their current MVPD,"[14] implying that local broadcast programming is another must-have input. It also found that local broadcast station programming is "highly valued by consumers, and entry into the broadcast station market is difficult."[15]

8. That RSNs may "rely on the intense loyalty of a relatively small subset of consumers (in a given DMA) to particular sports teams" while broadcast networks "rely on large-scale distribution to a broad range of viewers,"[16] as Comcast points out, does not meaningfully distinguish RSNs from local broadcast networks for the foreclosure analysis. That few former Dish Network customers switched to Comcast after *temporarily* losing access to a broadcast network that had always been available on DirecTV does not mean that few former Dish Network customers would switch to Comcast after *permanently* losing access to a broadcast network that had always been available on DirecTV. Indeed, the effects of the permanent loss of RSN programming on DBSs' market shares tells us much more about consumer behavior than the effects of the temporary loss of broadcast networks.

---

13. *In the Matter of General Motors Corporation and Hughes Electronic Corporation, Transferors, and The News Corporation Limited, Transferee, for Authority to Transfer Control*, MB Dkt. No. 03-124, Memorandum Opinion and Order, ¶ 60 (rel. Jan. 14, 2004).

14. *Id.* ¶ 87 (emphasis added).

15. *Id.* ¶ 201.

16. *Opposition* at 138.

9. The Commission should rely on more than just the market share or viewership share of content to determine whether it is must-have, despite the assertions of Comcast[17] and its economists.[18] The only meaningful definition of must-have content is that, without it, competitors could not constrain prices of those firms that do have it. To see why, suppose Comcast owns the only RSN in a given DMA. Estimating that Comcast has 100 percent of the market for regional sports adds no information to the competition inquiry. Likewise, if NBC is one of four local broadcast networks in a given DMA, but it performs poorly in a given year, measuring NBC's viewership share among local broadcast networks in that year is similarly meaningless; nor is it meaningful to claim that NBC's share of the purported market for local broadcast programming is one quarter. The FCC has correctly avoided this bean counting by designating certain types of programming as must-have. RSNs did not attain their must-have status because the telecasts of the Philadelphia Phillies, Flyers, and 76ers dominated the prime-time ratings in the Philadelphia DMA. Nonetheless, Dish Network's and DirecTV's lack of access to those games resulted in reduced market shares (relative to a world in which the DBS providers could have aired those games), and has significantly impaired their ability to restrain Comcast's prices there.[19] Similarly, lack of access to a local broadcast network would impair the ability of Comcast's rival to compete effectively.

10. Comcast and its economist fail to appreciate the critical linkage between a must-have input and exclusivity. Not all exclusive content deals are anticompetitive. The two critical aspects that make certain exclusive arrangements problematic are whether the content at issue is

17. *Opposition* at 182 (noting that "the joint venture would account for only 13.7 percent of national broadcast and basic cable television viewing, and only 12.8 percent of basic cable television viewing.").

18. *Israel-Katz Reply* ¶ 216 ("We continue to believe that viewership shares provide a reasonable basis on which to assess of the relative importance of NBCU's content.").

19. *2007 Sunset Order*, ¶ 39. *See also* Redacted Letter from David K. Moskowitz, Executive Vice President and General Counsel, EchoStar Satellite L.L.C. to Marlene H. Dortch, Secretary, FCC, MB Dkt. No. 05-192 (filed Jan. 25, 2005) (citing an econometric study of the price effects by Robert Willig and Jonathan Orszag).

must-have and whether the distributor with exclusive access possesses downstream market power. For example, Comcast mistakenly considers its exclusive contract for regional sports programming—a must-have input controlled by a downstream monopolist—to be competitively equivalent to DirecTV's exclusive contract for out-of-market regular-season football games—a non-must-have input controlled by a firm that lacks market power.[20] Comcast would have the Commission believe that an MVPD in Chicago needs access to Atlanta Falcons early-season games (critical late-season games are generally available outside Sunday Ticket) to compete effectively for MVPD customers in Chicago.[21] In contrast, MVPD rivals seeking to compete against Comcast in Chicago actually require access to the Cubs, White Sox, Blackhawks, and Bulls—local must-have content that Comcast controls. This explains why Comcast has been able to impose extraordinary price increases in Chicago since it took control of those assets.[22] The same price effects would likely occur if Comcast were to control a local broadcast affiliate there.

### 2. The competitive circumstances that induced Comcast's exclusionary conduct in Philadelphia and Chicago are the same or worse

11. Irrespective of the content being acquired, a critical input in the Commission's foreclosure calculus is Comcast's local market share. It serves as a conservative proxy for the likelihood that a non-Comcast customer would return to Comcast *conditional on leaving her*

20. *Opposition* at 138 ("Likewise, Comcast is on record saying that it will make Comcast SportsNet-Philadelphia available to all competitors 'as soon as DirecTV relinquishe[s] its exclusive access to NFL Sunday Ticket,' indicating that Comcast's overall objective to bargain with DirecTV in support of an outcome that would increase overall access to sports content.").

21. To gauge the importance (lack thereof) of Sunday Ticket to DirecTV, note that approximately 2 million of DirecTV's 18 million subscribers (11 percent) purchase Sunday Ticket. *See* DirecTV's NFL Sunday Ticket HD Premium Questioned, *available at* http://www.televisionbroadcast.com/article/87834. As an aside, Drs. Israel's and Katz's argument that Comcast stands ready to license CSN Philadelphia to *Dish Network* as soon as *DirecTV* relinquishes its exclusive contract with the NFL is extraordinary. *Israel-Katz Reply*, ¶ 29. This sounds like a ransom demanded for a hostage.

22. In the Matter of Applications of Adelphia Communications Corporation, Comcast Corporation, and Time Warner Cable Inc., for Authority to Assign and/or Transfer Control of Various Licenses, MB Docket No. 05-192, Comments of DirecTV, Inc., July 21, 2005 at 20-21 (noting that in June 2006, Comcast demanded that DirecTV pay a rate for CSN-Chicago that was roughly 100 percent more than what DirecTV had been paying FSN Chicago for the same content).

*current provider due to lack of access to the withheld content.*[23] Comcast's local share in six of ten DMAs is sufficiently large—that is, greater than 39 percent—to make foreclosure profitable with trivial departure rates, as Comcast's own economists admit.

12. When Comcast's economists criticized my report, they pointed out that my market share estimates based on SNL Kagan failed to include subscribers of the very smallest MVPDs.[24] Table 1 reproduces and updates the table from my original report[25] by including those small MVPDs.

TABLE 1: COMCAST'S MARKET SHARE BY DMA, SNL KAGAN

| DMA | Original Total MVPD Subscribers | Original Comcast Share | Revised Total MVPD Subscribers | Revised Comcast Share |
|---|---|---|---|---|
| Chicago, IL | 2,998,277 | 63.2% | [illegible] | 61.6% |
| Philadelphia, PA | 2,417,260 | 68.5% | 2,613,617 | 63.4% |
| San Francisco-Oakland-San Jose CA | 2,099,892 | 75.9% | [illegible] | [illegible] |
| Washington, DC | 1,965,058 | 48.0% | 2,080,408 | 45.3% |
| Miami-Fort Lauderdale, FL | 1,307,166 | 61.2% | [illegible] | [illegible] |
| Hartford, CT | 757,617 | 40.7% | 787,465 | 39.1% |

As Table 1 shows, inclusion of those minimal subscribers does not change Comcast's market share in any material way. For example, Comcast's share in Chicago declines from 63.2 percent to 61.6 percent when I consider all subscribers.

13. Even so, when I analyzed Comcast's economists' foreclosure analysis, I relied on their estimates of Comcast's local market shares—and not on my own estimates. By their own, original calculations, the critical foreclosure share needed to induce Comcast to deny access to MVPD rivals in these six DMAs is less than {{[redacted]}} percent. If denial of access to a local NBC affiliate would not generate a share shift of {{[redacted]}} percentage points—as Comcast's economists argue based on a handful of irrelevant anecdotes—then a local NBC affiliate does not constitute

23. I explain why Comcast's extant market share provides a conservative estimate below.

24. *Israel-Katz Reply*, ¶ 23 ("However, in using this source, Dr. Singer mistakenly omitted the subscribers accounted for by the 'other cable' group.").

25. *Singer Report* at table 6.

must-have programming. Stated differently, Comcast and its economists are effectively challenging the Commission's classification of broadcast programming as must-have.

14. Moreover, Comcast has already weakened competition in Philadelphia and in Chicago, the latter via its excessive pricing of CSN-Chicago. To the extent that the pass-through rate is close to 100 percent—a reasonable assumption given DirecTV's and Dish Network's lack of market power—Comcast's major rivals have already raised their subscription prices significantly relative to a world in which an independent network owned the RSN. If Comcast raises the price of the local NBC affiliate, Comcast's rivals would have to raise their subscription prices once more, thereby allowing Comcast to raise its subscription prices. The conditions that induced Comcast to foreclose rivals in Philadelphia and Chicago from regional sports programming are identical to the conditions that will inform the merged firm's pricing and access decisions to NBCU's local broadband affiliates vis-à-vis its rivals in those same markets. Indeed, by previously impairing competition in those same markets, the competitive circumstances for another price increase may be even worse.

### B. Comcast and Its Economists Fail to Understand How Comcast's Current Market Share Likely Understates the Diversion Ratio

15. Because of Comcast's clustering strategy, its market share likely underestimates the probability that a non-Comcast customer departing after losing Comcast-exclusive content selects Comcast as her provider. Comcast's economists disagree, arguing that my "assertion is contradicted by the data, which show that diversion to Comcast is substantially less than proportional."[26] Of course, the data to which they refer come from a handful of anecdotes that cannot inform the likely share shift here: In each anecdote, *only one* DBS rival *temporarily* lost access to a local broadcast network, thereby allowing intra-DBS-provider substitution. Should

26. *Israel-Katz Reply*, ¶ 23. They ultimately allow "for a diversion rate from DBS providers to Comcast equal to 1/3 of what would be implied by proportional diversion based on market shares." *Id.* ¶ 16.

Comcast merge with NBCU without restriction, *all* rivals could *permanently* lose access to a local broadcast network, thereby mooting substitution from one Comcast rival to another. In what follows, I provide numerical examples that show how Comcast's current shares likely understate the probability that a departing customer selects Comcast.

**1. Use of current market shares does not consider Comcast's coverage of cable households within a DMA**

16. Consider two competitive scenarios. In Scenario 1, Comcast has 60 percent of MVPD subscribers and passes 90 percent of households in the DMA. Thus, Comcast's market share among the homes that it actually passes is two thirds (equal to 0.6/0.9). If Comcast refuses to license must-have programming to *all* MVPD rivals in the DMA, then the probability of a non-Comcast customer departing after losing Comcast-exclusive content and switching to Comcast is 75 percent (equal to the ratio of non-Comcast customers passed to non-Comcast customers,[27] or (0.4 - 0.1)/0.4). In this scenario, Comcast's current market share of 60 percent *under*estimates the actual probability of 75 percent.

17. In Scenario 2, Comcast has 60 percent of MVPD subscribers but passes only 60 percent of households in the DMA. Thus, Comcast's market share among the homes that it actually passes is 100 percent (equal to 0.6/0.6). If Comcast refuses to license must-have programming to *all* MVPD rivals in the DMA, then the probability of a non-Comcast customer

27. Mathematically, in this section I am accusing Comcast's economists of failing to understand conditional probability. Let $S$ represent the set of Comcast customers, $P$ the set of homes passed, and $\Omega$ the set of homes in the DMA; we may interpret these sets as probability events $S \subseteq P$ in the probability space $\Omega$. The set of homes departing $Dep$ after foreclosure of all rivals is the set of non-Comcast customers, or $Dep = \Omega \setminus S$, so the probability of departure is $\mathbb{P}(Dep) = \mathbb{P}(\Omega) - \mathbb{P}(S) = 1 - \mathbb{P}(S)$. The set of homes defecting to Comcast $Def$ is the set of non-Comcast customers whose homes are passed, or $Def = P \setminus S$, so the probability of defecting is $\mathbb{P}(Def) = \mathbb{P}(P) - \mathbb{P}(S)$. Clearly, $Def \subseteq Dep$ so $\mathbb{P}(Def \cap Dep) = \mathbb{P}(Def)$. From the definition of conditional probability, a non-Comcast customer's probability of defecting to Comcast after departing a rival MVPD is

$$\mathrm{P}(Def \mid Dep) = \frac{\mathrm{P}(Def \cap Dep)}{\mathrm{P}(Dep)} = \frac{\mathrm{P}(P) - \mathrm{P}(S)}{1 - \mathrm{P}(S)},$$

or the ratio of non-Comcast customers passed to non-Comcast customers.

switching to Comcast conditional on leaving her MVPD due to lack of access to the withheld content is 0 percent (equal to [0.4 - 0.4]/0.4). None of the potential customers resides within Comcast's footprint. In this scenario, Comcast's current market share of 60 percent provides an *upwardly* biased estimate of the relevant probability (equal to 0 percent). More formal analysis shows that this kind of upward biasing only happens when Comcast's market share is exactly equal to the number of homes it passes.[28] Because of the bias demonstrated here, a careful application of the Commission's foreclosure model should consider Comcast's share of homes passed in the DMA—a feature neglected by Comcast's economists.

### 2. By consolidating its footprint within the relevant DMAs, Comcast has increased the probability of diversion beyond what is implied by its market shares

18. To the extent that Scenario 1 more reasonably approximates the market structure in the affected DMAs than Scenario 2, diversion to Comcast among non-Comcast customers leaving another MVPD would be more than proportional to Comcast's current shares. Comcast has engaged in a series of acquisitions and swaps, including the acquisition and swaps with Time Warner involved in the Adelphia transaction, to consolidate a cluster of homes passed in the DMA. Table 2 shows shares of cable households passed by Comcast for each of the six DMAs in which Comcast has a market share in excess of 39 percent.

28. Using the same notation, first notice Comcast's economists use $\mathbb{P}(S)$ where mathematics only justifies the use of $\mathbb{P}(Def \mid Dep)$. To see why $\mathbb{P}(S)$ generally understates $\mathbb{P}(Def \mid Dep)$, observe that $\mathbb{P}(P) \geq \mathbb{P}(S)$, so if $\mathbb{P}(P) > \mathbb{P}(S)$ then $\mathbb{P}(Def \mid Dep) > \mathbb{P}(S)$ and if $\mathbb{P}(P) = \mathbb{P}(S)$ then $\mathbb{P}(Def \mid Dep) \leq \mathbb{P}(S)$. For suppose $\mathbb{P}(P) > \mathbb{P}(S)$ but that $\mathbb{P}(Def \mid Dep) = [\mathbb{P}(P) - \mathbb{P}(S)] / [1 - \mathbb{P}(S)] \leq \mathbb{P}(S)$. Then $\mathbb{P}(P) \leq -[\mathbb{P}(S)]2$, which is a contradiction since probabilities are nonnegative. Alternatively, if $\mathbb{P}(P) = \mathbb{P}(S)$ then $\mathbb{P}(Def \mid Dep) = 0$. As Table 2 shows, the latter scenario either is rare or does not occur.

TABLE 2: COMCAST'S SHARE OF HOMES PASSED BY CABLE BY DMA

| DMA | Homes Passed By Wireline Cable (1) | Homes Passed By Comcast (2) | Comcast Share of Homes Passed (3) = (2) / (1) | Comcast MVPD Share |
|---|---|---|---|---|
| Chicago, IL | 2,550,810 | 2,586,681 | 98.6% | 61.6% |
| Philadelphia, PA | 2,138,899 | 2,471,138 | 86.6% | 63.4% |
| San Francisco-Oakland-San José CA | 2,164,883 | 2,317,172 | 93.4% | 57.8% |
| Washington, DC | 1,220,327 | 1,711,608 | 71.3% | 45.3% |
| Miami-Fort Lauderdale, FL | 1,375,000 | 1,538,222 | 89.4% | 59.9% |
| Hartford, CT | 712,321 | 1,068,941 | 66.6% | 39.1% |

*Source:* Warrens, July 2010.

It is worth noting that in all but the Miami DMA, at least one Comcast system failed to report its homes passed data to Warren's, thereby potentially understating Comcast's total homes passed in the DMA. Importantly, in four of the DMAs—Chicago, Philadelphia, San Francisco, and Miami—the market structure (roughly 90 percent homes passed by Comcast, 60 percent Comcast market share) is closely approximated by Scenario 1. Even in the two markets where Comcast passes only 66 and 71 percent of homes (Hartford and Washington, respectively), Comcast's market share likely understates the relevant probability for the same reason, as many of the homes passed by Comcast in those markets are not yet served by Comcast. And as I demonstrated above, when Comcast passes nearly all homes in the DMA, the current market shares understate the probability at which a non-Comcast customer would select Comcast conditional on leaving her MVPD due to lack of access to programming.[29] Intuitively, there is no chance that a defecting customer would switch to Time Warner or some other out-of-region cable operator. Comcast's economists failed to consider homes passed data in their foreclosure analysis.

29. Using the same notation, the total bias $\mathbb{P}(Def \mid Dep) - \mathbb{P}(S) = [(\mathbb{P}(S))2 - 2\mathbb{P}(S) + \mathbb{P}(P)] / [1 - \mathbb{P}(S)]$ rises linearly as the number of homes passed at a rate of $1 / [1 - \mathbb{P}(S)]$.

### 3. Comcast's preferred anecdotes of diversion based on short-term losses of broadcast stations by Dish Network are not informative

19. As I explained in my report, the original Katz-Israel study relied on four recent retransmission disputes involving Dish Network only. Because DirecTV (and other MVPDs) had access to the broadcast network during these disputes, that Comcast's gains were minimal should come as no surprise. Moreover, three of those disputes lasted for between two and three days, which is an unreasonably short period in which to expect customers to change MVPDs and thus an unreasonably short period in which to measure the "actual departure share" were Comcast to withhold NBCU's O&O affiliates from all rival MVPDs on a permanent basis. Comcast's economists have yet to rebut these criticisms.

## C. Comcast's Economists Revised Their Critical Departure Rates, Purportedly in Light of "Recent Marketplace Developments"

20. In their original report, Comcast's economists estimated critical departure rates {{[redacted]}} for both temporary and permanent foreclosure strategies. In their reply, the critical departure rates for temporary foreclosure strategies are adjusted upward by a factor of roughly {{[redacted]}} and permanent foreclosure strategies are taken off the table. Drs. Israel and Katz offer three rationales for this radical revision: First, they cite a new retransmission agreement between DirecTV and NBCU, which purportedly extends retransmission rights from 2012 to 2016.[30] Second, they cite an empirical analysis presented by Dish Network, which purportedly "impl[ies] that the diversion rate to Comcast was approximately zero."[31] Third, they argue that because the longest dispute between Comcast and Dish Network (involving Fisher) lasted only six months, any analysis of the profitability of permanent foreclosure strategies

---

30. *Israel-Katz Reply*, ¶ 15.
31. *Id.* ¶ 16.

would be infeasible, as it would be impossible to compare the critical departure rate to the actual departure rate for a longer period.[32] None of these rationales is convincing.

### 1. There is no basis for estimating a new critical departure rate in light of the NBCU-DirecTV retransmission agreement

21. Comcast and its economists have not produced NBCU's new retransmission agreement with DirecTV. Without access to the precise terms, one cannot be sure that NBCU's new retransmission agreement with DirecTV prevents the merged firm from raising prices on DirecTV or from requiring DirecTV to purchase lesser networks as a condition of getting the best price for NBCU's 10 O&O affiliates. For example, if the agreement fails to specify rates but instead contains language that the parties will "negotiate in good faith," then nothing would prevent Comcast from seeking extraordinary prices. Alternatively, if the agreement contains a termination right by NBCU, then again nothing would prevent Comcast from seeking price increases. Or perhaps the agreement grants DirecTV access to NBCU's must-have programming *conditional* on DirecTV paying inflated rates for NBCU's lesser programming; if so, and if DirecTV refuses to comply, then there is no assurance that Dish Network's customers could switch to DirecTV to watch the withheld must-have programming. Even if the agreement locks down prices for NBCU's local O&O affiliates through 2016, the fact that NBCU rushed to finalize an agreement in the middle of 2010 for rates pertaining to 2012 through 2016 suggests that NBCU does not believe that Comcast can be trusted with future negotiations—in which case the prospect of foreclosure of both DBS rivals is simply kicked four years into the future.

22. Finally, even if the agreement preserves a disgruntled Dish Network customer's option to switch to DirecTV in search of the withheld content, it does nothing to preserve her option of switching to Verizon FiOS or AT&T U-Verse to obtain a triple-play bundle

32. *Id.* ¶ 17.

comparable to Comcast's—a valuable option that could be degraded if Comcast withheld NBC affiliates from AT&T or Verizon. DBS rivals are somewhat impaired in the ability to compete against cable operators because of their lack of a viable broadband option and certain cable operators' use of penalty pricing for standalone cable modem service.[33] Indeed, many analysts believe that, by virtue of FiOS's and U-Verse's comparable triple-play offerings, FiOS and U-Verse present the greatest competitive restraint on a cable operator's market power in the future.[34] Unfortunately, no NBCU-DirecTV retransmission agreement can preserve that option after the merger.

### 2. There is no basis for estimating a new critical departure rate in light of the actual diversion rate experienced by Comcast around the Fisher-Dish Network dispute

23. The diversion to Comcast following Dish's dispute with Fisher Broadcasting does not prove that the proportional assumption based on current market shares is aggressive, as Comcast's economists assert. As explained above, Comcast's ability to foreclose both DBS operators would still be feasible, and if successful, would preclude a departing Dish Network customer from switching to DirecTV (and vice versa) to obtain the withheld content. Even if the new NBCU-DirecTV retransmission agreement prevented the merged entity from raising prices on NBCU's O&O affiliates to DirecTV, nothing in that agreement would prevent Comcast from

33. For example, Comcast charges a penalty price for customers who seek to purchase standalone cable modem service. *See* Comcast products, *available at* https://www.comcast.com/shop/buyflow2/products.cspx ("This special price [for broadband Internet] is for customers who currently subscribe to Comcast Cable or Comcast Digital Voice® service.").

34. *See, e.g.*, Ian Olgeirson, et al., Broadband Technology, SNL Kagan, Mar. 19, 2009, at 16 ("Cable's grip on the video market further loosened in the fourth quarter as telcos, *and to a lesser extent DBS*, continued to grab market share from the incumbents. According to SNL Kagan analysis of the sector, U.S. telco and DBS industries signed on an estimated 575,000 and 199,000 net new subscribers, respectively, while the cable lost 668,000 customers in the quarter.") (emphasis added); Anders Bylund, Comcast's growth slows as pressure from FiOS, U-Verse ratchets up, ARS TECHNICA, Oct. 25, 2007, *available at* http://arstechnica.com/old/content/2007/10/comcasts-growth-slows-as-pressure-from-fios-u-verse-ratchets-up.ars ("It looks like the vaunted 'triple-play' packaging has picked most of the low-hanging fruit already. One triple-play customer adds three RGUs—one each for voice, data, and video services. Last year, cable companies were fairly unchallenged in three-way offerings, but as Verizon and AT&T roll out high-speed networks capable of streaming a full range of video services into the home, that monopolistic advantage is getting lost.").

degrading the quality of the NBC signal carried by DirecTV relative to the quality of the NBC signal carried by Comcast. For example, if Comcast were to move national sporting events from NBC to an exclusive Comcast Internet portal, then departing Dish Network customers who valued that content would not switch to DirecTV.

### 3. There is no basis to abandon the permanent foreclosure analysis because the longest known dispute between Dish Network and a broadcaster was six months

24. Comcast has dug in its heels on CSN-Philadelphia for the long term, even vowing to challenge the FCC's recent order ending the terrestrial loophole in court. Yet Comcast's economists argue that it is impossible to assess the profitability of denying NBCU's O&O affiliates to rival MVPDs in Philadelphia (and in the other affected DMAs) for periods longer than six months—the longest known carriage dispute involving Dish Network and a broadcaster. Because search and switching are costly, MVPD consumers will not search for alternative MVPDs until they are convinced that the dispute is long-lived. Hence, Comcast did not enjoy a significant lift in subscribers around the Dish Network-Fisher dispute. By vertically integrating into must-have programming, Comcast can fundamentally change the outcome of bargaining with a rival distributor. A standalone content owner, even one that owns must-have content, ultimately must sell a license to a distributor to generate any income. In contrast, Comcast does not need to sell its affiliated networks; it already has a guaranteed distributor—namely, itself. And once an affiliated network is carried widely on Comcast's systems, it is guaranteed advertising revenues. Accordingly, the threat from a standalone network to hold out for the long term is less credible than the same threat coming from a Comcast-affiliated network. And the best measure of the impact of *long-term* denial of a must-have input on DBS shares is the Philadelphia (or San Diego) episodes involving RSNs. Alternatively, the Commission could

consider the near doubling in DBS market shares around the time that DBS operators obtained access to local broadcast networks.[35]

## II. Comcast's Likely Foreclosure of OTT Providers

25. Myriad cable analysts and cable operators have recognized the looming threat to cable operators posed by OTT providers. In response to that threat, cable operators, including Comcast, have anticompetitively tied access to online content to a cable subscription and the purchase of their affiliated online portals to their cable television service—for example, a DirecTV subscriber with a Verizon DSL connection cannot purchase access to Comcast's online portal Fancast Xfinity TV à la carte.[36] In this section, I explain why Comcast's responses to the anticompetitive concerns relating to competition from OTT providers are not convincing.

### A. Comcast and Its Economists Repudiate a Growing Body of Evidence Documenting the Looming Threat of Online Video

26. Given the nascence of online video, the Commission must rely heavily on surveys of video customers' attitudes towards online video rather than on historical behavior in response to relative changes in prices. Any prediction of future behavior is naturally speculative. The purpose of this research is not to foretell precisely the percentage of customers who will cut the cord—the difference between a cord-cutting projection in June 2012 of 10.3 percent and 14.5 percent is meaningless. Instead, the purpose is to anticipate whether the likely substitution from traditional cable video to online video will be economically significant. Despite their alleged

35. *See* David Reiffen, Michael R. Ward, & John Wiegand, Duplication of Public Goods: Some Evidence on the Potential Efficiencies from the Proposed Echostar/DirecTV Merger, April 2004, at 14, *available at* http://www.uta.edu/faculty/mikeward/dbspaper.pdf ("The last column indicates that, over our sample, DBS share rose about 2% in all DMAs due to factors unrelated to [local-in-local] introduction (29 months at 0.084% per month) and by about 6.4% due to [local-in-local] introduction (24 months at 0.258% per month) in the DMAs with the earliest [local-in-local] availability. Since DBS share initially averaged about 6 to 7% in DMAs where [local-in-local] would become available, this indicates that [local-in-local] availability on DBS had a large impact on subscription decisions.")

36. Xfinity TV online, *available at* http://www.xfinity.com/tv-movies/ ("XFINITY TV gives you access to an On Demand library approaching 20,000 titles, with thousands available in HD. Add XFINITY Internet and you can watch many of your favorites online plus schedule your DVR at home, or right from your computer.").