Exhibit D

Legend to Testimony of Hal Singer (GSN Exh. 301)

COLOR	Fed. R. Evid.
	402 (Relevance)
	802 (Hearsay)

GSN Exh. 301

Before the

Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Game Show Network, LLC	)	MB Docket No. 12-122
v.	)	File No. CSR-8529-P
Cablevision Systems Corp.	)	

SUPPLEMENTAL DIRECT TESTIMONY OF HAL J. SINGER, PH.D.

INTRODUCTION

1. I have been asked by counsel for Game Show Network, LLC ("GSN") to address economic issues raised by the tiering policy of Cablevision Systems Corp. ("Cablevision") vis-à-vis GSN, on the one hand, and Cablevision's affiliated programming networks, including WE tv and Wedding Central, on the other. In particular, I have been asked to analyze from an economic perspective (a) whether Cablevision's repositioning of GSN from a broadly distributed basic tier to a highly penetrated sports tier on Cablevision's cable systems constitutes discrimination based on affiliation; and (b) whether Cablevision's conduct has impaired GSN's ability to compete vis-à-vis Cablevision's affiliated, women's programming networks for programming, advertisers, viewers, and multi-channel video programming distributors ("MVPDs").

2. Based on my economic analysis, I have reached the following conclusions:

3. Cablevision gives preferential carriage terms to its affiliated programming networks. In particular, WE tv, which was wholly owned by Cablevision until July 2011,[1] is carried on Cablevision's "Family Cable" tier.[2] Before it was shuttered, Wedding Central, which also was wholly owned by Cablevision, was carried on Cablevision's "iO Package" tier (reaching [redacted] of subscribers).[3] Before its July 2011 spin-off of AMC Networks, which operates the American Movie Classics ("AMC"), Independent Film Channel ("IFC"), Sundance Channel, and WE tv cable networks,[4] Cablevision carried AMC on its Family Cable tier (reaching [redacted] of subscribers),[5] and it carried IFC and Sundance on its "iO Silver" tier (reaching [redacted] of subscribers).[6] In contrast, GSN is carried on Cablevision's "iO Sports & Entertainment Pak" tier ("S&E tier"), which reached just [redacted] of subscribers as of March 2010[7] and can only be obtained by Cablevision's subscribers for an extra $6.95 per

1. Before July 2011, Cablevision directly owned WE tv and Wedding Central. Following that date, it spun those networks off into a new company, AMC Networks, Inc., which has overlapping ownership and control with Cablevision. Although the events at issue in this case occurred when Cablevision directly owned WE tv and Wedding Central, this modified ownership structure does not eliminate economic incentives for Cablevision to favor affiliated channels.

2. Cablevision channel lineup, http://www.optimum.com/package list.jsp?regionId=48&pkgType=1. *See also* GSN Exh. 90, [redacted]

3. Cablevision's "iO Package" tier, also known as "iO $10.95 & Above," had [redacted] subscribers and Cablevision had a total of [redacted] subscribers. *See* [redacted] CV-GSN 0358220.

4. Hoover's Company Profiles: AMC Networks Inc., http://www.answers.com/topic/rainbow-media.

5. Cablevision's Family Cable tier, also known as "Digital" Exp. Basic, had [redacted] subscribers and Cablevision had a total of [redacted] subscribers. *See* [redacted] CV-GSN 0358220.

6. Cablevision's "iO Silver" tier had [redacted] subscribers and Cablevision had a total of [redacted] subscribers. *Id.*

7. Cablevision's "Sports Pak" had [redacted] subscribers, and Cablevision had a total of [redacted] subscribers). *Id.*

month.[8] For these reasons, I conclude that Cablevision treats GSN less favorably than its affiliated cable networks, including WE tv and Wedding Central.

4. I next considered whether this disparate treatment amounts to discrimination. To an economist, the relevant inquiry is whether GSN and WE tv are "similarly situated," as disparate treatment of similarly situated networks would indicate that Cablevision engaged in discrimination.[9] For the following reasons, I conclude that GSN is sufficiently similar to WE tv to support a finding that Cablevision discriminated in favor of its affiliated networks and against GSN. Stated differently, a cable operator with no conflict of interest arising from affiliation would likely treat these two similarly situated networks alike with respect to how broadly to distribute the networks; because the networks are similarly situated, Cablevision's preferential treatment of WE tv (and formerly of Wedding Central) likely demonstrates discrimination in favor of its affiliated networks and against GSN.

a. GSN and WE tv have similar audiences [redacted] Moreover, reality and game shows, particularly dating- or wedding-based programming focused on relationships ("relationship-based programming"), are key components of GSN's and WE tv's schedules. Indeed, GSN rebranded its network in March 2004 from "Game Show Network" to "GSN" in part to accommodate introducing reality shows into GSN's lineup.[10] Beyond attracting viewers who are similar demographically, GSN and

8. GSN Exh. 178 ("This package is now available to customers with Optimum Economy (where available), Optimum Value (Family Cable) or above with a digital cable box for only $6.95 more per month."). *See also* Exh. 120.

9. Although there should be no requirement that two networks reside within the same genre to be considered similarly situated, it bears noting that the National Cable & Telecommunications Association (NCTA) used the same genre description for both GSN and WE: "General Entertainment, Other." *See* NCTA, Cable Network Directory, http://www.ncta.com/Organizations.aspx?type=orgtyp2&contentId=2907#&&CurrentPage=1 (last accessed Feb. 18, 2013). The NCTA used 15 separate categories of genres, and it attached two categories (General Entertainment and Other) to both GSN and WE tv. Of 291 national cable networks categorized by NCTA that appear on the basic (analog or digital) tier, only nine other non-premium cable networks received the same categorization as GSN and WE tv. These other networks were A&E, Adult Swim, Comedy Central, here!, The Horror Channel, LOGO, The N, IFC, and Viendo Movies. Cartoon Network shares its channel space with Adult Swim, "a late-night destination showcasing original and acquired animated and live-action programming for young adults 18-34." Adult Swim Profile, http://www.ncta.com/OrganizationType/CableNetwork/4155.aspx.

10. *See Call Us 'GSN' From Now On ... Game Show Network Shortens Its Name to GSN*, PR NEWSWIRE (Jan. 9, 2004), http://www.prnewswire.com/news-releases/call-us-gsn-from-now-on---game-show-network-shortens-its-name-to-gsn-58885577.html [hereinafter *Call Us 'GSN'*]. *See also* [redacted]

WE tv compete for the same actual group of viewers. That is, there is significant overlap in the viewers who watch both GSN and WE tv programming. [redacted]

b. The parties and their experts agree that measuring the lift in WE tv viewership following the tiering event is a reasonable test of whether WE tv and GSN are similarly situated.[13] And the data Cablevision has provided, while subject to certain limitations described below, show that WE tv [redacted] In particular, after correcting for technical mistakes in Mr. Orszag's econometric model, I demonstrate that the more a household's viewership share of GSN declined from 2010 to 2011, the more its viewership share of WE tv tended to increase, suggesting that households do, in fact, tend to replace GSN viewership with WE tv viewership.

c. From the perspective of advertisers, both GSN and WE tv [redacted] audiences, permitting a similar demographic to be targeted. A distance

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[redacted]

11. "Both duplication" measures the likelihood of a viewer's watching *both* networks conditional on her watching *either* network. As explained below, [redacted]

12. [redacted]

13. GSN Exh. 213, at 92: 8-12 [redacted]

analysis,[14] which considers not just a network's gender but other demographic data compiled by Nielsen such as age and income, reveals that [redacted]

d. Although, from an economic perspective, there should be no requirement that two networks carry the same programming to be considered "similarly situated," WE tv has competed directly with GSN for certain programming rights [redacted] and talent [redacted].[15] Also, [redacted] to WE tv and GSN.[16] In addition, [redacted] were pitched to both networks.[17] That these rightsholders perceived GSN and WE tv to be reasonably interchangeable platforms for their talents and relationship-based programming also informs the similarly-situated analysis.[18]

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14. Distance analysis was popularized in a recent *New York Times'* bestseller on prediction models. *See* Nate Silver, *The Signal and The Noise: Why So Many Predictions Fail But Some Don't* 85 (2012) (explaining the use of a "nearest neighbor" analysis to project the future performance of minor-league baseball players by matching them to their closest analog in the past based on a vector of characteristics). Cablevision's economic expert, Mr. Orszag, also uses the distance analysis to determine whether WE tv and GSN are similarly situated. *Game Show Network, LLC v. Cablevision Systems Corp.*, Expert Report of Jonathan Orszag, December 14, 2012, ¶85 [hereinafter *Orszag Report*] ("Importantly, the Mahalanobis distance measure for various other network combinations show that they are close in Mahalanobis distance, as one would expect."). In contrast, Cablevision's industry expert, Mr. Blasius, criticizes my distance analysis as the stuff of pointed-headed academics: "In lieu of focusing on the more accurate measures of whether the two networks could be described as demographically similar, Dr. Singer instead offers a somewhat convoluted 'objective distance analysis' as subterfuge to draw parallels and force commonalities between the two networks that simply do not exist other than in obscure academic theory." *Game Show Network, LLC v. Cablevision Systems Corp.*, Declaration of Lawrence Blasius, Dec. 12, 2011, ¶53, *Game Show Network, LLC v. Cablevision Systems Corp.*, Declaration of Lawrence Blasius, Dec. 14, 2012, ¶57.

15. *See* GSN Exh. 53.

16. GSN Exh. 59; GSN Exh. 73 [redacted].

17. In addition, Wedding Central planned to air [redacted] GSN Exh. 76, at CV-GSN 0020343.

18. [redacted]

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5. The incentive of a vertically integrated cable operator ("VICO") to favor its affiliated networks has been widely recognized in the economics literature[19] and by the FCC.[20] Indeed, Cablevision has acknowledged the benefits of [redacted][21] And Cablevision was broadly distributing Wedding Central on its iO Package tier while Wedding Central struggled to achieve distribution by almost any other MVPD,[22] suggesting that Cablevision is willing to subsidize its affiliated networks.[23] That GSN was subjected to a higher standard than Cablevision's similarly situated, affiliated networks a "cost-benefit" test that appears to have been designed to produce a pre-determined outcome exposes the discriminatory treatment.

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19. *See, e.g.*, David Chen & David Waterman, "Vertical Ownership, Program Network Carriage and Tier Positioning in Cable Television: An Empirical Study," 30(3) *Review of Industrial Organization* 227-51 (finding that integrated cable systems carry their affiliated networks more frequently and carry unaffiliated networks less frequently, and that integrated carriers that do carry rival networks often position them on tiers having more limited subscriber access); Ayako Suzuki, "Market foreclosure and vertical merger: A case study of the vertical merger between Turner Broadcasting and Time Warner," 27 *International Journal of Industrial Organization* 532, 533-34 (2009) ("Time Warner merely shifted its portfolio of channels in the basic bundle such that it was more concentrated on Turner Broadcasting channels."). The literature also seeks to determine whether consumers benefit from the favorable treatment. *See* Tasneem Chipty, "Vertical Integration, Market Foreclosure, and Consumer Welfare in the Cable Television Industry," 91(3) *American Economic Review* 428, 430 (2001) (finding that differences in consumer welfare across integrated and unintegrated markets—that is, local markets with and without a VICO—were not statistically significant); David Waterman & Andrew Weiss, "The effects of vertical integration between cable television systems and pay cable networks," 72 *Journal of Econometrics* 357–395 (1996) (finding that VICOs have carried their affiliated networks more frequently, and rival networks less frequently, than have systems without vertical ties).

20. Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. For Consent to Assign Licenses and Transfer Control of Licensees, *Memorandum Opinion and Order*, MB Docket No. 10-56, Jan. 20, 2011, ¶117 ("These conclusions are supported by the evidence set forth in the Technical Appendix that Comcast may have in the past discriminated in program access and carriage in favor of affiliated networks for anticompetitive reasons.").

21. *See* GSN Exh. 18 at CV-GSN 0134912 [redacted]

22. SNL Kagan, Economics of Basic Cable Networks, 2010 Edition, at 32 [hereinafter *Kagan Basic Cable*].

23. The record indicates [redacted]. *See, e.g.*, GSN Exh. 33 [redacted]); GSN Exh. 26, [redacted]

6. In light of Cablevision's favorable treatment of its affiliated networks over similarly-situated GSN, I examine whether an alternative (non-discriminatory) explanation better explains Cablevision's carriage decisions. There are efficiency-based rationales, such as disparities in license fees or ratings, that might justify treating two similarly situated networks differently. Yet Cablevision does not appear to have been operating on the basis of a legitimate efficiency-based rationale. [redacted] Moreover, other MVPDs overwhelmingly carry GSN on more highly penetrated tiers than does Cablevision. And the record reflects that the [redacted]

7. Another potential efficiency justification is that the VICO's downstream distribution arm enjoyed a net benefit by tiering the independent network. I understand that plaintiffs in Section 616 discrimination complaints may bear a new evidentiary burden, which may be met by establishing that either (a) that the VICO sacrificed downstream distribution profits by deciding to tier the independent network (the "profit-sacrifice test");[24] or (b) that any incremental losses from carrying the independent network broadly would be the same as or less than the incremental losses the VICO incurred from carrying its affiliated networks broadly (the "net-profit-sacrifice test").[25] Such proof of a downstream profit sacrifice eliminates another efficiency justification for disparate treatment of the independent network. It also allows one to infer that a rational firm would not do so unless there was some offsetting gain to its affiliated

24. *Comcast v. FCC*, 717 F.3d 982, 986 (D.C. Cir. 2013) ("Comcast Opinion").

25. *Id.* A third approach articulated in *Comcast* that entails direct evidence of discrimination does not lend itself to economic analysis, and for that reason, I have not been asked to inform that test. The court suggested that discrimination could be found if it is shown that the carriage decision was motivated by "some deeper discriminatory purpose" rather than by an "otherwise valid business consideration." *Id.* at 987.

(and similarly situated) network. I provide evidence that informs the profit-sacrifice test. The record evidence regarding Cablevision's [redacted] from the tiering episode supports an inference of discrimination in the sense that gains from an affiliated network may have been considered as an offset to any downstream losses.

8. Even assuming that Cablevision applied some sort of cost-benefit test when it made the decision to reposition GSN, the selective application of any such test to an unaffiliated network (particularly if an affiliated network would have failed the same test) does not provide a valid efficiency justification. Rather, the selective application of a test based on affiliation is the very essence of discrimination. Here, it is clear that [redacted] and very low penetration among other MVPDs, it is inconceivable that Wedding Central would have passed any sort of cost-benefit test applied to evaluate network value.[26]

9. Moreover, Cablevision's attempt to [redacted][27] is direct evidence of Cablevision's consideration of affiliation in its carriage decision of GSN.

10. As a direct result of Cablevision's tiering policy, GSN suffers harm. Cablevision's tiering policy prevents GSN from reaching approximately [redacted]

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26. Yet even as it tiered GSN, Cablevision [redacted]. *See* GSN Exh. 83; GSN Exh. 183.

27. [redacted] *See also* GSN Exh. 111 [redacted]; GSN Exh. 130 [redacted] GSN Exh. 137 [redacted] GSN Exh. 128 [redacted]

Cablevision subscribers in the New York-New Jersey-Connecticut area. If Cablevision were to restore GSN to a tier that reaches nearly all of its digital subscribers where it carries WE tv then GSN would be restored to approximately [redacted] Cablevision subscribers who lost access to GSN in February 2011. Failure to secure broader carriage on Cablevision's systems causes GSN to forgo significant license fees (of [redacted] per month per subscriber)[29] and advertising revenues.

11. Further, given the importance of the coveted New York market for advertisers, the growth that would accompany access to Cablevision's digital subscribers would materially improve GSN's ability to compete effectively for national advertising. A simple regression model shows that [redacted] And Cablevision's carriage decisions are monitored by other cable operators, with the consequence that the deficit in GSN's distribution caused by Cablevision's discrimination is likely even larger, further impairing GSN's ability to compete for both advertisers and programming content.[30] GSN may have forestalled some of the harm from tiering through this lawsuit, but GSN must take the repositioning into account in every renewal negotiation, knowing that other distributors may erroneously think GSN is appropriate for a sports tier because Cablevision placed it on such a tier. [redacted][31]

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28. [redacted] For the purpose of estimating going-forward damages, both here and later in my report, I use more recent data than the penetration data used in paragraph 3.

29. [redacted]. *See also* [redacted] CV-GSN 0340609.

30. [redacted]

31 GSN Exh. 297, Goldhill Supp. Dep. Tr. 20:20-21:2.

12. GSN continues to suffer harm as a result of Cablevision's discriminatory conduct. Each month that passes without broad carriage on Cablevision, GSN incurs roughly [redacted] in forgone license fees. GSN also incurs a short-term monthly loss in advertising revenue in the New York-New Jersey-Connecticut area of [redacted][32] As further described below, GSN has also suffered additional harms, which are harder to quantify but no less real than those discussed above, including (a) impaired ability to secure other carriage agreements, (b) inability to compete for advertisers, and (c) inability to compete for viewers.

13. Finally, I conclude that the harm to GSN owing to Cablevision's discriminatory tiering policy will likely redound to the harm of viewers. Cablevision's viewers are harmed by their inability to watch GSN without incurring an extra charge.

QUALIFICATIONS

14. I am a Principal at Economists Incorporates and Senior Fellow at Progressive Policy Institute. My areas of economic expertise are antitrust, industrial organization, finance, and regulation. I have applied my expertise to several regulated industries, including telecommunications, video programming, insurance, and health care.

15. I am the co-author of the e-book *The Need for Speed: A New Framework for Telecommunications Policy for the 21st Century* (Brookings Institution Press 2013), and of the book *Broadband in Europe: How Brussels Can Wire the Information Society* (Kluwer/Springer Press 2005). I have published a book chapter in *Economist Voice 2.0: The Financial Crisis, Health Care Reform and More* (Columbia University Press 2012); *Longevity Trading and Life Settlements* (John Wiley & Sons 2009); *Handbook of Research in Trans-Atlantic Antitrust*

[32] *See* GSN Exh. 301, Written Supp. Testimony of Hal Singer, ¶ 80..

(Edward Elgar Publishing 2006); and in *Access Pricing: Theory, Practice and Empirical Evidence* (Elsevier Press 2005),

16. I have published scholarly articles in many economics and legal journals, including *American Economic Review Papers and Proceedings, Berkeley Technology Law Review, Canadian Journal of Law and Technology, Federal Communications Law Journal, George Mason Law Review, Harvard Journal of Law and Technology, Hastings Law Journal, Health Affairs, Intellectual Property Law Bulletin, Journal of Business and Finance, Journal of Business Law, Journal of Competition Law and Economics, Journal of Contemporary Health Law And Policy, Journal of Financial Transformation, Journal of Industrial Economics, Journal of Insurance Regulation, Journal of Network Industries, Journal of Regulatory Economics, Journal of Telecommunications and High Tech Law, Policy and Internet, Regulation & Governance, Research in Law and Economics, Review of Network Economics, Telecommunications Policy Journal, Topics in Economics Analysis and Policy, University of Pennsylvania Journal of Business Law*, and *Yale Journal on Regulation.*

17. Five of my articles are of particular relevance to this proceeding: "Vertical Integration in Cable Networks: A Study of Regional Sports Networks," *Review of Network Economics* (forthcoming 2013); "Review of Tim Wu's Master Switch," *Milken Institute Review* (January 2012); "Addressing the Next Wave of Internet Regulation: Toward a Workable Principle for Nondiscrimination," *Regulation and Governance* (Vol. 4, No. 3, pp. 365-82, 2010); "Vertical Foreclosure in Video Programming Markets: Implications for Cable Operators," *Review of Network Economics* (Vol. 6, No. 3, 2007); and "The Competitive Effects of a Cable Television Operator's Refusal to Carry DSL Advertising," *Journal of Competition Law and Economics* (Vol. 2, No. 2, pp. 301-31, 2006).

18. In regulatory proceedings, I have presented economic testimony in several forums, including the U.S. Federal Communications Commission, the U.S. Federal Trade Commission, the Antitrust Division of the U.S. Department of Justice, the U.S. National Highway Traffic and Safety Administration, the House of Commons of Canada, the Canadian Radio-television and Telecommunications Commission, and the U.S. Congressional Budget Office. My written testimony on the effect of telecom entry on video competition was cited extensively by the Department of Justice in a November 2008 report titled *Voice, Video and Broadband: The Changing Competitive Landscape and Its Impact on Consumers.*[33] I have advised the Canadian Competition Bureau on two matters concerning the video programming industry. I have testified before Congress on the interplay between antitrust and sector-specific regulation.

19. In program carriage disputes, I have served as an economic expert for the Tennis Channel, NFL Network and for MASN, which owns the television rights to live baseball games of the Baltimore Orioles and the Washington Nationals. In a program access dispute, I served as an economic expert for DISH Network.

20. In addition to these cable-programming disputes, I have served as a testifying expert in several litigation matters. My experience as a testifying expert in litigation is summarized in my Curriculum Vitae, which is attached to this report.

21. Before joining Economists Incorporated, I was a managing director at Navigant Economics. Prior to that, I was president of Empiris, an economic consulting firm based in Washington D.C., and I worked as a senior economist at LECG, an economic consulting firm based in Emeryville, California. In addition, I have worked as an economist for the Securities

33. Department of Justice, "Voice, Video and Broadband: The Changing Competitive Landscape and Its Impact on Consumers," Nov. 17, 2008, *available at* http://www.justice.gov/atr/public/reports/239284.pdf.

and Exchange Commission and the Army Corps of Engineers. I have taught economics at both Johns Hopkins (as a graduate student) and at Georgetown University (as an Adjunct Professor).

22. I earned M.A. and Ph.D. degrees in economics from the Johns Hopkins University and a B.S. *magna cum laude* in economics from Tulane University.

23. I file this report in my individual professional capacity. I have no financial stake in the outcome of this case.

I. CABLEVISION'S DIFFERENT CARRIAGE OF WE TV, WEDDING CENTRAL, AND GSN CONSTITUTES DISPARATE TREATMENT

24. Despite GSN's lack of sports programming, Cablevision carries GSN on a little seen "iO Sports & Entertainment Pak" tier.[34] In contrast, Cablevision places its affiliated national cable networks American Movie Classics (AMC), Fuse, Independent Film Channel, and WE tv on a highly penetrated tier.[35] Table 1 shows the composition of Cablevision's Sports & Entertainment Tier from October 2010 through September 2011.[36]

34. GSN Exh. 178.

35. Even in its early years, WE tv was distributed to approximately [redacted] of all Cablevision homes. *See* GSN Exh. 77; GSN Exh. 156.

36. Cablevision changed its pricing and packages on March 27, 2012. For example, the "Family Cable" tier is now called "Optimum Value" and includes WE tv, AMC, Fuse, and MSG. IFC and Sundance Channel are now listed on Cablevision's "Optimum Preferred" tier. *See* Cablevision current packages, *available at* http://www.optimum.com/digital-cable-tv/pricing.jsp (accessed on Nov. 14, 2012). The new "iO Sports & Entertainment Pak" includes the following additional networks: NBC Sports Network, NFL Network, Red Zone and WFN. *See* Cablevision "Optimum Sports & Entertainment Pak," *available at* http://www.optimum.com/digital-cable-tv/sports/sports-pak.jsp (accessed Nov. 14, 2012). *See also* GSN Exh. 178.

TABLE 1: NETWORKS ON CABLEVISION'S SPORTS & ENTERTAINMENT TIER
OCTOBER 2010-SEPTEMBER 2011

Network	Affiliation	On Other Tiers (as of 2Q 2011)
Versus	No	Digital Basic, iO Silver, iO Gold
MLB Network	No	Digital Basic, iO Silver, iO Gold
NBA TV	No	Digital Basic, iO Silver, iO Gold
GSN	**No**	
The Golf Channel	No	Digital Basic, iO Silver, iO Gold
ESPNU	No	Digital Basic, iO Silver, iO Gold
CBS College Sports	No	
Gol TV	No	
Tennis Channel	No	
ESPN Classic	No	
Outdoor Channel	No	
NHL Network	No	
Fox Soccer Plus	No	Digital Basic, iO Silver, iO Gold
TVG	No	
Big Ten Network	No	
Neo Cricket	No	
Fuel	No	
Mav TV	No	
Fox College Sports Pacific	No	
Fox College Sports Central	No	
Fox College Sports Atlantic	No	
Sportsman Channel	No	
Fight Now	No	

Sources: Affiliation is from 13th Annual Report, Appendix C, Table C-1. Cablevision [redacted]

As Table 1 shows, *none* of the networks carried on Cablevision's "iO Sports & Entertainment Pak"[37] tier between October 2010 and September 2011 was affiliated with (or owned by) Cablevision. Indeed, GSN remains the only female-oriented, non-sports network on Cablevision's iO Sports & Entertainment Pak tier.[38] To say that GSN is an unnatural fit for that tier is an understatement. In contrast, Cablevision's affiliated networks including MSG, which is a sports network are carried on a more widely distributed tier. For example, Cablevision-affiliated AMC, Fuse, and MSG were carried on "iO Family," and Cablevision-affiliated Sundance and IFC were carried on "iO Silver."[39] As of July 2010, Cablevision afforded greater penetration to WE tv [redacted] than all but one of its distribution peers with over two million subscribers (Time Warner), including Comcast [redacted] DIRECTV ([redacted]), Dish ([redacted]), Cox ([redacted]), Charter ([redacted]), and AT&T ([redacted]).[40] And Cablevision carried Wedding Central when all but two distributors refused to carry the network [redacted]

25. The relevant comparison I focus on here is Cablevision's carriage policy for its wholly owned network, WE tv, on the one hand, and for GSN, an unaffiliated network, on the other. Placing WE tv on its Family Cable tier (and, when it was in existence, Wedding Central on its iO Package tier) while relegating GSN to the iO Sports & Entertainment Pak tier constitutes evidence of disparate treatment. That WE tv is similarly situated to GSN a point to which I turn

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37. [redacted] *See* GSN Exh. 127; GSN Exh. 121.

38. [redacted] *See* GSN Exh. 122 [redacted] GSN Exh. 278, at GSN 0298226.

39. [redacted], CV-GSN 0149337, [redacted]

40. CV-GSN 0258490; CV-GSN 0259605; CV-GSN 0259607.

in the next section suggests that this disparate treatment constitutes discrimination in an economic sense.

II. GSN Is Similarly Situated to WE tv and Wedding Central

26. Having established above that Cablevision treats GSN differently from its affiliated women's programming networks with respect to tiering, the next step is to determine whether GSN is similarly situated to Cablevision's affiliated networks. To an economist, disparate treatment of two similarly situated subjects implies discrimination in the absence of a legitimate efficiency rationale.

27. Before addressing that the networks are similarly situated, I give a brief description of each network.

- **GSN**: GSN was launched in 1994. It was projected by SNL Kagan to charge MVPDs [redacted] per sub per month by 2011. At that time, GSN received [redacted] in license fees from Cablevision.[41] GSN is owned by DIRECTV and Sony. In 2011, [redacted][43]
- **WE tv:** WE tv was launched in 1997.[44] WE tv was projected by SNL Kagan to charge MVPDs [redacted] per sub per month license fee in 2011. In 2011, WE received [redacted] per sub per month from Cablevision.[45] Until July 2011, WE tv was wholly owned by Cablevision.[46] In 2011, [redacted][47]
- **Wedding Central:** Wedding Central was launched by Rainbow Media, a subsidiary of Cablevision, in 2009.[48] Wedding Central was projected by SNL Kagan to charge MVPDs [redacted] per sub per month by 2011. Wedding Central was wholly owned

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41. [redacted]

42. *Kagan Basic Cable* at 321.

43. SNL Kagan, Basic Cable Networks by Subscriber, 2012.

44. *Kagan Basic Cable* at 19.

45. [redacted]

46. SNL Kagan, Basic Cable at 64.

47. SNL Kagan, Basic Cable Networks by Subscriber, 2012.

48. *Kagan Basic Cable* at 60.

by Cablevision.[49] When Cablevision spun off AMC Networks in July 2011, the new company closed Wedding Central on the same day.[50]

As demonstrated below, viewers, advertisers, and rightsholders perceive these networks as being similarly situated.

A. Perceptions of Viewers

28. My analysis of GSN and WE tv indicates that the networks are similarly situated from the perspective of viewers.[51]

1. The High Degree of Audience Overlap Implies That GSN and WE tv Are Perceived by Viewers as Being Close in Product Space

29. Beyond attracting viewers who are similar demographically, GSN and WE tv compete for the same actual group of viewers. That is, there is significant overlap in the viewers who watch both GSN and WE tv programming.

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30. A significant share of GSN's weekday-evening programming is comprised of relationship-based programming. Indeed, [redacted][52] Within this [redacted] GSN has offered *Baggage*, *The Newlywed Game*, and *Love Triangle* over the past two years. During the week of November 8, 2010, just a few months prior to the tiering event, the share of GSN's weekday [redacted]

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49. *Id.* at 64. [redacted] *See, e.g.,* GSN Exh. 101 [redacted]

50. *See* "AMC Networks Divorces Wedding Central," Multichannel News (July 8, 2011), http://www.multichannel.com/content/amc-networks-divorces-wedding-central.

51. Mr. Orszag's "direct test" does not prove otherwise. His test is a complex, econometric model that must be fit to potentially erroneous tuning data, and followed up with subtle inferences based on parameters estimated with error. This is the opposite of direct evidence. Although he acknowledges that "Viewer audience overlap between networks can provide additional insight into the state of competition between networks," he relegates that direct evidence to a later section of his report. *Orszag Report* ¶17.

52. *See supra* n. 13.

[redacted] programming between 6 pm and 10 pm was 50 percent (equal to two hours of *Baggage* and *The Newlywed Game* divided four hours).[53]

31. Of course, GSN's featuring relationship-based programming was not limited to the week of November 8, 2010. Table 2 shows the share of GSN's [redacted] programming from October 2010, two months before Cablevision's tiering announcement, through September 2011 for two different viewing windows: (1) 6 pm until 10 pm (the window in which [redacted] programming primarily occurred) and (2) 8 pm until 11 pm (the primetime window). Table 2 includes the shares within these windows for weekday only and for weekday and weekend programming.

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TABLE 2: SHARE OF [redacted] PROGRAMMING ON GSN
OCTOBER 2010 SEPTEMBER 2011

Time	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Excluding weekends												
6 to 10 PM	[redacted] %	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8 to 11 PM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Including weekends												
6 to 10 PM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8 to 11 PM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: [redacted].

Table 2 makes clear that relationship-based, [redacted] content accounted for a significant share of GSN's weekday-evening programming for a large window around the tiering event. Similar to GSN, WE tv offers a significant amount of relationship-based programming.

53. At the same time, WE tv offered several relationship-based shows as well, including *My Fair Wedding*, *Bridezillas*, and *Big Easy Brides*.

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For example, two of WE tv's shows in 2012 (*Braxton Family Values* and *Joan & Melissa: Joan Knows Best*) use "relationships" to describe their programming, and two others (*Marry Me in NYC* and *My Fair Wedding with David Tutera*) use "wedding" to describe their programming.[54]

32. Importantly, the overlap in programming between the two networks is not limited to relationship-based programming focused on romantic relationships. GSN and WE tv both offer a broader range of female-oriented reality programming. For example, the GSN reality show *Carnie Wilson: Unstapled* followed the singer Carnie Wilson as she built a dessert business.[55] WE tv's *The Cupcake Girls* follows a group of women entrepreneurs who start a cupcake company.[56] Further, as demonstrated below, even GSN's anchor, [redacted] programs (*Deal or No Deal, Match Game*, and *Family Feud*) exhibit a strong overlap with WE tv's audience, suggesting that GSN's programming appeals to a similar audience.

33. To evaluate whether viewers perceive GSN and WE tv as competitive alternatives, I studied the audience overlap for GSN and other networks, as well as the overlap between specific GSN shows and other networks. In general, economists perceive that Product *A* is an "economic substitute" to *B* if the demand for *A* increases when the price of *B* goes up. Because viewers do not incur prices at the margin for watching different networks (assuming the networks appear on the same tier), a reasonable approximation to economic substitutes that applies here is an analysis of what other networks GSN viewers watch.

34. One source of data that addresses this question is Nielsen NPOWER/MarketBreaks audience duplication reports, which measures networks' shared

54. Cable Television Advertising Bureau, "WE tv profile," http://www.thecab.tv/php/networkprofiles/12profileData/2012pdf/12WEtv.pdf. Prior wedding-themed shows on WE tv include *My Fair Wedding, Amazing Wedding Cakes, Bridezillas, Rich Bride, Poor Bride, I Do Over*, and *Big Easy Brides*.

55. GSN Exh. 40.

56. GSN Exh. 181.

viewership. These reports provide three duplication statistics: (1) "primary duplication," which (when measured from GSN's perspective) is the likelihood that a viewer watches both GSN and the reference network *conditional on watching GSN*; (2) "secondary duplication," which (when measured from GSN's perspective) is the likelihood that a viewer watches both GSN and the reference network *conditional on watching the reference network*; and (3) "both duplication," which (when measured from GSN's perspective) is the likelihood that a viewer watches both GSN and the reference network *conditional on watching either GSN or the other network.*[57] By shrinking the size of the denominator in the ratio the numerator is the same in all three statistics the primary duplication metric tends to overstate the overlap with popular networks (a large-network bias); similarly, by shrinking the size of the denominator, the secondary duplication metric tends to overstate the overlap with unpopular networks (a small-network bias).[58] In contrast, the "both duplication" metric is not sensitive to these biases, as the denominator which combines the reach of two networks is less prone to wild swings in a single network's reach by construction. Table 3 shows an example of the differences in rankings in terms of both and secondary duplication percentages, highlighting the small-network bias of the secondary duplication measure.

57. [redacted]

58. Because WE tv is less popular than many networks in my sample, it is not surprising that the primary duplication figure between Baggage and WE tv [redacted]. Indeed, the correlation coefficient between the primary duplication figures and the national Nielsen 24-hour ratings is [redacted] indicating a [redacted]

TABLE 3: TOP 20 NETWORKS IN TERMS OF BOTH AND SECONDARY DUPLICATION PERCENTAGES, PRIME-TIME, PERSON 18-99, PRIMARY NETWORK [GSN], (4Q 2010)

Network	Both Duplication [Secondary Duplication]	Network	Secondary Duplication [Both Duplication]
[redacted]	[redacted]	[redacted]	[redacted]

Source: [redacted]

[redacted]

59. [redacted]

60. *Id.*

[redacted]

35. For the purpose of this report, I rely on Nielsen's six-minute criterion, measuring viewers who watched at least six minutes of a program. The advertising industry considers Nielsen to be the gold standard, and six minutes is the standard Nielsen qualifier for viewing programming longer than ten minutes in duration.[61] From an economic perspective, viewing six or more minutes of a show (particularly one that lasts 30 minutes) conveys a significant amount of information about a viewer's preferences; six minutes or more is at least 20 percent of a 30 minute program, and it is longer than one would expect to see with mere casual channel surfing. According to this statistic, WE tv was the [redacted] closest network to GSN among 85 networks during prime-time hours in the fourth quarter of 2010. Additionally, WE tv was the [redacted] network to GSN among 85 networks for total-day viewership in the fourth quarter of 2010. Table 4 summarizes the findings.

61. [redacted]

TABLE 4: BOTH DUPLICATION PERCENTAGES (4Q 2010)

Time	Demographic	Primary Network	Secondary Network	Both Duplication%	Rank
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: [redacted]
Notes: * [redacted]

Although WE tv [redacted] with certain other networks, such as Lifetime [redacted] and Oxygen [redacted] than it does with GSN, the [redacted] "both duplication" measure between GSN and WE tv is [redacted] between GSN and any other network. It bears noting that [redacted] [64] have at various times appeared in WE tv's competitive analysis, despite their more modest audience overlaps with WE tv (between [redacted]). This confirms that there is no need for GSN to be the closest network to WE tv for Cablevision to benefit from discriminating against it.

36. Analyzing substitution from GSN's perspective as opposed to measuring it from WE tv's perspective is the more relevant orientation to consider in light of the allegations in this case. Given that Cablevision already carries WE tv on its most penetrated tier, the most viable means by which Cablevision may further advantage WE tv is by degrading their viewers' access to a similarly situated network such as GSN. By orienting the duplication analysis from the perspective of GSN, one can analyze where GSN's customers would likely turn if their

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62. GSN Exh. 13, at CV-GSN 0248589; GSN Exh. 12 at CV-GSN 008361 [redacted]

63. *Id. See also* [redacted] CV GSN 0046119 [redacted]

64. *Id. See also* GSN Exh. 19 at CV-GSN 0040911 [redacted].

access to GSN were diminished. Although it may be an interesting academic inquiry, considering where WE tv's customers might turn in the event they lost access to WE tv is not as helpful for the purposes of this proceeding, since it was GSN, not WE, that Cablevision decided to place on its narrow Sports & Entertainment [redacted][65]

37. I also looked at duplication data from the fourth quarter of 2010 reflecting patterns for viewers at the program level that is, I looked at duplication data for two relationship-based GSN programs (*Baggage* and *The Newlywed Game*), along with four non-relationship-based GSN programs (*Deal or No Deal, Family Feud, Match Game* and *Catch 21*). The purpose of this analysis was to determine which programs (or types of programs) were contributing to the high degree of overlap detected at the network level. [redacted]

65. Mr. Orszag claims that the audience overlap data are not informative because "that viewers watch both networks A and B does not mean that viewers are choosing between watching the networks or even consider watching network A as a substitute for watching network B, and vice versa." *Orszag Report* ¶50. The only way that a viewer watches both GSN and WE tv, however, is by substituting time from one activity to the other. Even in the era of DVRs, there is a limited amount of television watching available to a viewer in a given day. The opportunity cost of watching GSN is not getting to watch close substitutes. By studying viewing patterns, we can infer what those close substitutes are. When Mr. Orszag examines the duplication data, he looks at the data from the vantage of WE tv. *Id.* ¶68. Even GSN's ranking in the secondary duplication from WE tv's perspective [redacted] *Id.* In his mind, [redacted] is not highly ranked. *Id.* ¶69. Had Mr. Orszag used prime-time ratings rather than all-day ratings for this exercise, [redacted] In prime-time, WE tv ranks [redacted] after LMN in terms of "both duplication," [redacted] in terms of secondary duplication, and [redacted] in terms of primary duplication.

66. *See also* GSN Exh. 48; GSN Exh. 220, Hopkins Testimony, ¶11 [redacted]

[redacted]

TABLE 5: BOTH DUPLICATION PERCENTAGES FOR GSN BY PROGRAM (4Q 2010)

Program	Relationship-Based	Both Duplication with WE tv	Rank*
[redacted]	[redacted]	[redacted]	[redacted]

Note: I have excluded two non-national-cable networks ("Regional Sports Networks" and "All Other Ad Supported Cable Orig") from the analysis. Qualified audience of six minutes.
Source: [redacted]

As is evidenced by Table 5, even GSN's anchor, [redacted] programs (*Deal or No Deal, Match Game* and *Family Feud*) [redacted] This finding is consistent with Mr. Brooks' testimony that all game shows, even those that are not focused on romantic relationships, are targeted to and appeal to women.[67]

2. Mr. Orszag's "Direct Test" Fails to Inform the Relevant Inquiry

38. The parties and their experts agree that measuring the lift in WE tv viewership following the tiering event is a reasonable test of whether WE tv and GSN are similarly situated.[68] And the data Cablevision has provided, while subject to certain limitations described below, show that WE tv [redacted]

67. GSN Exh. 300, Supp. Written Direct Testimony of Timothy Brooks, ¶7 [hereinafter Brooks Testimony]; *Game Show Network, LLC v. Cablevision Systems Corp.*, Declaration of Timothy Brooks, October 10, 2011, §§ III.1.c - e.

68. GSN Exh. 213, at 92: 8-12 ([redacted]).

39. To support his claim that viewers do not perceive GSN and WE tv to be substitutes, Mr. Orszag presents a regression analysis, which he styles as "a direct test of competition for viewership"[69] between GSN and WE tv. Mr. Orszag claims that the effect of tiering [redacted] As I explain below, Mr. Orszag's econometric analysis is flawed, and his conclusions are not supported by the data. Mr. Orszag's "direct test" divides households into a "control group,"[70] which did not lose access to GSN after the tiering, and a "treatment group," which did. The results of Mr. Orszag's "direct test" hinge on the extent to which households in the treatment group viewed higher levels of WE tv after the tiering than did households in the control group. Mr. Orszag's "direct test" is fundamentally contaminated, because households in his control group are disproportionately likely to be avid viewers of GSN ("GSN Loyalists"), while those in his treatment group are disproportionately likely to be non-GSN Loyalists. In other words, the "treatment" is applied to precisely those households that are least likely to respond to it. Even setting aside this fundamental problem of contamination, Mr. Orszag's analysis suffers from additional econometric shortcomings; when they are corrected, the analysis shows that WE tv enjoyed a statistically significant increase in viewing among Cablevision subscribers after the tiering of GSN.

40. If the tiering of GSN were actually a [redacted], then a subset of Cablevision households would have to lose access to GSN *at random*, without regard to their preferences for GSN programming. But the selection of Cablevision households that lost access to GSN was anything but random: Households in the control group, by definition, include any households that received the Sports & Entertainment tier ("S&E tier")

69. *Orszag Report*, ¶27.

70. *Orszag Report*, Appendix B, ¶2.

on a [redacted], as well as any households that purchased the S&E tier [redacted] in order to continue viewing GSN. In other words, Mr. Orszag's control group is a self-selected group of households that are disproportionately likely to be GSN Loyalists. Conversely, non-GSN Loyalists are disproportionately likely to be placed in Mr. Orszag's treatment group.

41. To illustrate, note that the households in Mr. Orszag's control group viewed, on average, approximately [redacted] of GSN in April 2010 (or approximately [redacted] per week). In contrast, the households excluded from Mr. Orszag's "control group" viewed, on average, only about [redacted] of GSN in April 2010 (or approximately [redacted]). Thus, households in the "control group" viewed, on average, more than [redacted] as much GSN as those in the "treatment group." This indicates that the control group is not randomly selected, and instead suffers from self-selection. Although Mr. Orszag's regression analysis controls for households' GSN viewership shares in 2010, it cannot control for the unobserved preferences that would induce one household to self-select into Mr. Orszag's control group, and another household (possibly with the same 2010 GSN viewership share as the first household) to remain in Mr. Orszag's treatment group.

42. In summary, Mr. Orszag's "direct test" attempts to measure the extent to which viewers perceive We tv and GSN as substitutes by searching for a "lift" in We tv viewership among non-GSN-loyal households after the tiering. Attempting to measure competition between GSN and We tv in this manner is a fools' errand   the very people who are most inclined to shift GSN viewing hours (because they are plentiful) into WE tv hours have been removed from the treatment group.

43. In Appendix 2, I describe the technical details of Mr. Orszag's model in greater detail, and correct for additional econometric errors. After correcting for technical mistakes in his model, I demonstrate that *the more a household's viewership share of GSN declined from 2010 to 2011, the more its viewership share of WE tv tended to increase, suggesting that (non-GSN-loyal) households do, in fact, tend to replace GSN viewership with WE tv viewership.* It bears noting, however, that even these "corrected" specifications are incapable of identifying the relevant substitution patterns, given that we do not observe how households in the "control" group (with strong preferences for GSN) would have responded when deprived of GSN access.

3. GSN and WE tv Remain Similarly Situated from the Perspective of Viewers

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44. Although the lineups for both networks have changed in the intervening years since I issued my original direct testimony in March 2013, both networks continue to target female audiences. For example, in the fall of 2014, GSN featured new shows such as *Skin Wars*, *Minute To Win It*, *Dog Eat Dog*, *Mind of a Man*, *It Takes a Church*, *The Chase*, and *The American Bible Challenge*.[71] In the same season, WE tv featured *SWV Reunited*, *David Tutera's Celebrations*, and *Kendra On Top*.[72] In my March 2013 testimony, I explained how women's programming could be categorized into dating/relationship shows, wedding shows, female-oriented reality programming, and non-dating game shows.[73] Table 2 demonstrates how the newly featured shows on GSN and WE tv as well as the networks' returning shows fit within those categories.

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45. Many of the TV shows on the two networks can be readily classified into female-oriented categories that I identified above. Importantly, since my original survey of the

71. GSN's List of Shows, *available at* http://gsntv.com (last accessed Sept. 9, 2014).

72. WE tv shows, *available at* http://www.wetv.com/shows (last accessed Sept. 9, 2014).

73. GSN Exh. 223, Singer Direct Testimony, ¶¶ 4, 5, 34.

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networks' programming, GSN has moved into the wedding category with *It Takes a Church*, which "surprises one unsuspecting single [in a church congregation] with the news that they're about to be saved from the dating world."[74] And GSN also moved into the female-oriented reality programming category with *Skin Wars*, which aims "to find the most talented and versatile body painters in the country,"[75] and *Mind of a Man*, in which "two female contestants try to figure out what men really think about dating, marriage, working and all manner of manly pursuit."[76]

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46. New shows on WE tv are blurring the lines between the networks. For example, WE tv has moved into the female-oriented reality programming category with *SWV Reunited*, which "follows these three strong and talented women [in a former R&B band] as they figure out how to trust again on and off the stage and perform with each other;"[77] David Tutera's *Celebrations*, which features "a premier party planner . . . orchestrating ultimate, one-of-a-kind events for some of the hardest-to-please divas in Hollywood;"[78] and *Kendra on Top*, which "follows the life of Kendra Wilkinson Baskett part wild child, part global celebrity, part suburban housewife and a full-time force of nature."[79] Although WE tv does not currently air any non-dating game shows, in 2009, the network took aim at this category with *Most Popular*,

74. GSN Notice Exh. 4, About It Takes a Church, *available at* http://gsntv.com/shows/it-takes-a-church/about-it-takes-a-church/#more-72525 (last accessed Sept. 9, 2014).

75. GSN Notice Exh. 5, About Skin Wars, *available at* http://skinwars.gsntv.com/about/ (last accessed Sept. 9, 2014).

76. GSN Notice Exh. 6, About Mind of a Man, *available at* http://gsntv.com/shows/mind-of-a-man/about/ (last accessed Sept. 9, 2014).

77. GSN Notice Exh. 7, About SWV Reunited, *available at* http://www.wetv.com/shows/swv-reunited/about (last accessed Sept. 9, 2014).

78. GSN Notice Exh. 8, About David Tutera's Celebration, *available at* http://www.wetv.com/shows/david-tuteras-celebrations/about (last accessed Sept. 9, 2014).

79. GSN Notice Exh. 9, About Kendra on Top, *available at* http://www.wetv.com/shows/kendra-on-top/about (last accessed Sept. 9, 2014).

in which the host "ask[ed] an audience of 100 women to make judgments that could reward one of seven contestants with a cash prize of $10,000."[80]

B. Perceptions of Advertisers

47. In addition to competing for viewers, rival cable networks compete for advertising dollars. In this section, I present evidence suggesting that advertisers perceive GSN and WE tv to be similarly situated.

1. A Distance Analysis and Advertising Overlap Analysis Indicates That Advertisers Perceive GSN and WE tv to Be Similarly Situated

48. Advertisers consider demographic information in their purchasing decisions, and therefore women-oriented networks such as GSN and WE tv likely compete for advertisers. The target audience of GSN is very similar to that of WE tv. For example, [redacted] of GSN's viewers are female.[81] Both networks are [redacted] in terms of the degree of such networks' female skew.

49. [redacted], I use a multivariate measure of distance to compare the demographic characteristics of the networks along multiple dimensions. When the subjects of a product comparison vary across multiple dimensions (for example, age, gender, race, education, occupation, and household size), a distance analysis allows one to consolidate the myriad distances into a summary statistic. Analyzing the demographics of viewers themselves, I can

80. Press Release, WE tv Premieres 'Most Popular' It's First Game Show Hosted by Graham Norton, June 29, 2009, *available at* http://www.amcnetworks.com/press-releases/we-tv-premieres-most-popular-its-first-game-show-hosted-by-graham-norton (last accessed Sept. 9, 2014).

81. *See* [redacted] *See also* GSN Exh. 16[redacted]

determine, through an index of similarity, the extent to which particular groups of viewers are similar. A measure of similarity can be determined for each network pair.[82]

50. I obtained the data necessary to implement the distance calculation for WE tv and GSN based on [redacted][83]

51. Using data from 2006 through 2010, I simulated the distance between GSN and WE tv for 360 possible specifications.[84] For example, in some specifications, I used percent of households with one or two members and the head of household under 50 for the measure of household age, whereas in others I used households with three or more members and the head of household over 50. On average across the 360 specifications, WE tv ranked [redacted] closest network to GSN among 101 networks [redacted][85] Based on these

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82. One commonly accepted method of determining similarity or "distance" between groups of data is called Mahalanobis distance, which was named after Prasanta Mahalanobis, the statistician who invented the measure. P.C. Mahalanobis, "On the Generalized Distance in Statistics," 2 *Proceedings of the National Institute of Sciences of India* 49-55 (1936). The measure can be calculated through the use of one or multiple variables. A single number ultimately is generated, and this number represents the distance between the data; the larger number, the greater the distance.

83. Access to demographic data by network in multiple quarters permits the analyst to calculate how the variables relate to each other over time; for example, as GSN's average household size changes, one can measure whether the average household size of another network is changing in the same or opposite direction (along with the movements in other demographic variables). In particular, my analysis compares the distance along demographic dimensions for two networks based on the arithmetic mean of each demographic variable and the "covariance matrix" of the two networks. The covariance matrix associated with a particular network pair is then used as the weight when computing the distance between the two networks.

84. There are a total of 360 combinations that I can compute for the distance calculation (equal to the product of four household size/age variables, five education variables, six employment variables, three race variables, one share without children variable, and one share female variable). Each variation would include one of the four household size/age variables, one of the five education variables, one of the six employment variables, one of the three race variables, the share of households without children, and the share of the head of household being a female

85. Across the 360 specifications, the average distance between GSN and WE tv is [redacted]

results, I conclude that WE tv was [redacted] to GSN in terms of demographic characteristics than are other networks in my sample. The point of the distance analysis is not to test whether WE tv is the *closest* network among all possible networks in the sample. Rather, the point is to test whether WE tv is *sufficiently close* to GSN to be considered similarly situated for a discrimination analysis.

52. That both GSN and WE tv tend to [redacted] likely explains why they appear to target the same advertisers.[86] Indeed, as Table 6 below demonstrates, [redacted]

86. *Game Show Network, LLC v. Cablevision Systems Corp.*, Declaration of David Goldhill, October 7, 2011, ¶10 [hereinafter *Goldhill Declaration*] (explaining that GSN and WE tv target the same demographic and advertisers).

TABLE 6: OVERLAP BETWEEN WE TV'S AND GSN'S ADVERTISING, JULY 2010-JULY 2011

[redacted]

Source: [redacted]

As Table 6 shows, between July 2010 and July 2011 [redacted] of WE tv's top 40 advertising accounts (weighted by expenditures on WE tv commercials) also advertise on GSN. Moreover, [redacted] of *all* of WE tv's advertising accounts (weighted by expenditures on

WE tv commercials) also advertise on GSN. Similar results reveal that [redacted] of GSN's top 40 advertising accounts (weighted by expenditures on GSN commercials) also advertise on WE tv, and [redacted] of *all* of GSN's advertising accounts (weighted by expenditures on GSN commercials) also advertise on WE tv.[87] A high degree of advertising overlap among two networks indicates that advertisers perceive the two networks as serving up a similar audience demographic.[88]

53. Using a more granular database that includes the advertising parents as well as the brands, I can give context to the meaning of the [redacted] advertising-overlap figure from Table 6. Between January and December 2010, the brand-level data when combined for parent companies[89] shows that [redacted] percent of WE tv's top 40 advertising accounts also advertised on GSN. I compute the comparable overlap for WE tv's top 40 advertisers with 87 other cable networks (excluding GSN). The WE tv-GSN advertiser overlap of [redacted] percent at the parent level ranks [redacted] among [redacted] possible overlaps with WE tv's top 40 advertisers.[90]

54. Cablevision may claim that these results are skewed by the fact that a large conglomerate like [redacted] would advertise one product on GSN and another product on WE tv. To test this conglomerate hypothesis, I performed the analysis at the brand level as opposed to the firm level. I used [redacted]

87. Although the weighting does not change the [redacted]—giving advertisers who advertise more heavily with WE tv more weight makes sense for the purposes of an overlap analysis; tapping one's largest client is more significant than tapping one's smallest client.

88. Mr. Orszag downplays the importance of this advertising overlap, arguing that "the fact that networks have common advertisers is not indicative of whether advertisers are choosing between the networks for their advertising messages." *Orszag Report* ¶98. This is similar to his critique regarding a viewer's watching two programs. Again, an advertiser has a fixed budget; the opportunity cost of buying ads on network A is spending less on network B.

89. [redacted]

90. Additionally, from the perspective of GSN's top 40 advertisers, GSN-WE tv advertiser overlap is [redacted] percent, which ranks [redacted] among [redacted] possible overlaps.

[redacted][91] Whereas I originally found that advertising *customers* that advertise on GSN account for [redacted] percent of WE tv's revenue from its [redacted] advertising customers, my revised analysis shows that there is also significant overlap among the *advertising brands* that advertise on GSN and WE tv. Brands that advertise on GSN account for [redacted] percent of WE tv's revenue from its top 40 advertising customers. [redacted] The decline from [redacted] to [redacted] percent is expected given the increased granularity of brands compared to firms.[92] Moreover, I repeated this advertising overlap analysis for WE tv's top 40 brands with 87 other cable networks (excluding GSN). It turns out that the WE tv-GSN brand overlap of [redacted] percent ranks [redacted] among [redacted] possible overlaps with WE tv's top 40 brand advertisers.[93]

55. Finally, I calculated advertising budget shares for each brand [redacted]. The following [redacted] brands dedicated more than 10 percent of their respective total advertising budgets on *both* WE tv and GSN in 2010: [redacted] For example, [redacted] allocated [redacted] percent of its television advertising budget to GSN and [redacted] percent to WE tv. Such

91. [redacted]

92. Mr. Orszag insists that the observed overlap at the brand level is significant only if the brand is in the top 40 brands of *both* GSN and WE tv. This more onerous requirement is not justified. Under this standard, Mr. Orszag would discount the overlap if the brand ranked 39th on GSN's list but ranked 41st on WE tv's list.

93. I also performed this analysis for GSN's top 40 brands compared with 87 other cable networks (excluding WE tv). GSN-WE tv brand overlap from the perspective of GSN top 40 brands is [redacted] percent, which ranks [redacted] among [redacted] possible overlaps.

high combined budget shares suggest that certain advertisers believe that GSN and WE tv deliver a similar audience.

2. Mr. Orszag Seeks To Impose Standards Irrelevant to An Economic Determination of Whether Networks Are Similarly Situated

56. To be similarly situated, two networks need not be economic substitutes. Yet Mr. Orszag would require evidence that GSN disciplines WE tv's advertising rates to find that they are similarly situated. When evaluating whether two networks are similarly situated, Mr. Orszag uses the term "close alternatives" and "economic substitutes" interchangeably the latter are defined as goods that exhibit (positive) cross-price elasticities.[94]

57. Mr. Orszag goes one step further by requiring that the affiliated network (as opposed to the VICO) enjoy pricing power vis-à-vis advertisers or distributors. Under this heightened standard, the non-discrimination obligation of the Cable Act would apply only to cable operators that have the ability to dictate carriage fees or advertising rates for their affiliated programming; if a VICO's affiliated network lacks pricing power then, by Mr. Orszag's logic, it could not be found to discriminate.[95] According to Mr. Orszag, "to the extent there is any pricing constraint imposed by GSN, the degree of that pricing constraint would be negligible relative to the pricing constraint provided by other networks."[96] Thus, his test for similarly situated networks is rigged to fail from the start because WE tv is assumed not to have market power. To the extent that a finding of market power has *any* place in a program-carriage proceeding, it is the market power of the regulated firm namely, the cable operator that matters. And

94. *Orszag Report* ¶65.

95. *Orszag Report* ¶13 ("Under standard economic theory, Cablevision could only plausibly have an incentive to discriminate against GSN in favor of its affiliated networks, WE tv and Wedding Central, if the prices charged by the affiliated networks were effectively constrained by GSN.").

96. *Id.* ¶112.

Cablevision enjoys [redacted] of MVPD subscribers in the New York DMA,[97] a large share in a geographic market that is critically important for rival networks.

58. Setting aside the irrelevance of price effects to a determination of whether networks are similarly situated, Mr. Orszag's analysis is simply wrong: A VICO's affiliated network can benefit in many ways without pricing power. For example, an increase in subscribers caused by tiering, albeit at a constant license fee, would benefit WE tv; an increase in advertising revenues at a constant advertising rate or the enhanced ability to compete for relationship-based content would also benefit WE tv; and an increase in viewership (with no concomitant price effects) would benefit WE tv to the extent it permitted the network to sell a larger share of its advertising inventory. Thus, the notion that WE tv cannot be found to discriminate because it lacks pricing power is extreme, turns the non-discrimination protections on their head, ignores non-price ways in which WE tv can benefit (although Section 616 does not require any such benefit), and would immunize VICOs from discrimination claims unless they possessed pricing power in some relevant market.

59. Mr. Orszag's search for price effects permeates his advertiser-competition analysis.[98] He claims that "significant competition" between WE tv and GSN for advertisers would "be reflected in WE tv's advertising rates, which would be significantly constrained by GSN's advertising rates, and vice versa."[99] He asserts that I failed to show evidence that GSN's advertising rates have been lowered by the tiering.[100] If the demand for GSN's general-rate advertising declined unexpectedly by [redacted] after the tiering (see Part IV.B below), it is

97. *See* Exh. 103, CV-GSN 0427070.

98. Mr. Orszag also insists on evidence of price effects to prove that GSN and WE tv compete for programming. *Orszag Report* ¶109.

99. *Id.* ¶108.

100. *Id.* ¶154.

reasonable to conclude that GSN's ability to constrain WE tv's advertising rates was also diminished.

60. Mr. Orszag argues [redacted] between GSN and WE tv implies that the two networks are not similarly situated from the vantage of advertisers.[101] Again, the search for economic substitutes causes Mr. Orszag to fixate on price-disciplining effects, which may not exist for myriad reasons. For example, a nascent network may not impose incremental price discipline on a well-established network; and an established network that competes vigorously with several networks in its genre might lack pricing power, which means that any other individual network does not impose price-discipline at the margin.[102]

61. Finally, Mr. Orszag argues that GSN's and WE tv's [redacted] shares implies no price-disciplining effect,[103] which in his mind means that the networks are not similarly situated. Setting aside the irrelevance of a price-disciplining effect, that two products constitute a [redacted] does not imply lack of substitution. Consider beef and chicken in a household's food budget. As chicken prices rise, the household might switch to beef at the margin, [redacted] are accounted for by chicken and beef.

C. Perceptions of Rightsholders

62. GSN also competes directly against WE tv for the same programming rights. Like advertising dollars, competition along this dimension could give rise to an incentive to

101. *Id.* ¶91.

102. In any event, the disparity in the price of two goods does not imply that the cheaper good imposes zero price discipline on the more expensive good: A Hyundai Elantra (MSRP of $16,000 to $24,000) might discipline the price of a Honda Civic (MSRP of $18,000 to $26,000), despite the fact that the Elantra is less expensive.

103. *Orszag Report* ¶95.

discriminate. If rightsholders perceive GSN and WE tv to be comparable outlets for their programs, then Cablevision has an incentive to discriminate against GSN.

63. Certain shows were pitched to both GSN and WE tv. For example, [redacted][105] Moreover, the following six shows were pitched

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to both GSN and WE tv: [redacted][111] That several rightsholders perceive GSN and WE tv to be reasonably interchangeable outlets bolsters my prior conclusion that the networks are similarly situated.[112]

III. Cablevision's Discrimination Lacks Any Efficiency Justification

64. In this section, I consider alternative, efficiency explanations for Cablevision's carriage policy. Although disparate treatment of similarly situated networks strongly suggests discrimination, it is possible that some alternative, efficiency explanation could explain Cablevision's conduct vis-à-vis GSN. I am not aware of any evidence that Cablevision applied

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104. [redacted]

105. *Id.*

106. *See* GSN Exh. 159.

107. *See* GSN Exh. 160.

108. *See* GSN Exh. 162.

109. *See* GSN Exh. 160.

110. *See* GSN Exh. 160.

111. *See* GSN Exh. 161.

112. According to Mr. Orszag, that certain rightsholders approached both GSN and WE tv does not constitute evidence of "competition." *Orszag Report* ¶109. He would require the additional step that GSN or WE tv offered the rightholders contracts or developed the concepts into shows. This requirement is not grounded in economics, and Mr. Orszag fails to provide any basis for this position.

such a cost-benefit test to WE tv or to any of its affiliated networks,[113] and the selective application of a test is in and of itself discriminatory.[114]

65. I also critique Mr. Orszag's profitability analysis. Because the losses per subscriber due to churn are nearly [redacted] as large as the gains associated with incremental ([redacted]) S&E subscribership, it follows that Cablevision would have had to attract more than [redacted] as many [redacted] S&E tier subscribers as it lost from churn in order for the tiering to be profitable. Yet the data suggest that [redacted]. Thus, *even when one considers mitigation strategies*, Cablevision's downstream division likely incurred a loss as a result of the tiering.

66. To further explore the efficiency defense that the tiering of GSN was profitable for Cablevision's distribution division, I offer my own profitability analysis based on the tests articulated by the

113. As an illustrative example, if an economic consulting firm gave female applicants a difficult econometric test during their interviews, but permitted male applicants to skip the test, then the application process would be discriminatory on the basis of gender—regardless of what fraction of the females passed the test. Mr. Orszag cites a Cablevision document noting cost savings associated with tiering GSN. *Orszag Report* ¶115. But Cablevision would also enjoy cost savings from tiering any network, including its own. Accordingly, this is not evidence of a cost-benefit test.

114. Judge Sippel recognized this selective application of the cost-benefit test in the *Tennis Channel* case. *See Tennis Channel Initial Decision*, ¶74 ("When Comcast Cable renewed its affiliation agreements with Versus and Golf Channel in 2009 and 2010, respectively, however, it did *not* undertake a cost-benefit analysis as to whether it should reposition those affiliated networks to a different tier."). *Tennis Channel, Inc. v. Comcast Cable Communications, L.L.C.*, *Memorandum Opinion & Order*, Docket No. 10-204, File No. CSR-8258-P, FCC 12-78 (Jul. 24, 2012), ¶¶76-80 [hereinafter *Tennis Channel Order*].

67. ircuit in its *Comcast* decision. The results of these tests are consistent with the claim that Cablevision sacrificed some downstream profit in order to prop up its affiliated content.[115]

A. Comparisons of Price or Ratings-Adjusted Price

68. Compared with Cablevision-owned networks, GSN provides a better value per ratings point, costing (according to SNL Kagan) on average [redacted] per subscriber per month in 2009 and generating an average 24-hour ratings of [redacted].[116] By comparison, SNL Kagan reports that WE tv charged an average [redacted] per subscriber per month in 2009 and generated an average 24-hour ratings of [redacted].[117] Table 7 shows the second quarter 2010 average price per subscriber per month and average 24-hour household ratings point for GSN, WE tv, and the other Cablevision-owned networks. Nationally, GSN has a [redacted] price per rating point than the [redacted] average price per rating point for Cablevision-owned networks carried on Cablevision's Family Cable tier (for which rating point data are available). Similarly

115. It bears noting that, in addition to these "direct" methods of proving profit sacrifice (or a net profit sacrifice), one may show indirectly that the VICO incurred a downstream loss via the tiering by examining the carriage decisions of non-VICOs with respect to the independent network. Presumably, if non-VICOs generally carry the independent network broadly, then one can infer that they have determined that doing otherwise would reduce their profits. Intuitively, non-VICOs are weighing the net benefits of broad versus narrow carriage of the independent network, and their vote in favor of broad carriage implies that doing otherwise would entail a profit sacrifice. And the indirect evidence here—Cablevision's large distributor peers carry GSN on tiers that reach on average nearly [redacted] the proportion of subscribers than does Cablevision [redacted] versus [redacted]—creates the strong presumption that Cablevision sacrificed downstream profits when it tiered GSN. Indeed, since July 2012, most of the largest distributors *positively* repositioned GSN, including Comcast, Cox, Dish, Verizon, and Time Warner. *See* GSN Response to Cablevision's First Set of Interrogatories, No. 4 (Jun. 6, 2014). Certain small distributors—not within Cablevision's peer group—negatively repositioned GSN (RCN) or dropped GSN (Suddenlink and Wide Open West. *Id.* GSN's per sub rate for Cablevision in 2012 [redacted] is slightly above the rates for the largest distributors [redacted], and below the rates for smaller distributors like AT&T [redacted] and Verizon [redacted]. *See* GSN CVC 00167975, at 22. GSN's reach increased slightly in 2012, despite declines from many industry peers such as Oxygen, Lifetime Movie, and Hallmark. *Id.* at 11.

116. *Kagan Basic Cable* at 322. [redacted]

117. *Kagan Basic Cable* at 613.

in the New York DMA, GSN has a [redacted] price per rating point than the [redacted] average price per rating point for Cablevision-owned networks.

TABLE 7: AVERAGE PRICE PER SUBSCRIBER PER MONTH AND PER RATING POINT, BY NATIONAL CABLE NETWORK (2Q 2010)

Network	Owned by Cablevision in 2010	Average Price Per Sub Per Month	HH Ratings: National	Price Per Ratings Point	HH Ratings: NY DMA^	Price Per Ratings Point
		1	2A	3 1 / 2A	2B	3 1 / 2B
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: [redacted]

Notes: * Spun off in 2011. ** Spun off in 2010. *** Closed in Jul. 2011. ^ NY DMA ratings data were for 9 am to 4 am.

As Table 7 shows, WE tv is [redacted] as GSN on a per-rating-point basis, both nationally and within the New York DMA.[118] GSN's national total-day ratings [redacted] the total-day ratings of WE tv ([redacted]).[119] Thus, it would be unreasonable for Cablevision [redacted] Indeed, other Cablevision-affiliated content such as Fuse is even more expensive on ratings-point basis ([redacted]). And Wedding Central's certainly

118. [redacted]

119. *Kagan Basic Cable* at 322, 613.

infinitesimal ratings in the New York DMA[120] imply an even higher price on per-ratings-point basis.

69. Price-per-ratings point is commonly used measure of value in the cable video industry. [redacted][121] Stated differently, cable operators look at a network's ratings when making carriage and valuation decisions; holding a network's license fee constant, a higher rating generates more value for the cable operator in terms of attracting more subscribers and partaking in greater advertising revenues. Indeed, [redacted][123] Accordingly, expressing value to cable operators on a per-rating-point basis is a standard metric in the cable industry.[124] More importantly, even if Cablevision does not calculate a network's price per Nielsen ratings point when making carriage decisions, the metric is valuable because it reflects the value of a network relative to its

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120. Nielsen ratings are not available for Wedding Central.

121. *Kagan Basic Cable* at 51.

122. *Id.* at 13.

123. *Id.*

124. Price per rating point has been used by academics to study the advertising industry. *See, e.g.*, W. Wayne Fu, Hairong Li, & Steven S. Wildman, "Explaining Prices Paid for Television Ad Time: The Purchasing Profile Model," *The Media Industries and their Market: Quantitative Analyses 10* (2010) (dividing the "30 second rates . . . by the corresponding season average Nielsen ratings to create *UnitRate*, an estimate of the average *price per rating point* paid by advertisers for each program in the sample.") (emphasis added); Przemyslaw Jeziorski, "Merger enforcement in two-sided markets," Johns Hopkins University, Working Paper, Mar. 24, 2011 ("The initial regression used *price per rating point* and regressed on a market's HHI.") (emphasis added).

popularity.[125] Any alternative measure of value, including those derived from Cablevision's set-top box data, must be assessed based on an objective understanding of the networks' relative value.

70. To gauge the sensitivity of my price-per-ratings point metric to the choice of national versus local ratings data, I have supplemented my analysis based on [redacted] I found a price per rating point of [redacted] for GSN and [redacted] for WE tv using New York DMA rating data. It bears noting that [redacted],[126] which suggests that this comparison is conservative. GSN appears [redacted] to WE tv even in the New York DMA. But the point of the test is not to determine the extent to which GSN is more valuable than WE tv. Rather, it is to determine whether Cablevision could be justified in treating GSN differently than WE tv. Based on this standard measure of value regardless of whether one considers national ratings, as I did in my initial declaration, or local ratings there is no such justification.[127]

125. To an economist, what matters is whether Cablevision's conduct can be modeled *as if* the company considers this metric. In Milton Friedman's classic example, expert billiards players, who have no formal physics training, nevertheless play pool *as if* they had a perfect understanding of kinetics. *See* Milton Friedman, *Essays in Positive Economics* (University of Chicago Press, 1953).

126. [redacted]

127. Mr. Orszag [redacted]

B. Carriage Decisions of Other Programming Distributors

71. Although the best metric for evaluating whether Cablevision's tiering policy was discriminatory is to evaluate its treatment of a network relative to its treatment of similarly situated affiliates, it also is relevant that, relative to its peers, Cablevision carries GSN on significantly less favorable terms. Following the tiering, GSN reaches approximately [redacted] of Cablevision's [redacted] basic subscribers. According to SNL Kagan, GSN's penetration across all MVPDs was projected to be [redacted] by 2011.[128] As demonstrated in Table 8, Cablevision's peers defined as all MVPDs with over two million basic subscribers carried GSN on tiers that reached on average nearly [redacted] the proportion of subscribers than does Cablevision ([redacted] versus [redacted]) as of 2011.

TABLE 8: TIERING DECISIONS OF LARGE MVPDS AS OF JUNE 2011

Distributor	**Total Basic Subscribers**	**GSN Subscribers**	**GSN Penetration to Basic Subscribers**
	1	**2**	**3 2/1**
[redacted]	[redacted]	[redacted]	[redacted]

Sources: [redacted]

Notes: ^ Estimated based on U.S. subscribership; * Cox [redacted] ** This figure includes carriage on cable systems that Cablevision recently acquired from Bresnan, outside of the New York market.

128. *Kagan Basic Cable* at 34.

72. Accordingly, Cablevision cannot plausibly argue that its tiering policy vis-à-vis GSN is supported by the choices of its peers.[129] For the forgoing reasons, GSN's pricing and ratings do not offer an alternative, efficiency explanation that could explain Cablevision's conduct vis-à-vis GSN. Barring some convincing efficiency explanation that explains not only Cablevision's treatment of GSN but also its more favorable treatment of Cablevision-affiliated networks, I conclude that Cablevision's disparate treatment of a similarly situated network most likely amounts to discrimination on the basis of affiliation.

73. Finally, regional variations in the demand for GSN's programming do not explain the difference between Cablevision's carriage of GSN and that of other MVPDs. According to Mr. Brooks's Nielsen data, both GSN's and WE tv's ratings [redacted], respectively, as one toggles from national ratings data to New York DMA data. While the [redacted] for GSN [redacted] that of WE tv, GSN national Nielsen ratings [redacted] WE tv's [redacted]. In fact, as demonstrated above, GSN's price per rating point is [redacted] to WE tv's price per rating point when evaluated using New York DMA ratings data. And Wedding Central presumably had infinitesimal ratings in the New York DMA[130] when Cablevision carried it broadly.

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129. Mr. Orszag discounts the GSN penetration data from Cablevision's rivals—data that he cited in his NFL testimony as the "most direct and compelling evidence" of discrimination—and instead focuses on the fact that two operators (Time Warner and Verizon) carry WE tv on their expanded basic service tiers, but carry GSN on a less penetrated tier, despite the fact that both carry GSN more generously than does Cablevision. *Orszag Report* ¶130. That DISH, Cox, AT&T, Time Warner and Verizon offer GSN on a less penetrated tier than the expanded basic service tier is irrelevant—GSN is not demanding carriage on Cablevision's expanded basic service tier *per se*; it is demanding equal carriage, which could be satisfied on any tier. The only explanation Mr. Orszag can fathom for the disparate treated afforded GSN by Cablevision (relative to Cablevision's peers) is Cablevision's allegedly urban base of subscribers. But other cable operators, including Comcast, have significant urban footprints, yet they tend to carry GSN more broadly. He acknowledges that "many MVPDs choose to carry WE tv and GSN in a similar way." *Id.* ¶141.

130. *See supra* n. 67.

C. Cablevision May Have Incurred a Short-Term Loss from the Tiering

74. Mr. Orszag claims that "Cablevision's decision to retier GSN was likely profitable for Cablevision's cable division."[131] However, as I explain below, Mr. Orszag fails to demonstrate that Cablevision's distribution arm materially profited from the tiering of GSN. Indeed, the data suggest that the distribution arm likely did not enjoy any material increase in profits due to the tiering, and may well have suffered losses due to customer churn.

75. The profitability (or lack thereof) of the tiering decision to Cablevision's distribution business depends on several factors. The potential benefits to Cablevision would consist of any incremental profits earned on households electing to purchase the S&E tier in response to GSN's tiering. For each subscriber that joined the S&E tier, Cablevision earned \$6.95 in revenue per month, and paid [redacted][132] in license fees per month. Although GSN's tiering saved approximately [redacted][133] per month in license fees, this is largely irrelevant, as it would [redacted].[134] (See the "Net Profit Sacrifice" test described in Part D.2 below.)

76. Even when considering mitigation strategies, which appear to be outside of the scope of the profit-sacrifice tests envisioned by the D.C. Circuit, Cablevision incurred two types of costs by tiering GSN. First, approximately [redacted] customers called Cablevision to

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131. *Orszag Report* ¶118.

132. *See* [redacted] *See also* GSN Exh. 58.

133. *See* GSN Exh. 176, [redacted]).

134. Even without moving WE tv, Cablevision could have achieved essentially the same cost savings it achieved by tiering GSN by simply [redacted] *See* Exh. 109 at 43 [redacted] MFN protections are price protective measures often included in distribution agreements. *See, e.g.*, GSN Exh. 67. *See also* Ex. 41.

complain in response to GSN's tiering;[135] by April 2011, Cablevision [redacted][136] Because Cablevision [redacted].[137] Second, to the extent that some households cancelled their Cablevision subscriptions as a result of the tiering, Cablevision incurred additional losses due to customer churn.[138] I assume conservatively that Cablevision's average revenue per subscriber per month for a GSN customer was [redacted],[139] with a gross profit margin of [redacted].[140] Accordingly, Cablevision would have sacrificed profits of [redacted] per subscriber per month due to customer churn in response to GSN's tiering.

77. After correcting for the deficiencies in Mr. Orszag's econometric analysis, the S&E subscription data indicate that roughly [redacted] Cablevision customers became first-time S&E tier subscribers in response to the tiering. This suggests that virtually all of the incremental

135. *See* GSN Exh. 132.

136. The data indicate that Cablevision provided [redacted] *See* GSN Exh. 182. *See also* GSN Exh. 124, 125.

137. According to [redacted] *See* GSN Exh. 176 [redacted]

138. Subscriber churn has been a matter of concern for Cablevision. *See* GSN Exh. 168 ("The new focus is on retaining subscribers. 'We want to improve our relationship with our existing customers and ensure that they know that we value them and their business,' said Mr. Dolan, whose family controls the company, speaking to analysts on a conference call in February.").

139. The monthly price of the Family Tier in 2010 was $55.95. *See* [redacted]

140. [redacted] *See also* GSN Exh. 80.

S&E subscribership that Mr. Orszag's methodology would mistakenly attribute to GSN's tiering was, in reality, attributable to Cablevision's [redacted] However, the data indicate that [redacted][141]

78. With respect to churn, the data suggest that roughly [redacted] customers left Cablevision due to [redacted]. Because the losses per subscriber due to churn are nearly [redacted] as large as the gains (equal to [redacted]) associated with incremental ([redacted]) S&E subscribership ([redacted]), it follows that Cablevision would have had to attract more than [redacted] as many [redacted] S&E tier subscribers as it lost from churn in order for the tiering to be profitable. Yet the data suggest that [redacted]: Because the number of formerly subsidized customers who kept the sports tier (roughly 3,500) is not nine times as great as my estimated churning subscribers (1,000 to 2,300), *even when one considers mitigation strategies*, Cablevision's downstream division likely incurred a loss as a result of the tiering. Furthermore, the ratio of retained sports-tier customers to churning customers would likely decline over time, given that losses sustained due to churn would presumably continue more or less in perpetuity (that is, the cancelled subscriber would likely never return), whereas the gains associated with

141. *See* GSN Exh. 182. [redacted]

incremental S&E subscribership are likely to continue to dissipate over time, as more and more ([redacted]) customers drop the S&E tier.

79. In Appendix 3, I explain the basis for my estimates of (1) the number of incremental S&E subscriptions in response to GSN's tiering; and (2) customer churn in response to GSN's tiering.

D. Affirmative Profit-Sacrifice Test Based on the D.C. Circuit's *Comcast* Decision

80. In *Comcast*, the D.C. Circuit appeared to offer, among others, two paths to prove that a VICO's carriage decision was motivated by discriminatory reasons:

> A rather obvious type of proof would have been expert evidence to the effect that X number of subscribers would switch to Comcast if it carried Tennis more broadly, *or that Y number would leave Comcast in the absence of broader carriage*, or a combination of the two, such that Comcast would recoup the proposed increment in cost. . . . . [2] Conceivably Tennis could have shown that the incremental losses from carrying Tennis in a broad tier would be the same as or less than the incremental losses Comcast was incurring from carrying Golf and Versus in such tiers.[142]

The first path (which I will refer to as the "profit sacrifice test") asks whether the VICO sacrificed profits by tiering the independent that is, whether the "net benefit" to the downstream (distribution) division from tiering the independent was negative, or more intuitively, whether the downstream division incurred a profit sacrifice by not distributing the independent network broadly. The second path (which I will refer to as the "net profit sacrifice test") asks whether the VICO could have saved the same level of net expenditures or more by tiering its affiliated network; stated differently, even if the VICO did not incur a profit sacrifice by tiering the independent network, whether the VICO incurred a larger profit sacrifice by *not* tiering its affiliated network. In this section, I present evidence that informs both of those tests. The analysis that follows differs from my critique of Mr. Orszag's profit-sacrifice test in that I estimate gains and losses to Cablevision's downstream division under the assumption of no

142. *Id.* at 986.

mitigation strategies. I conclude the Cablevision's downstream division likely incurred a small loss as a result of tiering GSN.[143]

1. Profit Sacrifice Test

81. Tiering GSN appears to have generated significant downstream costs for Cablevision in terms of churn, loss in goodwill,[144] and its decision to subsidize the cost of sports package subscriptions:

- Approximately [redacted] subscribers called Cablevision to complain about the tiering.[145]
- Presumably to save those customers who threatened to leave, Cablevision was forced to subsidize the cost of the sports tier for approximately [redacted] of them for six months.[146]
- This implies that [redacted] subscribers were not offered a subsidy, but were nevertheless displeased by the episode.
- Cablevision lost between [redacted] and [redacted] subscribers due to the tiering *despite the subsidy*.[147]

143. The point of the exercise is not to develop a precise estimate of the harm. Instead, the purpose is to eliminate an alternative efficiency rationale that Cablevision would have acted the same way toward GSN without a similarly situated network. The confidence interval around my estimate—a loss of [redacted] might include a *de minimis* gain to the downstream division. But it does not include a material gain to the downstream division. Cablevision would not rationally risk antagonizing 27,000 GSN loyalists in exchange for an immaterial gain (or even a small loss)—unless it anticipated an offsetting gain to its upstream division.

144. Mr. Orszag argues that the tiering episode could have *enhanced* goodwill. Orszag Rebuttal Report, Dec. 29, 2014, ¶ 22 ("[Dr. Singer] fails to account for the fact that reducing Cablevision's programming costs by re-tiering GSN may actually reduce the likelihood of a price increase (relative to pricing changes that would other have occurred) for the vast majority of Cablevision subscribers who are not interested in watching GSN. . . . *as re tiering GSN could have actually enhanced Cablevision's goodwill*") (emphasis added). Yet GSN households are clearly harmed by the tiering, and non-GSN households would be largely indifferent to the tiering; if anything, they are harmed slightly by losing the option value of potentially watching GSN in the future. Mr. Orszag's enhanced goodwill argument rests on the counterfactual notions that (1) Cablevision remitted the $0.11 per month savings from tiering to consumers; and (2) that these miniscule savings would have been sufficient to significantly enhance customer goodwill. Orszag Dep., Mar. 12, 2015, at 71 ("By tiering the programming and reducing your cost structure, that may help attract new subscribers to Cablevision or keep existing subscribers who otherwise would have left.").

145. *See* GSN Exh. 132.

146. *See* GSN Exh. 182.

147. *See* Exh. 223, Singer Direct Testimony, Appendix C.

- Rather than face a permanent loss of [redacted] per customer per month[148] for each churning customer a very conservative estimate of Cablevision's video margins for the Family tier Cablevision incurred a much smaller [redacted] loss per subscriber per month via the sports-tier subsidy (which is equal to the license fees it paid networks on the sports tier).[149]

It bears noting that my affirmative profit-sacrifice test uses the same inputs as those used above in my critique of Mr. Orszag's profit-sacrifice test. The vantage of my profit-sacrifice tests is *ex post*.[150] Finally, the analysis measures costs and benefits on a monthly basis around the time of the tiering episode; the analysis yields the same result whether one consider these flows to occur in a single month or across several months within the relevant time period.[151]

82. To estimate the costs of tiering GSN related to churn for the purposes of implementing the D.C. Circuit's profit-sacrifice test, one must ask how many Cablevision subscribers would have churned *in the absence of the subsidy*. The role of the costs to the VICO of mitigation strategies seems to be outside the scope of the original test as contemplated by the D.C. Circuit, which considered only a top-line measure "that Y number [that] would leave

148. *See* Singer Direct Testimony, ¶ 15 (based on an assumed profit margin of [redacted] on monthly revenues of approximately $60).

149. *See* Cablevision Sports & Entertainment Box Data, Oct. 1, 2010 through Sept. 30, 2011, CV-GSN 0150595.xls.

150. It is an interesting academic question as to whether Cablevision would have gone through with the plan had it known that tiering GSN would trigger [redacted] customer complaints. A rational firm would not deliberately incur downstream losses in excess of the gains to its upstream content division. But a conflicted firm—that is, a cable operator with programming interests—might rationally risk some modest downstream losses in order to prop up its upstream division. And that is what makes this conduct discriminatory: Cablevision likely would not have accepted the same gamble had it not been conflicted, as evidenced by the carriage decisions of its peers. It could be that Cablevision may have anticipated little impact (or a small loss) to its downstream division, offset by gains to its upstream division. In the absence of planning documents—which to my knowledge do not exist here—then *ex ante* analysis is irrelevant.

151. Notwithstanding Mr. Orszag's assertions to the contrary, I take no position as to how long the gain or loss in certain elements, such as goodwill, would be felt by Cablevision. *See* Orszag Dep., Mar. 12, 2015, at 414 ("And so that's why Dr. Singer's $3.88 for the, quote, loss of goodwill and assuming that it continues forever, I am so highly critical of. It makes no economic sense. It's pulled literally out of whole cloth.").

Comcast in the absence of broader carriage."[152] A reasonable lower-bound estimate of churning Cablevision customers in the absence of the subsidy is (1) the [redacted] subsidized-sports-tier subscribers, who presumably threatened to leave Cablevision after the tiering to secure the subsidy,[153] [154] plus (2) the midpoint between the [redacted] and [redacted] additional customers who churned after the tiering episode *despite the presence of the subsidy.*[155] [156] Expressed as a

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152. *Comcast Opinion* at 986.

153. To an economist, it is relevant that some [redacted] complaining customers were selected by Cablevision to receive a subsidy while [redacted] others were not. Cablevision was apparently trying to infer the likelihood of defection based on what the complainer said on the call; if Cablevision thought the threat was sufficiently high, it offered a subsidy to retain the customer. That Cablevision discriminated in its allocation of subsidies yields critical information. For the test to imply a profit sacrifice, it is not necessary to assume that 100 percent of the subsidized customers would have churned in the absence of mitigation strategies. For example, when the forgone margin is assumed to be $40.50 (equal to 45% of $90), only [redacted] of the subsidized customers must churn to imply a profit sacrifice; when the forgone margin is assumed to be $27 (equal to 45% of $60), only [redacted] of the subsidized customers must churn to imply a profit sacrifice. Moreover, even if a subsidized customer would not have churned, Cablevision would still incur a loss on that customer in terms of goodwill.

154. Mr. Orszag argues that my assumption that these formerly subsidized customers would have churned in a world without the subsidy is undermined by his finding that formerly subsidized sports-tier subscribers "actually had a higher propensity to stay with Cablevision than the population at large in Cablevision." Orszag Dep. Mar. 12, 2015, at 143. He found no such thing. In particular, he found that about 24 percent of the formerly subsidized subscribers cancelled their subscriptions within two years of the tiering, while about 20 percent of all Cablevision subscribers cancelled their subscriptions within one year of the tiering. *See* Orszag Rebuttal Report, Dec. 29, 2014, ¶17. First, because 24 percent exceeds 20 percent, it seems that the formerly subsidized customers had a greater to propensity to *leave* Cablevision than the average Cablevision customer (albeit over different windows). Second, this is not an apples-to-apples comparison: Mr. Orszag is comparing churn rates for two different groups of consumers over two different time horizons—namely, a two-year window (Feb. 2011 - Feb. 2013) for the subsidized group and an earlier (and largely non-overlapping) one-year window for the control group (April 2010 - April 2011). Third, Mr. Orszag further contaminates the comparison by including the subsidized period in the two-year window, despite the fact that a subsidized customer clearly faces diminished incentives to churn.

155. In estimating churn, I had to exclude Cablevision customers who received a subsidy and stayed because such customers are coded as non-churning in the data. As explained above, my [redacted] actual churn estimate was conservative given that the remaining observations will contain disproportionate numbers of households that did not call to complain about the tiering, and are therefore less likely to churn in the first place, given that they have revealed relatively weak preferences for GSN.

156. I take no opinion as to whether this estimate is statistically significant; it is simply the best estimate available in the record for this purpose. This figure is based on a parameter that was estimated at the 11 percent level of significance. Although the 5 and 10 percent levels of significance are more conventional, there is nothing magical about those levels. The analyst has license to choose which level of significance to employ based on the costs of committing a certain error (accepting the hypothesis of no effect when in fact there is an effect). Indeed, at least one standard econometric textbook uses the 15 percent level of significance. *See* JEFFREY WOOLDRIDGE, INTRODUCTORY ECONOMETRICS: A MODERN APPROACH 127 (4th ed. Cengage Learning 2008) ("We conclude that enroll is not

percentage of Cablevision customers who watched at least one hour of GSN per month in April 2010 ("GSN households"), the implied GSN churn rate is [redacted] percent.[157] At approximately [redacted] per subscriber per month in lost margins on the Family tier for each churning customer,[158] Cablevision would have incurred monthly losses of at least [redacted] on the churning customers.[159]

83. In addition to these losses related to churn, a calculation of Cablevision's monthly loss must account for the loss in goodwill for the non-churning customers who called to complain about the tiering episode. In particular, [redacted] customer complaints imply a significant loss in goodwill. Goodwill is important to maintain because it permits Cablevision to raise its video prices each year; a dissatisfied customer is less inclined to tolerate a price

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statistically significant at the 15% level."). Ronald Fisher, who developed statistical hypothesis testing, did not intend the 5% cutoff value to be fixed, and he later recommended that significant levels be set according to specific circumstances. *See* GEOFFREY R QUINN & MICHAEL J. KEOUGH, EXPERIMENTAL DESIGN AND DATA ANALYSIS FOR BIOLOGISTS 46-69 (1st ed.) (1st ed. Cambridge University Press. 2002). The case law recognizes that there is no hard and fast rule for statistical significance. *See, e.g.*, Segar, 738 F.2d at 1282 (explaining there is no "precise level in the law" at which statistical significance is sufficient to permit the inference derived from a correlative study); Rendon v. AT&T Techs., 883 F.2d 388, 397-98 (5th Cir. 1989) (rejecting argument that there is a strict legal benchmark requiring a particular number of standard deviations to demonstrate data has statistical significance); Thomas v. Deloitte Consulting LP, No. 3-02-CV-0343-M, 2004 WL 1960097, at *5 (N.D. Tex. Sep. 2, 2004) (listing cases where court rejected arbitrary application of 5%); Overton v. City of Austin, 871 F.2d 529, 544 (5th Cir. 1989) (Jones, J., concurring) ("Whether a given [result] should be regarded as statistically significant must be determined on a case by case basis since the value signifying statistical significance is dependent upon sample size.").

157. Equal to [redacted] churning customers divided by [redacted] GSN households. GSN households are based on an extrapolation from the [redacted] share of Cablevision customers in Orszag's set-top box sample who watched at least one hour of GSN in April 2010 to the estimated [redacted] basic-tier Cablevision subscribers in New York-New Jersey-Connecticut areas. *See* [redacted]

158. GSN Exh. 223, Singer Direct Testimony, ¶75.

159. It bears noting that at a more realistic forgone margin of $40.50, the losses associated with churning customers [redacted] are sufficient to swamp the savings in license fees [redacted] Accordingly, it is not even necessary to consider the loss in goodwill.

increase.[160] Even though many of these customers did not ultimately churn, to the extent that their probability of churning increased as a result of the tiering episode, these customers would be less inclined to tolerate a price increase after the tiering episode.[161] A reasonable measure of the diminution in goodwill is the size of the subsidy offered by Cablevision to preserve customer relations; Cablevision's subsidization policy reveals its willingness to pay this subsidy to any or all of the [redacted] complaining customers. Applied across the [redacted] customers who did not churn (but whom Cablevision nevertheless stood ready to subsidize), the incremental cost is [redacted] which brings the total costs of tiering GSN to [redacted] Thus, even with highly conservative assumptions, by tiering GSN, Cablevision incurred downstream monthly losses of [redacted].

84. I have conservatively estimated the forgone margins on Family-tier video subscriptions only. To the extent that GSN households resemble the average Cablevision customer, who tends to subscribe to larger packages (and to rent set-top boxes), this estimate will understate the forgone margin of a churning GSN household. For example, Cablevision's average video revenues per unit in 2010 were approximately [redacted], climbing to nearly

160. According to SNL Kagan, Cablevision has increased its average monthly revenue per video user in New York from [redacted] During this period of consistent price hikes, Cablevision's video subscribership in the New York market showed only a modest decline, from 3.1 million in 2007 to 2.9 million in 2012.

161. *See, e.g.*, Eun-A Park & Richard Taylor, Barriers to Entry Analysis of Broadband Multiple Platforms: Comparing the U.S. and South Korea, Telecommunications Policy Research Conference, September 29-October 1, 2006 ("In industries where products are differentiated, however, advertising, brand proliferation and *goodwill* have been identified as possible important sources of (strategic) barriers to entry in some circumstances.") (emphasis added).

[redacted] by 2011,[162] which greatly exceeds the [redacted] Family tier revenue on which I rely to estimate lost margins associated with churn; using this higher monthly revenue figure from 2011 increases Cablevision's monthly losses on churning customers from [redacted] to [redacted] This cost alone exceeds the [redacted] per month in license fees payable to GSN that Cablevision saved by placing GSN on its sports tier. And one must add to this figure the (same) loss in goodwill among the non-churning customers, which brings the total costs under this scenario to [redacted]. Relatedly, a churning *video* customer might disconnect *non-video* services from Cablevision, including broadband Internet services;[163] when a video customer churns, she might sever all ties with her original cable operator, particularly when she is looking for an alternative *package* of video and broadband services.

85. As demonstrated in my direct testimony, the more a household's viewership share of GSN declined from 2010 to 2011, the more its viewership share of WE tv tended to increase, suggesting that non-GSN-loyal households do, in fact, tend to replace GSN viewership with WE tv viewership. In particular, I found that households in the "treatment group" that is, viewers with weak preferences for GSN transferred approximately [redacted] of their GSN viewing to WE tv as a result of the re-tiering. If households in the control group that is, viewers with strong preferences for GSN transferred by the same percentage, then WE tv viewership within the control group would have increased by approximately [redacted] 164 This artificial lift in viewing translates into greater revenue for WE tv (and thus for Cablevision) via

162. Tony Lenoir, Video revenue growth lags HSD, phone since 2007; leads on ARPU basis, SNL Kagan Multichannel Market Trends, March 20, 2013, *available at* http://www.snl.com/interactivex/article.aspx?id=17239173&KPLT=6 (accessed April 29, 2013).

163. *See* GSN Exh. 247, CV-GSN 0434304; GSN Exh. 248, CV-GSN 0434305; GSN Exh. 249, CV-GSN 0434306; GSN Exh. 250, CV-GSN 0432742.

164. GSN Exh. 223, Singer Direct Testimony, Appendix 2.

additional capacity to sell in the short term (as fewer time slots are needed to reach the offered eyeballs) and higher advertising rates in the medium term. Accordingly, even if the net benefit for Cablevision's downstream division were zero, that Cablevision's content affiliate reaped benefits from the tiering would be sufficient to induce the vertically integrated entity to engage in discrimination.

2. Net Profit Sacrifice Test

86. As noted above, the D.C. Circuit proposed an additional path to show discrimination, based on the outcome of the profit-sacrifice test had it been applied to the VICO's affiliated network. Evidence that a VICO tiered an independent network to pursue, for example, $25,000 in net savings per month (from reduced license fees), but did not tier an affiliated network to pursue the same gain or more would constitute evidence of discrimination under this alternative test.[165] Stated differently, evidence that the "incremental losses from carrying [GSN] in a broad tier would be the same as or less than the incremental losses [Cablevision] was incurring from carrying [Wedding Central or WE tv] in such tiers"[166] is also proof of discrimination.

87. By tiering Wedding Central, Cablevision would have saved [redacted] per month on avoided license fees, as the price for Wedding Central was *de minimis* (and multiplying [redacted] price by [redacted] homes yields [redacted] savings). While carriage of Wedding Central imposed certain other costs on Cablevision, it is hard to estimate any such cost with precision.[167] This analysis therefore conservatively assumes this cost effectively equal to [redacted].

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165. *Comcast Opinion* at 986.

166. *Id.*

167. *See, e.g.*, Deposition of James L. Dolan (Jan. 28, 2013), at 18-19 (stating that there were expenses specifically attributable to Wedding Central); GSN Exh. 244. CV-GSN 0434004 (estimating the value of select

On the other hand, Cablevision likely would have incurred no churn from tiering Wedding Central, as Wedding Central did not register *any* viewers with Nielsen.[168] It is implausible to claim that Cablevision would have experienced any incremental churn as a result of tiering Wedding Central. Accordingly, my best estimate of the net-benefit of carrying Wedding Central broadly was [redacted]. Because the incremental losses of carrying GSN on a broad tier (equal to [redacted]) would be the same or less than the incremental losses Cablevision incurred from carrying Wedding Central broadly (equal to [redacted]), by the D.C. Circuit's second test, Cablevision discriminated against GSN vis-à-vis Wedding Central. Stated differently, it was more costly for Cablevision to tier GSN than not to tier Wedding Central, presumably for reasons relating to affiliation.

88. In contrast, by tiering WE tv, Cablevision would have saved [redacted] per month in avoided license fees (equal to the product of [redacted] by [redacted] homes).[169] In terms of the costs, Cablevision likely would not have incurred sufficient churn among WE tv households to offset the savings on license fees. Cablevision has acknowledged the intensity with which GSN's viewers watch GSN.[170] Cablevision's own analysis establishes that GSN's viewers exhibited *greater* viewing intensity than did WE tv's viewers.[171]

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banner ads run by Cablevision for WE tv and Wedding Center at $22,000). *See also GSN* Exh. 89, CV-GSN 0274705.

168. *See also* Table 1, *infra* (showing relatively low Wedding Central viewing data from Cablevision's set-top-box data).

169. Part of the avoided costs reflects an overpayment by Cablevision for failure to enforce an MFN. *See* Exh. 239, CV-GSN 433041-42 (indicating that Cablevision paid [redacted] more than it needed to in 2010 by not enforcing the MFN for WE tv.).

170. *See* Email from Adam Weinstein to Bradley Feldman, Game Show Net., Jul. 15, 2010, CV- GSN 0425003 [redacted]

171. Orszag Report ¶¶125, 126, 129 (showing that GSN has a [redacted] than WE tv, and that viewing concentration is correlated with viewing intensity).

89. Conditional on "watching" at least one hour of WE tv per month in April 2010 (a "WE tv household"), the household "watched" roughly [redacted] of WE tv per day. Conditional on "watching" at least one hour of GSN per month ("GSN households"), the household "watched" roughly [redacted] of GSN per day, a significantly higher viewing intensity. Stated differently, GSN households "watch" a significantly greater amount of GSN than WE tv households "watch" WE tv. Indeed, GSN households "devote" [redacted] of their viewing shares to GSN, whereas WE tv households "devote" only [redacted] of their viewing shares to WE tv. The distribution of viewing shares for GSN households exhibits [redacted]

90. As demonstrated by my churn regressions, the likelihood of churning in response to a tiering episode is directly proportional to the intensity of viewership. And the intuition is clear: A subscriber who devotes a disproportionate amount of her viewing minutes to a single network would be more likely to churn if that network were removed than would a subscriber who spread her viewing minutes uniformly across myriad networks but lost one of them. Indeed, according to modifications to Mr. Orszag's churn model, a household's GSN viewership share (defined as the share of total minutes devoted to watching GSN) was positively and statistically significantly related to their tendency to churn (at the 11 percent significance level).[172] Because GSN viewers tend to concentrate their viewing on GSN, a large fraction of GSN viewers were primed to churn in response to the tiering episode. In contrast, WE tv viewers are accustomed to

172. GSN Exh. 223, Singer Direct Testimony, at ¶ 81.

watching a greater variety of alternatives and could be expected to substitute other networks for the one lost to them.

91. Given the relatively greater intensity of viewership among GSN viewers, and given the finding that viewership time shares are positively correlated with churn, one would expect that a greater percentage of Cablevision viewers would churn in response to tiering GSN than would the percentage of Cablevision viewers who would churn in response to tiering WE tv. Thus, the cost of tiering WE tv likely would be no more than [redacted]. Accordingly, my best estimate of the net-benefit of tiering WE tv is at least [redacted] Because the incremental monthly losses of carrying GSN on a broad tier (equal to [redacted]) would be the same or less than the incremental monthly losses Cablevision incurred from carrying WE tv broadly (equal to [redacted]), by the D.C. Circuit's second test, Cablevision discriminated against GSN vis-à-vis WE tv.

92. Finally, using my modified churn model, one can estimate the number of WE tv households that would have churned in response to a hypothetical tiering of WE tv.[173] I use the parameter estimates from specification 4 to predict churn, substituting each household's WE tv viewing share in place of its GSN viewing share.[174] I used each household's actual

173. It is not possible to estimate subscriber losses from re-tiering Wedding Central because, unlike the case of WE tv, viewing shares of Wedding Central are close to zero, and the churn model turns on the difference in actual viewing shares and a zero share.

174. The model controls for many factors when estimating the incremental effect of viewing share on churn probability. To estimate the likely churn among WE tv households, I am assuming that changes in viewing share map into churn probability in the same way for GSN and WE tv households. If anything, the model is conservative because GSN households are more loyal than are WE tv households. So a one percent change in viewing share among GSN households likely generates a greater impact on churn probability than would a one percent change in viewing share among WE tv households. Mr. Orszag cannot articulate a single reason to expect that the model would overstate We tv churn. He therefore implicitly concedes that any bias (if it exists), likely cuts in his favor—that is, the model likely overstates the actual expected churn among We tv households.

characteristics (including its WE tv viewing share) to predict the household's probability of churning; next, I estimated each household's probability of churning under the counterfactual assumption that the WE tv viewing share was set equal to zero. Based on the difference between these two probabilities, I estimated the amount of customer churn attributable to a hypothetical WE tv tiering. To offset the [redacted] in monthly savings on license fees from tiering WE tv, Cablevision would need to incur churn of at least [redacted]. Expressed as a percentage of WE tv households, Cablevision would need to incur churn of at least 1.9 percent to lose money by tiering WE tv.[175] I estimate that only about [redacted] of WE tv households would have churned in response to a hypothetical tiering of WE tv.[176] Accordingly, Cablevision likely incurred a profit sacrifice by *not* tiering WE tv, which when combined with evidence that Cablevision likely incurred a profit sacrifice by tiering GSN, implies that Cablevision discriminated on the basis of affiliation according to the D.C. Circuit's second test.

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175. WE tv households of [redacted] are equal to the product of [redacted] of households in Mr. Orszag's STB sample in April 2010 who watched at least one hour of WE tv that month and [redacted] million basic tier subscribers in New York-New Jersey-Connecticut.

176. Mr. Orszag suggests that my conclusions would be different had I not limited the potential churning subscribers to households that watch at least one hour of WE tv per month. Orszag Rebuttal ¶ 29, n. 47. I measured the difference in the means of the expected churn among WE tv households (0.36%) and applied it against the base of WE tv households [redacted] to obtain predicted churn of [redacted] Had I instead measured the difference in the means of the expected churn among all Cablevision households [redacted] and applied it against the base of all Cablevision households [redacted] I would have arrived at a similar predicted churn of [redacted] To generate an even larger churn, Mr. Orszag applies the [redacted] change to a larger base of Cablevision subscribers (3.00M) to arrive at a predicted churn of [redacted] This is still far short of the [redacted] churning homes needed to make Cablevision indifferent between tiering and not tiering WE tv. Accordingly, I would have arrived at nearly the same answer had I applied the methodology from my supplemental report to estimate the expected churn among GSN households. The difference in the means among GSN households is [redacted]. Applied against the base of GSN households of [redacted] yields a predicted churn of [redacted], which is slightly below the prediction in my March 2013 report [redacted]

IV. As a Result of Cablevision's Discriminatory Conduct, GSN Is Significantly Restrained in Its Ability to Compete for Advertisers, Viewers, Programmers, and MVPDs

93. GSN suffers many types of harm due to Cablevision's discriminatory policy, including forgone license fees, forgone advertising sales, the inability to secure other carriage agreements, and the inability to compete for advertisers and viewers. It is worth noting that my opinion on impairment appears to be consistent with the recent opinion of Chief Administrative Law Judge Sippel:

> Networks placed on the Sports Tier, are disadvantaged *vis-à-vis* the affiliation [sic] networks distributed on widely penetrated tiers. That is because license fees are calculated on a per subscriber basis and as a result, those networks receive less in license fees than if carried on broadly distributed tiers. Limited distribution also makes it more difficult for those networks to attract advertisers and compete for programming rights.[177]

Precisely for the reasons described in the quoted language, GSN is disadvantaged by Cablevision's conduct in the sense that it receives less in license fees, and it is harder for GSN to attract advertisers and compete for programming rights.

94. Cablevision's disparate treatment of a similarly situated independent network amounts to discrimination that inflicts harms on GSN to this day. Each month that passes without broad carriage on Cablevision, GSN incurs roughly [redacted] in forgone license fees. GSN also incurs a short-term monthly loss in advertising revenue in the New York-New Jersey-Connecticut area of [redacted]. Other ongoing harms to GSN that are harder to quantify include (a) impaired ability to secure other carriage agreements, (b) inability to compete for advertisers, and (c) inability to compete for viewers. For example, it is impossible for Cablevision Optimum Value, Silver, or Preferred viewers to gain a "taste" of GSN when it is available only on Optimum Gold; in contrast, the majority of Cablevision subscribers can gain

177. *Tennis Channel Initial Decision* ¶80; *Tennis Channel Order* ¶¶12, 21, 27.

experience with WE tv casually, as that network is available to them without the need to subscribe to a sports tier.[178]

A. Forgone License Fees

95. The most obvious harm inflicted by Cablevision's discriminatory carriage policy is GSN's forgone license fees. According to GSN's billing records, GSN lost approximately [redacted] in the first month after the tiering episode.[179] The decline in revenue means that GSN has less ability to invest in the network, including the acquisition of new programming.

B. Forgone Advertisements

96. Another source of harm attributable to Cablevision's discriminatory carriage is forgone advertising. GSN estimates that each subscriber accounts for, on average, [redacted] per year to advertising sales.[180] According to GSN, the loss of a subscriber would generate [redacted][181] Based on GSN's estimate, the short-term monthly loss in advertising revenues in the New York-New Jersey-Connecticut area is approximately [redacted]. That amounts to approximately [redacted] per year.

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178. Mr. Orszag asserts that there can be no harm from the re-tiering in light of the fact that GSN is growing along certain financial metrics. Orszag Rebuttal ¶¶ 6, 35. The relevant question is what would have happened to these (selected) metrics in the absence of Cablevision's discriminatory conduct. By this standard, Mr. Orszag would allow any cable operator to discriminate as long as the victim of its discrimination were still growing.

179. *See* GSN Exh. 176 [redacted].

180. GSN Exh. 1, *Goldhill Declaration*, ¶16.

181. *Id.*

C. Impaired Ability to Secure Other Carriage Arrangements

97. The effects of Cablevision's discrimination go beyond the number of subscribers that GSN and WE tv have on Cablevision's systems. Other VICOs carry WE tv on highly penetrated tiers (most likely pursuant to formal or informal reciprocal carriage arrangements[182]) and it is reasonable to conclude that Cablevision's decision to limit GSN's distribution might negatively influence the decisions of other cable operators with which GSN does business. For example, as news of the tiering episode permeates through the distributors, the press, and rival programming suppliers, the long-term value of a tiered network could be adversely affected. Consequently, Cablevision's broad carriage of WE tv combined with its narrow carriage of GSN could contribute to an even broader gap after all distributors are taken into account.[183] Indeed, [redacted][184] Not only would a tiering affect carriage decisions among other distributors, but according to WE tv, it also [redacted][185]

182. VICOs have been recognized to enter into reciprocal carriage agreements. *See* Jun-Seok Kang, *Reciprocal Carriage of Vertically Integrated Cable Networks*, Indiana University Working Paper (Aug. 30, 2005) at 18 ("The marginal effect of [an indicator variable for a local cable system that is not integrated with the start-up cable network in question but integrated with other cable networks] indicates that a vertically integrated cable system is approximately 4 percent points more likely than non-vertically integrated cable systems to carry the start-up basic cable networks of *other* MSOs.") (emphasis added). Moreover, Kang rejects the alternative hypothesis that a VICO has a general tendency to carry more cable networks generally, including those owned by other MSOs. *Id.* at 19 ("The estimated coefficients of [an indicator variable that the owner of cable system owns vertically integrated cable networks] and [the number of cable networks owned by the owner of a cable system] are not found to be positive and statistically significant in any model. The results thus support the reciprocal carriage hypothesis by indicating that a vertically integrated cable system is at least no more likely to carry non-vertically integrated independent cable networks than does a non-vertically integrated cable system.").

183. [redacted] GSN Exh. 303, Hopkins Supp. Testimony, ¶22.

184. GSN Exh. 10 [redacted]

185. GSN Exh. 165.

98. Assuming there is a reciprocal-carriage arrangement by which another VICO mimicked Cablevision's carriage choices with respect to independent networks,[186] such an arrangement would harm GSN on its face. But even assuming there are no such reciprocal-carriage agreements, there are at least two mechanisms by which Cablevision's carriage decision of GSN could influence the decision of other (non-overlapping) cable operators. *First*, another cable operator could cite to Cablevision's sports-tier carriage of GSN as a basis for similar treatment during a negotiation with GSN.[187] Because Cablevision is the nation's fifth largest cable operator, ninth largest MVPD,[188] and largest MVPD in the coveted New York DMA, Cablevision's carriage of an independent network could influence the decision of other cable operators. *Second*, suppose Cablevision and another cable operator (for example, Time Warner) operated in close geographic proximity in the New York DMA, and both competed against an overbuilder like Verizon within their respective footprints. In the absence of Cablevision's

186. Jun-Seok Kang, *Reciprocal Carriage of Vertically Integrated Cable Networks*, Indiana University Working Paper (Aug. 30, 2005) at 4 ("The rationale of the FCC is that MSOs have incentives to carry each others' vertically integrated cable networks; furthermore, such carriage behaviors will lead to the collective denial of non-vertically integrated independent start-up cable networks."). The record indicates that Cablevision [redacted] *See, e.g.*, Exh. 112 [redacted] ; GSN Exh. 9 [redacted] GSN Exh. 39; GSN Exh. 34 [redacted] GSN Exh. 28 [redacted] GSN Exh. 27 [redacted] *See* GSN Exh. 29 [redacted]

187. *Tennis Channel Initial Decision* ¶63 ("First, the distribution decisions of other MVPDs do not establish that Comcast Cable's carriage of Tennis Channel on the Sports Tier is a result of a legitimate, non-discriminatory business decision because Comcast Cable's distribution of Tennis Channel has an influence on the distribution decisions of other MVPDs. Substantial record evidence shows that MVPDs are influenced by the carriage decisions of other MVPDs. Thus, when one MVPD carries a network at a particular level of distribution…that makes it more likely that other MVPDs will carry the network at the same level of distribution."). *Tennis Channel Order* ¶¶19, 85.

188. National Cable & Telecommunications Association, "Top 25 Multichannel Video Programming Distributors as of June 2011," http://www.ncta.com/Stats/TopMSOs.aspx. *See also* GSN Exh. 232 (GSN CVC 168346).

conduct, Verizon could be compelled to carry GSN on a widely distributed tier, which in turn could compel Time Warner to follow in its overlapping territory with Verizon.

99. Finally, that there may be no evidence of a decline in the carriage of GSN by other MVPDs since Cablevision decision to tier GSN is not informative. Cablevision's repositioning of GSN happened relatively recently, and it is unrealistic to expect the rest of the industry to change its carriage arrangements overnight, particularly to the extent that those arrangements are covered by existing contracts with terms that expire over the course of a period of time. As GSN's contracts come up for renewal, however, other cable operators might consider Cablevision's tiering and use it to GSN's detriment in bargaining. [redacted][189]

D. Inability to Compete for Advertisers and Viewers

100. As a consequence of Cablevision's discriminatory tiering policy, GSN is restrained in its ability to compete effectively for viewers and advertisers. According to economic theory, Cablevision should be able to increase subscribership and advertising revenues for its own programming content by disadvantaging GSN. GSN and WE tv need not be perfect substitutes to generate these effects.

101. As long as GSN's footprint contains a hole in the coveted New York market, GSN is restrained in its ability to compete effectively for advertisers, many of which view coverage in the New York market [redacted][190] Indeed, economic research has shown that gaps in a network's coverage area

189. GSN Exh. 303, Hopkins Supp. Testimony, ¶22.

190. *Goldhill Declaration*, ¶17 [redacted]

have grave consequences for advertising revenues.[191] According to SNL Kagan, Cablevision supplied nearly [redacted] of all video subscribers in the New York DMA in the second quarter of 2011.[192] And the New York DMA accounts for between [redacted] of all television households in the United States.[193] Finally, [redacted][194]

102. Further, the impact of Cablevision's tiering appears to have been felt beyond the New York market. In particular, I analyzed the effect of Cablevision's tiering on an important subset of GSN's advertising sales that was vulnerable upfront and scatter sales. These "general rate" advertisements accounted for [redacted] of GSN's total advertising revenue from 2004 through the tiering date; the remainder was comprised of "direct response" ads, which require viewers to dial back the advertiser to consummate a purchase, and infomercials. Unlike its data for "direct response" advertising, which combines local and national sales prior to 2010,[195] I understand that GSN's data for "general rate" advertising sales include only national

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191. Chen & Waterman, *supra*, at 230 ("For an ad-supported basic cable network, moreover, cost-per-thousand advertising rates are known to be an increasing function of the network's national audience reach, and advertisers regard geographic gaps in the national audience coverage of a given network to be a serious disadvantage. In this case, strategic vertical foreclosure may thus compound a rival network's disadvantage in offering a competitive quality of programming") (citations omitted).

192. [redacted]

193. [redacted]

194. *See* GSN Exh. 24 [redacted] *See also* GSN Exh. 165, [redacted]

195. [redacted] *See also* GSN Exh. 174.

advertising accounts.[196] (GSN's data for infomercials include only national accounts as well.) If the tiering affected GSN's general-rate advertising sales in the New York DMA only, then one would expect GSN's general-rate advertising to decline by at most [redacted] after the tiering. But the actual decline in general-rate advertising attributable to tiering appears to be much larger [redacted][197]

103. To estimate the impact of the tiering on GSN's general-rate advertising revenues, I estimated a regression model, which controls for quarterly effects, a time trend (linear and squared), growth of gross domestic product (GDP), and GSN's all-day household television national ratings.[198] The model was fit to 34 quarters of data through the second quarter 2012. The in-sample predictive power of the model is very high; the model explains [redacted] of the variation in GSN's general-rate advertising over this time horizon. As expected, [redacted]. Table 9 shows the results.

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196. I am therefore limited in my ability to estimate whether the tiering affected GSN's national, direct-response advertising sales. The tiering likely did not affect local, direct-response advertising sales outside of the New York DMA.

197. That GSN's average advertising rates [redacted] is not evidence of the lack of harm from the tiering, as suggested by Mr. Orszag. The relevant question is not whether GSN's ad rates went up (or down), but rather whether they would have gone up by more *but for the tiering*. When constructing a damages model, an economist must construct the relevant benchmark; the pre-tiering period does not serve as the proper benchmark because other factors that influence GSN's advertising rates have changed. By the same logic, that GSN's cash flow margins, income from operations, affiliated fee revenue, or net advertising revenue increased from 2010 to 2011 is not proof of lack of harm. *Orszag Report*, ¶¶146-47. For example, total advertising revenue is a function of many things not affected by the tiering, including local advertising sales outside of New York; this is why I focused on national general-rate sales. Under Mr. Orszag's test, no growing or profitable network could ever bring a discrimination claim; only networks that limp into the Commission would be eligible for protection from discrimination.

198. To control for the Gambling Control Commission's June 2011 investigation of certain online poker websites—some of which were significant purchasers of general-rate advertising on GSN—I exclude all advertising revenues related to poker throughout the entire time series. As it turns out, there were no poker-related advertisers in GSN's ad database after the third quarter of 2011.

TABLE 9: REGRESSION RESULTS - GSN GENERAL RATE (UPFRONT & SCATTER) QUARTERLY ADVERTISING SALES, 1Q 2004 3Q 2012

Explanatory Variable	Coefficient	p-value
Tiering Dummy	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Note: * for p<.05, ** for p<.01, and *** for p<.001.

[redacted]

As Table 9 shows, the coefficient on the tiering variable is [redacted] and statistically significant at the five-percent level (the p-value is slightly over one percent, implying that it is almost significant at the one percent level). This result demonstrates that, controlling for other things that affect GSN's general-rate advertising, Cablevision's tiering is associated with a [redacted]. This result is robust to changes in regression specification.[199] The same result is obtained in an analysis of GSN's combined generate-rate advertising and infomercials (which are also sold nationally),[200] and the combined results are

199. For example, I used alternative measures of ratings from specific DMAs such as Philadelphia and Los Angeles.

200. The coefficient on the tiering dummy in the combined regression is equal to [redacted] and is significant at the one-percent level.

also robust to changes in specifications. Although it possible that GSN's direct-response advertising [redacted] [201] [202]

104. Finally, because of Cablevision's discriminatory carriage of GSN, the network also is restrained in its ability to compete effectively for viewers; cable programming is an "experience good"[203] that can best be learned about while surfing the channels. It is impossible to gain that experience if a network is available only on a sports tier, to which a consumer must affirmatively subscribe. In contrast, Cablevision subscribers can gain experience with WE tv casually, as that network is available to them without the need to subscribe to a sports tier.

105. This discussion is not mean to suggest that all coverage gaps are debilitating to an independent network, as that is the wrong benchmark. As Judge Sippel explained in his recent decision:

201. Based on Feb. 21, 2013 conversation with Donna Vecchio and Marla Donna, directors of advertising pricing and planning at GSN.

202. Mr. Orszag claims that GSN's advertising rates (measured in CPM) increased by about [redacted] percent between 2010 (the year before GSN's tiering) and 2012 (the year after GSN tiering). Orszag Rebuttal Report, Dec. 15, 2014, ¶ 35. This finding does not control for the effect of the tiering, by for example, comparing the rate of increase in GSN's CPM before and after the tiering episode. In any event, because advertising sales is the product of rates and units sold, that GSN's rates (and industry rates) may have increased over this time period does not undermine my finding that GSN's general rate advertising sales declined as a result of the tiering.

203. The idea of "experience goods" dates back to a 1970 paper showing that it was more difficult to determine utility associated with quality than with price and that certain goods must be used before such a determination can be made. *See* Philip Nelson, "Information and Consumer Behavior," 78 *J. Pol. Econ.* 311 (1970). Since then, experience goods have been formalized to be goods for which consumers do not know their preferences before consumption. This concept has been applied to a variety of industries, most notably retail goods including electronics, appliances, clothing, food, and toys. *See* Yeon-Koo Che, "Customer Return Policies for Experience Goods," 44 *J. Ind. Econ.* 17, 18 (1996); Douglas Gale & Robert Rosenthal, "Price and Quality Cycles for Experience Goods," 25 *Rand J. Econ.* 590 (1994); Carl Shapiro, "Optimal Pricing of Experience Goods," 14 *Bell J. Econ.*, 497 (1983).

> [I]t is not necessary for a network to show that its very survival is imperiled in order to satisfy its burden of showing that an MVPD's actions favoring affiliated networks had unreasonably restrained its ability to compete fairly.[204]

Thus, the relevant benchmark is GSN's performance in a world without the challenged conduct; here, it is clear that GSN has been impaired due to significant subscriber losses in New York and based on a broader negative impact on its performance in terms of advertising revenues.[205]

E. As a Dominant Distributor in the New York Market, Cablevision Has the Ability to Harm an Independent Network In Its Coverage Area and Beyond

106. The economic harm flowing from discrimination by a VICO could manifest itself in ways other than short-run price or output effects, which are the traditional aims of antitrust enforcement.[206] For example, knowing that it must surrender its equity to a cable operator to secure carriage, an independent network might abandon its plans to enter the programming industry altogether, or be less inclined to make certain investments in programming or innovate in other ways. To borrow an example from labor economics, society does not give employers a license to discriminate so long as there is no evidence of wage effects. From a policy perspective, discrimination is offensive not because it generates short-term price effects, but because it deprives candidates of an opportunity to prosper on the basis of some attribute outside of their control.

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204. *Tennis Channel Initial Decision* ¶92.

205. Mr. Orszag mischaracterizes my prior testimony in NFL. I never testified that that a firm must be foreclosed from 20 percent of a market for an action to be "presumptively anticompetitive." Rather, I was reciting the relevant foreclosure thresholds from the antitrust literature, which are more rigorous than the thresholds needed to show competitor harm. That those higher thresholds for consumer harm were met in NFL and are not met here is irrelevant. Similarly, Mr. Orszag claims that a "fair reading" of my Tennis Channel testimony implies that networks with more than 40 million subscribers are immunized from harm. I said no such thing. Rather, I noted that dropping below 40 million subscribers (from a tiering episode) was more debilitating for a network, all things equal. It might be the case that losing access to customers in the coveted New York market with a subscriber base of less than 40 million is more debilitating than losing access to those customers with a subscribership base of more than 40 million. But that does not imply that GSN suffered no impairment.

206. *See*, e.g., TIM WU, MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES (Vintage 2012) (explaining that modern antitrust law is ill-equipped to contain the "special case" of concentrated power over and vertical integration of the creation and delivery of information).

107. Notwithstanding the shortfalls of narrowly judging carriage discrimination through an antitrust lens, an assessment of Cablevision's market power may nonetheless inform whether a VICO is predisposed to discriminate against an independent network for reasons unrelated to efficiencies.[207]

108. Any decision to discriminate in favor of an affiliated network (or against a similarly situated, independent network) is a local one, and the decision is informed, at least in part, by the VICO's degree of market power in the local distribution market.[208] The FCC has previously acknowledged the importance of local market analysis. For example the FCC adopted a local market test developed by Professor Austan Goolsbee[209] to show that the degree of

207. Mr. Orszag incorrectly suggests that market power can only mean power over price. Orszag Rebuttal ¶ 32 ("But Dr. Singer fails to show that his "market power" analysis or "ability to engage profitably in substantial and sustained supra-competitive pricing" has any bearing on the incentives to engage in discriminatory conduct."). In addition to raising price over competitive levels, market power also means the ability to restrict output or the ability to exclude rivals. *See, e.g.*, LUÍS M. B. CABRAL, INTRODUCTION TO INDUSTRIAL ORGANIZATION 6–11 (2000). A firm may have the ability to exclude rivals due to its power over consumers. *See* US v. Microsoft 253 F.3d. 34, 55 (D.C. Cir. 2001) (en banc) (considering Microsoft's predominant market share, including consumers' preference for Microsoft's dominant operating system, in finding monopoly power).

208. It bears noting that the largest cable operator that existed at the time of the Cable Act's passage, TCI, controlled only 18 percent of all video households nationwide, suggesting that any concern over "bottleneck control" must be at the local level or within the cable operator's local footprint. *See* FCC, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 96-133, Third Annual Report (rel. Jan. 2, 1997) (hereinafter *Third Annual MVPD Report*), *available at* http://transition.fcc.gov/Bureaus/Cable/Reports/fcc96496.txt.

209. The FCC adopted Professor Goolsbee's analysis in its order approving Comcast's acquisition of NBCU. *See In the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. For Consent to Assign Licenses and Transfer Control of Licensees*, Memorandum Opinion and Order, MB Docket No. 10-56 (rel. Jan. 20, 2011), ¶ 70. Mr. Orszag argues that my model is inconsistent with the Goolsbee paper, which considered DBS share (percentage of subscribers who purchase DBS service) in a DMA as an explanatory factor for network carriage. Orszag Rebuttal n. 55. Of course, because households do not subscribe to both cable and DBS, the DBS share will increase as the incumbent cable operator's share falls in the DMA. Goolsbee showed that once the DBS share is sufficiently high—that is, once the incumbent cable operator's share is sufficiently low—the cost of discriminating increases.

favoritism afforded by a VICO to its affiliated network in a given local area increases with the operator's market share in the local downstream distribution market.[210]

109. For this reason, I assess Cablevision's market power in the supply of video programming in the New York metropolitan area. Cablevision's presence in the New York metropolitan area makes it the fifth largest MVPD in the United States by both subscribership and number of households with access to its cable infrastructure ("homes passed").[211] I conclude that Cablevision has sufficient market power to give rise to the discriminatory impulse identified by Professor Goolsbee.[212] I take no position as to whether Cablevision has the requisite market power to generate anticompetitive effects. I conclude by explaining how Cablevision's market power in New York allows it to inflict harm on GSN nationally.

110. Market power can be inferred by evidence that Cablevision has a large share of the market for video programming in the New York metropolitan area, and that potential

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210. Professor Goolsbee's model is predicated on the notion that in local markets where the VICO faces increased downstream competition from satellite and telephone providers, the VICO can less afford to overtly favor its own networks; in other words, if the observed favoritism decreases as the VICO's local market share decreases, then the favoritism is less likely motivated by efficiency reasons. *See* Austan Goolsbee, Vertical Integration and the Market for Broadcast and Cable Television Programming, FCC Media Ownership Study (2007) at 2 ("Looking at decisions of cable systems regarding what channels to carry shows that carriage rates for vertically integrated channels are higher on systems that own the given network *but only in places where there is not much competition from DBS*. This suggests, potentially, a problem for an efficiency based explanation for the behavior.") (emphasis added);. *id.* at 29 ("For those nine [vertically integrated networks], the interaction of vertical integration with the DBS share has a significant negative coefficient. This evidence suggests, perhaps, an explanation rooted in competitive pressures rather than efficiencies.").

211. See SNL Kagan, Top Cable MSOs 12/12Q. Cablevision acquired a presence in the western United States in 2010 upon its acquisition of Bresnan Communications, but predominantly serves the New York metropolitan area. As of 2012 Cablevision passed approximately 4,979,000 homes in the New York metropolitan area and 667,000 homes in Montana, Wyoming, Colorado, and Utah combined. In the same year it had 2,893,000 video subscribers in the New York metropolitan area and 304,000 customers in Montana, Wyoming, Colorado, and Utah combined. *See* CABLEVISION SYSTEMS CORP. SEC FORM 10-K (filed February 28, 2013) at 3.

212. In his paper, Professor Goolsbee estimated the critical market share of rivals within a geographic area needed for a VICO not to discriminate *in favor of* its affiliated network, including not to favor WE tv vis-à-vis a non-VICO. Goolsbee, *supra*, at 49 (Table 12K). He did not estimate the critical share for a VICO not to discriminate *against* a similarly situated, independent network. Although the two measures of the critical share are related in theory, there are not necessarily the same in magnitude. *See* Singer Dep., Mar. 6, 2015, at 457-60.

competitors in that market face significant barriers to timely entry. As recently as 2011, the Department of Justice noted that "[t]he incumbent cable companies often dominate any particular market and typically hold well over 50 percent market shares within their franchise."[213] The DOJ and the FCC typically choose relevant geographic markets to be local when they analyze MVPD service, because "consumers make decisions based on the MVPD choices available to them at their residences and are unlikely to change residences to avoid a small but significant increase in the price of MVPD service."[214] Indeed, upon passage of the 1992 Cable Act, which was written in part to "ensure that cable television operators do not have undue market power vis-à-vis video programmers and consumers,"[215] cable incumbents' *national* market share was not of concern; the largest MVPD at the time (TCI) controlled only 18 percent of the national cable market.[216] Rather, the concern was *local*, as effective competition was assessed at the franchise level.[217]

213. *See* DOJ, *Competitive Impact Statement*, U.S. *et al.* v. Comcast, *et al.*, Case No. 1:11-cv-00106 (D.D.C. Jan. 18, 2011) [*hereinafter DOJ Comcast Statement*] at 14.

214. *Id.* at 13 ("A consumer purchasing video programming distribution services selects from those distributors offering such services directly to that consumer's home. The DBS operators... can reach almost any consumer.... However, wireline cable distributors... generally must obtain a franchise from local or state authorities to construct and operate a wireline network in a specific area, and can build lines only to the homes in that area.... Consequently, although the set of video programming distributors able to offer service to individual consumers' residences generally is the same within each local community, that set differs from one local community to another and can even vary within a local community. The markets for video programming distribution therefore are local."). *See also FCC Adelphia Order, supra,* at ¶ 64 ("In the past, the Commission has concluded that the relevant geographic market for MVPD services is local because consumers make decisions based on the MVPD choices available to them at their residences and are unlikely to change residences to avoid a small but significant increase in the price of MVPD service.... We find it appropriate to continue this approach here. Because the major MVPD competitors in most areas are the local cable operator and the two DBS providers, and consistent with the Commission's approach in prior license transfer proceedings, we find that the franchise area of the local cable operator is the relevant geographic market for purposes of this analysis.").

215. *See* Cable Television Consumer Protection and Competition Act of 1992, 106 Stat. 1463, October 5, 1992.

216. *See Third Annual MVPD Report*.

217. *See* Cable Television Consumer Protection and Competition Act of 1992, 106 Stat. 1488, October 5, 1992 ("...the Commission shall, among other public interest objectives...take particular account of the market structure, ownership patterns, and other relationships of the cable television industry, including the nature and market power of the *local* franchise...") (emphasis added).

Rule 801

Several filings in the Comcast-Time Warner Cable proceeding this year emphasize that local markets are the relevant geographic market for studying competitive effects.[218]

111. Cablevision's video penetration, or the number of video customers divided by the number of homes passed, provides a starting point from which market share can be inferred. This measure may be thought of as the lower bound to Cablevision's video market share because some households passed by its cable infrastructure forgo video services altogether or receive television over the air ("OTA"). Cablevision reported 58.1 percent video penetration in 2012.[219] SNL reports that within the New York DMA,[220] about two percent of households forgo television programming altogether, and about three percent of households receive programming OTA. Applying these percentages to Cablevision's New York footprint allows me to infer a market share of approximately 61.4 percent.[221] Indeed, Cablevision arrives at a similar number

Rule 801

218. *See* Comments of American Cable Association, MB Docket No. 14-57 (Aug. 25, 2014), at 37 ("After its acquisition of TWC, Comcast will have a greater degree of control in all aspects of the spot cable advertising market, including the NCC, Interconnects, and representation services. For example, in the New York DMA, the largest media market in the country, today there are two Interconnects, a 'quasi-interconnect' managed by Cablevision that includes Comcast, and an Interconnect managed by TWC."); Comments of Tennis Channel, MB Docket No. 14-57 (Aug. 25, 2014), at 15-16 ("Second, post-merger, Comcast would have the ability to prevent rival programmers from reaching TWC's and Charter's existing subscribers in the New York City and Los Angeles markets, which are disproportionately important to cable networks for purposes of attracting advertisers and satisfying content rights holders assessing potential licensees.").

219. *See* Cablevision SEC Form 10-K (filed Feb. 28, 2013) at 3.

220. DMA stands for "designated market area" which is a geographic area of counties designated by Nielsen Media Research. *See* Nielsen Media Research, Glossary of Terms, *available at* http://www.nielsenmedia.com/glossary/terms/D/ (accessed April 29, 2013). Because this is not an antitrust case, I have no obligation to define relevant geographic markets. By measuring Cablevision's share in the DMA, however, I have implicitly defined a relevant geographic market. Nor do I have any obligation to conduct a small-but-significant-and-non-transitory increase in price ("SSNIP") test to determine the relevant product market. *See* Orszag Dep., Mar. 12, 2015, at 182 (Q. If you were to look at the relevant market for measuring Cablevision's market position for purposes of this case, how would you do so? A. I'd use -- I'd use a SSNIP test."). *Id.* at 51 ("And I repeat Dr. Singer's discussion where he claims, quote, market power without having engaged in an analysis of relevant market, which, as a matter of economics, is deeply flawed.").

221. Because DMAs are not delimited with regard to cable infrastructure, the New York DMA overlaps largely but does not entirely coincide with Cablevision's footprint. I therefore assume that the percentage OTA households and Non-TV households are roughly the same in Cablevision's footprint as they are in the New York

using the same calculation.[222] Relative to the New York DMA, which is covered by other cable operators such as Time Warner Cable, the relevant foreclosure share is roughly 40.3 percent (equal to [redacted] Cablevision video subscribers in the New York Metropolitan area in 2012[223] divided by 7.16 million MVPD subs in the New York DMA in 2012[224]).

112. Because market power is the ability to engage profitably in substantial and sustained supra-competitive pricing, a finding of high market share combined with evidence of barriers to entry supports a conclusion of market power. In the absence of such barriers, a price increase above the competitive level may invite entry sufficient to make that price increase unprofitable. Federal agencies, economic literature, and actual experience in the New York metropolitan area demonstrate significant barriers to rivals' entry in a fashion timely enough to allow Cablevision supra-competitive pricing flexibility.

113. Significant barriers to entry of a wireline competitor, including cable overbuilders and telcos, exist in the New York market for video programming, where Cablevision enjoys a high market share. This is highlighted by the fact that in the majority of communities that it serves, Cablevision faces *no* wireline competitors (57 percent): SNL reported that in 2012, cable overbuilders only accounted for 1.5 percent of video programming subscribers in the New York DMA.[225]

DMA. *See also* GSN Exh. 231, GSN-CVC-00168345 [redacted]

222. GSN Exh. 103, CV-GSN 0427070.

223. *See* Cablevision SEC Form 10-K (filed Feb. 28, 2013) at 3.

224. *See also* Robin Flynn, *U.S. Multichannel Subscriber Update and Programming Cost Analysis*, SNL Kagan (June 2013), *available at* http://go.snl.com/rs/snlfinanciallc/images/SNL-Kagan-US-Multichannel-Subscriber-Update-Programming-Cost-Analysis.pdf.

225. SNL Kagan, New York Market Profile, Video Subscribers 2012Q4, *available at* http://www.snl.com/InteractiveX/BriefingBook/TvMarket/VideoSubscribers.aspx?id=1 (accessed May 15, 2013).

114. These barriers come in many forms. For example, physical barriers to entry in the form of large fixed costs exist in the New York market for video programming. These fixed costs, which are incurred for any level of production, imply that the provision of MVPD services is characterized by economies of scale.[226] The cable franchise process presents a legal barrier to entry.[227] Another barrier is presented when an MVPD is vertically integrated with must-have programming, such as Cablevision's long-running affiliation with the MSG networks.[228]

115. The evidence presented above shows that Cablevision maintains a large share of the market for video programming in New York 61 percent within its footprint and 40 percent within the DMA and that potential competitors in that market face significant barriers to timely entry. Successful entry into the market requires massive capital expenditure in infrastructure, dealing with legal barriers, and involves the threat of potential programming carriage disputes or

226. As the American Bar Association explained in its treatise on antitrust in telecommunications markets, "Any operator must build the grid, and, once that is done, the cost of adding another subscriber by connecting the grid to his home is relatively small." *See* AMERICAN BAR ASSOCIATION SECTION OF ANTITRUST LAW, TELECOM ANTITRUST HANDBOOK 97 (American Bar Association 2005).

227. *DOJ Comcast Statement*, *supra*, at 13 ("However, wireline cable distributors, such as Comcast and Verizon, generally must obtain a franchise from local or state authorities to construct and operate a wireline network in a specific area, and can build lines only to the homes in that area."). Legal impediments such as patents and franchises have long been recognized by economists as barriers to entry. *See, e.g.*, CARLTON & PERLOFF at 77 (recognizing that "a good example of a long-run barrier to entry is a patent."). *See also* Ex Parte Submission of the Department of Justice, MB Docket No. 05-311, *available at* http://www.usdoj.gov/atr/public/comments/216098.htm. For example, the Department of Justice noted that the franchise system "may be unreasonably slowing or blocking the deployment of competitive services by allowing unreasonable delays in the franchising process and by imposing unnecessary costs upon new entrants." *See* Ex Parte Submission of the Department of Justice, MB Docket No. 05-311, *available at* http://www.usdoj.gov/atr/public/comments/216098.htm.

228. Cablevision has repeatedly demonstrated its ability to deny such programming to its distribution rivals, making those distributors vulnerable to defection from customers seeking that "must-have" content. As an integrated entity, Cablevision may also face the incentive and ability to extract wholesale fees in excess of what an independent content provider would charge, thereby raising a rival's costs. *See* Kevin W. Caves, Chris Holt & Hal Singer, *Vertical Integration in Multichannel Television Markets: A Study of Regional Sports Networks*, 12(1) REVIEW OF NETWORK ECONOMICS 61-92 (2013) ("[W]e find that, all else equal, when an RSN is owned by a cable or satellite operator, the RSN charges rival distributors a significantly higher license fee."); *In the Matter of Applications of Comcast Corporation, Gen eral Electric Company and NBC Universal, Inc., For Consent to Assign Licenses and Transfer Control of Licensees*, Memorandum Opinion and Order, MB Docket No. 10-56 (rel. Jan. 20, 2011), Appendix B, at 37.

burdensome programming costs. Cablevision's maintenance of its position as the dominant MVPD in the New York market, combined with numerous barriers to entry, implies that it has market power. And Cablevision may use that market power to engender significant foreclosure of independent networks in New York.

116. Not only is Cablevision's footprint sufficiently large to engender significant foreclosure in New York, because of New York's unique role in the U.S. media market, Cablevision has the ability to impair GSN nationally. GSN suffers many types of harm due to Cablevision's discriminatory policy, including forgone license fees, forgone advertisements, the inability to secure other carriage agreements, and the inability to compete for advertisers and viewers. I have described these harms in great detail in my original testimony. As long as GSN's footprint contains a hole in the coveted New York market, GSN is restrained in its ability to compete effectively for advertisers. I also demonstrated empirically that the impact of Cablevision's re-tiering appears to have been felt beyond the New York market. In particular, I found a significant decline in GSN's general-rate advertising attributable to tiering, and I explained why GSN's advertising inventory would have been valued higher had it sold at general rates.

CONCLUSION

117. Based on the data I have reviewed to date, I conclude that Cablevision's refusal to carry GSN on a highly penetrated tier on Cablevision's cable systems likely constitutes discrimination based on affiliation. I also conclude that Cablevision's conduct has impaired GSN's ability to compete vis-à-vis Cablevision's affiliated, women's programming networks for programming, advertisers, viewers, and multi-channel video programming distributors.

* * *

I declare under penalty of perjury that, to the best of my knowledge and belief, the foregoing is true and correct. Executed on June 2, 2015.

Hal J. Singer

APPENDIX 1: CURRICULUM VITAE

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THE JOHNS HOPKINS UNIVERSITY, ECONOMICS DEPARTMENT, Baltimore: Teaching Assistant, 1996-98.

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Journal of Competition Law and Economics

Journal of Risk Management and Insurance Review

Journal of Regulatory Economics

Managerial and Decision Economics

Telecommunications Policy

APPENDIX 2: CORRECTIONS TO MR. ORSZAG'S "DIRECT TEST"

1. To conduct his "direct test" of substitution from GSN to WE tv, Mr. Orszag employed the following regression model:

$$WetvShare_{2011} = \beta_0 + \beta_1 WetvShare_{2010} + \beta_2 WetvDuration_{2010} + \beta_3 TotalDuration_{2010} + \beta_4 GSNShare_{2010}$$
$$... + \beta_5 SportsTier_{2010} + \beta_6 AddedAfter2007 + \beta_7 GSN_{2011} * GSNShare_{2010} + \beta_8 WetvDurationPositive_{2010}$$
$$... + ServiceTierFixedEffects_{2010} + ServiceTierFixedEffects_{2011} + \varepsilon$$

2. The dependent variable in Mr. Orszag's model is the WE tv monthly household viewership share as of April 2011, or $WEtvShare_{2011}$. The model attempts to explain WE tv viewership in 2011 as a function of several variables, including the household's monthly GSN viewership share as of April 2010 (denoted $GSNShare_{2010}$), and an interaction term ($GSN_{2011}*GSNShare_{2010}$). The interaction term is the product of $GSNShare_{2010}$ and an indicator for whether the household received GSN in April 2011 (denoted GSN_{2011}). Mr. Orszag uses the interaction term to interpret the results of [redacted] The interaction term divides households into the treatment group and the treatment group. The interaction term measures the extent to which WE tv viewership after the tiering differs between households in the control group and the treatment group, after controlling for other factors.[229]

3. Even within the confines of his own (flawed) regression model, Mr. Orszag's results suggest that GSN's tiering induced even some households in the treatment group to increase their viewership of WE tv in 2011 (despite the likelihood that such households are non-GSN Loyalists).[230] Mr. Orszag incorrectly characterizes this result as indicating that the effect of

229. Specifically, a negative coefficient on the interaction term would indicate that We tv viewership after the tiering was lower for households in the control group than for households in the treatment group, which would indicate a propensity to substitute from GSN to We tv. To reiterate, such substitution could only occur among the treatment group, which is disproportionately comprised of non-GSN Loyalists.

230. [redacted]

Cablevision's tiering on WE tv viewership is "negligible from an economic perspective."[231] Mr. Orszag reaches this conclusion because his model suggests that the tiering of GSN increased WE tv's average share of household viewership by approximately [redacted] or about [redacted] per household per day (or approximately [redacted] per household in the treatment group). But note that households in the treatment group viewed only about [redacted] (equal to [redacted] of average GSN viewership in April 2010 by the treatment group divided by 30 days) of GSN programming per household per day before the tiering. Thus, Mr. Orszag's model suggests that even households in the treatment group, with relatively modest preferences for GSN, transferred roughly [redacted] (equal to [redacted] per household in the treatment group divided by the product of [redacted] of average GSN viewership and [redacted]) of their viewing from GSN to WE tv after the tiering.

4. In April 2011, the average household in Mr. Orszag's control group viewed approximately [redacted] of GSN, and approximately [redacted] of WE tv. If households in the control group had been exposed to the tiering, and if they had transferred just [redacted] of their viewing from GSN to WE tv as a result, then WE tv viewership for the control group would have increased by approximately [redacted] in 2011, from approximately [redacted] to approximately [redacted] (equal to [redacted] of WE tv viewership in April 2011 plus the product of one percent and [redacted] of GSN viewership in April 2011 by the control group). Of course, had they been exposed to the tiering, households in the control group likely would have transferred a higher percentage of their viewing hours to WE tv, given their revealed preferences for programming such as GSN. For

231. *Orszag Report*, ¶29. Although Mr. Orszag suggests this lift was [redacted], WE tv's lift from the tiering ranked [redacted] among 87 networks, suggesting that the two networks are relatively close from the perspective of viewers.

example, if viewers in Mr. Orszag's control group had transferred just [redacted] of their GSN viewership to WE tv, then WE tv viewership among these households would have increased by approximately [redacted]

5. Setting aside the fundamental problem of self-selection into the control group, Mr. Orszag's regression specification also contains explanatory variables that are potentially correlated with unobserved household-specific characteristics, and are therefore potentially "endogenous" to the regression equation. The classic example of endogeneity is the use of prices to predict quantities purchased; if prices themselves are influenced by quantities purchased (a phenomenon known as "simultaneity"), then the true relationship between prices and quantities cannot be estimated using standard regression techniques.[232] The endogeneity here arises because Mr. Orszag [redacted] To the extent that unobserved, household-specific factors determined households' WE tv viewership shares in both 2010 and 2011, the explanatory variable $WEtvShare_{2010}$ is endogenous to the regression equation. The same logic applies to the explanatory variable $WEtvDurationPos_{2010}$, which indicates whether the household viewed any amount of WE tv in 2010, as well as $WetvDuration_{2010}$, which measures each household's 2010 duration of We tv viewing (in minutes).

6. To illustrate the potential effects of endogeneity, [redacted]

232. One of the fundamental assumptions of ordinary least square (OLS) regression is that the errors in the regression have conditional means—that is, means given information about the independent variables—of zero. One immediate consequence of this assumption is the independent variables are uncorrelated with the errors. When this assumption is violated, the OLS estimates are biased.

[redacted]

233. Applying Mr. Orszag's calculation method, the specification in column (2) suggests that the tiering of GSN increased WE tv's average share of household viewership by approximately [redacted] percentage points, or about [redacted] per household per day, equal to approximately [redacted] per household in the treatment group. This implies that households in the treatment group transferred approximately [redacted] of their GSN viewing to WE tv as a result of the tiering. If households in the control group had transferred the same percentage, then WE tv viewership within the control group would have increased by approximately [redacted].

234. That there was only one chance in a thousand this result could have happened by coincidence implies a 0.1 percent level of statistical significance. For many applications, the level of statistical significance of five or ten percent is chosen by convention.

TABLE A-1: MODIFICATIONS TO MR. ORSZAG'S MODEL

Dependent Variable	(1) ***$WetvShare_{2011}$*** **[Orszag]**	(2) ***$WetvShare_{2011}$*** **[Singer]**	(3) ***$WetvShare_{2011}$*** **[Singer]**	(4) ***$\Delta WetvShare$*** **[Singer]**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Note: *p*-values reported below coefficient estimates, based on robust standard errors. Stars (*) represent significance thresholds: * for p<.10, ** for p<.05, and *** for p<0.01. Coefficients on fixed effects suppressed.

In the fourth column of Table A-1, I estimate a modified version of Mr. Orszag's model, in which the dependent variable is set equal to the *change* in a household's viewership share of WE tv from 2010 to 2011 (denoted Δ*WetvShare*). In addition, I included a new independent variable equal to the change in GSN viewership from 2010 to 2011 (denoted Δ*GSNShare*). The modified model includes all of the control variables that Mr. Orszag included in his own model. In addition, I allow the indicator variable GSN_{2011} to enter separately in the model. This allows the household's predicted change in WE tv viewership from 2010 to 2011 to differ between households in the "control group" and those in the "treatment group."

7. The coefficient of interest in column four is the coefficient on $\Delta GSNShare$, which measures the extent to which a decrease in GSN viewership after the tiering is statistically associated with an increase in WE tv viewership, after controlling for all other factors. Because the dependent variable is now measured as the household-specific *change* in We tv viewership, the results cannot be informed by (potentially endogenous) unobserved household-specific characteristics that remain fixed over time.

8. As seen in Table A-1, the corrected model explains [redacted][235] It bears noting, however, that even these "corrected" specifications are incapable of identifying the relevant substitution patterns, given that we do not observe how households in the "control" group (with strong preferences for GSN) would have responded when deprived of GSN access.

235. The specification in column (4) suggests that WE tv viewership would have been approximately [redacted] higher if all households' GSN viewership shares had fallen to zero in 2011, relative to a world in which all households' GSN viewership shares remained constant from 2010 to 2011.

APPENDIX 3: CORRECTIONS TO MR. ORSZAG'S PREDICTION MODELS FOR S&E ADDITIONS AND CHURN

1. In this section, I demonstrate how Mr. Orszag's S&E additions and churn models, once corrected for technical deficiencies, imply that Cablevision may have incurred a loss from tiering GSN.

A. Incremental S&E Subscriptions

2. In Appendix G of his report, Mr. Orszag [redacted]

[redacted]

[redacted] Based on the difference between these two predicted probabilities, Mr. Orszag estimates that approximately [redacted] S&E tier subscribers could be attributed to the tiering of GSN.[236]

3. The fundamental problem with Mr. Orszag's analysis is that Cablevision [redacted] Accordingly, Mr. Orszag's analysis cannot be used to infer (as he does) that GSN's tiering yielded an additional [redacted] S&E tier subscribers: [redacted], this figure presumably would have been substantially lower. Yet Mr. Orszag makes no attempt to account for [redacted] even though Cablevision recorded [redacted][237]

4. Even setting this problem aside, Mr. Orszag's model substantially overestimates incremental S&E subscribership attributable to S&E's tiering. Specifically, Mr. Orszag's [redacted].[238] In addition, Mr. Orszag [redacted][239]

5. In Table A-2 below, I present modified versions of Mr. Orszag's model. Column (1) reproduces the results from Mr. Orszag's specification. In column (2), I replace $GSN \geq 1hr_{2010}$ with $GSNDur_{2010}$, which measures the duration (in minutes) of the household's GSN viewership in April 2010. In column (3), I replace $GSN \geq 1hr_{2010}$ with $GSNShare_{2010}$, which measures the

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236. [redacted]

237. GSN Exh. 182.

238. Mr. Orszag [redacted] *See* [redacted]

239. [redacted]

household's monthly GSN viewership share in April 2010. In both columns (2) and (3), I also include service tier fixed effects for 2011.

TABLE A-2: MODIFICATIONS TO MR. ORSZAG'S MODEL OF 2011 S&E SUBSCRIBERSHIP

Explanatory Variable	**(1)** $Pr(S\&E_{2011})$ **[Orszag]**	**(2)** $Pr(S\&E_{2011})$ **[Singer]**	**(3)** $Pr(S\&E_{2011})$ **[Singer]**
GSN_{2010}	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Note: *p*-values reported below coefficient estimates, based on robust standard errors. Stars (*) represent significance thresholds: * for p<.10, ** for p<.05, and *** for p<0.01. Coefficients on fixed effects suppressed.

As seen in the Table, the modified models have "goodness of fit" values (as measured by the pseudo R-squared) of [redacted] versus [redacted] for Mr. Orszag's specification. In addition, the coefficients on those variables that are included in all three of the models (such as GSN_{2010}) are [redacted] Most significantly, for each of the two modified models, I computed the predicted increase in S&E tier subscribership that is attributable to the tiering, following the same method employed by Mr. Orszag. Thus, for column (2), I compared the predicted probability of S&E subscribership based on each household's actual characteristics, and also based on the counterfactual assumption that each household had not viewed any GSN in 2010 (*i.e.*, setting $GSNDur_{2010}$ and $GSNDur_{2010}*SportsTier_{2010}$ equal to zero for all households). Based on the difference between these two predictions, I estimated the number of incremental S&E subscriptions that can be attributed to GSN's tiering, again following Mr. Orszag's method of calculation. I repeated the same process for column (3), this time employing a counterfactual in which each household's GSN viewership share is set equal to zero in 2010.

6. The final row of the table indicates that the predicted increase in S&E subscribership is [redacted]: Regardless of whether GSN viewership is denominated in minutes or in viewership share, the results in columns (2) and (3) indicate that GSN's tiering is predicted to [redacted] to the S&E tier by only about [redacted], relative to the [redacted] predicted by Mr. Orszag. These results indicate that GSN's tiering caused [redacted] to migrate to the S&E tier than would be suggested by Mr. Orszag's specification. Moreover, that Cablevision [redacted] suggests that virtually all of the incremental S&E subscribership that Mr. Orszag's methodology would mistakenly attribute to GSN's tiering was, in reality, [redacted]

B. Customer Churn

7. In Appendix F of his report, Mr. Orszag [redacted]. Accordingly, Mr. Orszag opines that [redacted][241]

8. Mr. Orszag's analysis of customer churn is fundamentally contaminated, given that Cablevision [redacted] This implies that the very subscribers who revealed the strongest preferences for GSN and therefore would have

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240. Mr. Orszag's report actually indicates [redacted] *See* [redacted]

241. [redacted]

been most likely to churn in its [redacted]. This source of bias calls Mr. Orszag's entire analysis into question.

9. In Table A-3 below, I (partially) correct for this bias by removing customers who upgraded to the S&E tier in 2011 [redacted] from the analysis. I emphasize that this is only a partial correction, given that the remaining observations will contain [redacted] In addition, rather than grouping all households that viewed more than one hour of GSN in 2010 into a single category, I also [redacted][242]

242. Mr. Orszag performed robustness tests allowing the threshold to vary between 0.5 and 3 hours, as well as using duration to measure GSN viewership. However, his robustness tests do not employ GSN viewership share as an independent variable. *See Orszag Report*, Appendix F, ¶4 (n. 211).

TABLE A-3: MODIFICATIONS TO MR. ORSZAG'S MODEL OF CUSTOMER CHURN

Explanatory Variable	(1) *Pr(Churn)* **[Orszag]**	(2) *Pr(Churn)* **[Singer]**	(3) *Pr(Churn)* **[Singer]**	(4) *Pr(Churn)* **[Singer]**
$GSN \geq 1hr_{2010}$	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Note: *p*-values reported below coefficient estimates, based on robust standard errors. Stars (*) represent significance thresholds: * for p<.10, ** for p<.05, and *** for p<0.01. Coefficients on fixed effects suppressed.

As seen in Table A-3, the coefficients on the various metrics of GSN viewership [redacted]

10. For each of the specifications in Table A-3, I estimated the amount of churn that can be attributed to GSN's tiering as follows: First, I used each household's actual characteristics to predict each household's probability of churning. Second, I estimated each household's probability of churning under the counterfactual assumption that the relevant GSN viewership

metric was set equal to zero. Based on the difference between these two probabilities, I estimated the amount of customer churn attributable to GSN's tiering.[243] As seen in the Table, an estimated [redacted] subscribers churned away from Cablevision in response to GSN's tiering.[244]

243. When estimating customer churn, I included [redacted]

244. [redacted] ; GSN Exh. 118 [redacted] GSN Exh. 116 [redacted] *See also* sample subscriber complaint emails: GSN Exh. 117; GSN Exh. 119; GSN Exh. 139; GSN Exh. 110; GSN Exh. 113; GSN Exh. 115; GSN Exh. 126; GSN Exh. 139.