NBCU withholds all of NBCU's current content from the online MVPD(s).[75] In our previous declaration, we focused on retransmission consent for the NBC broadcast network because this was the only NBCU content of a type that the Commission has identified as "must-have" in previous transactions.[76] However given that the business model of an online MVPD—should one come into existence—is uncertain at this point, we see little basis on which to conclude which particular combination of NBCU assets will be most important to the online MVPD. Hence, we focus on the full set of NBCU content.[77] We also assume that, whatever decision it makes with regard to online MVPDs, NBCU will not withhold programming from traditional MVPDs, which is consistent with our previous finding that foreclosure of traditional MVPDs would not be profitable given the current structure of the industry.[78]

55. The remainder of this section describes our analysis and its conclusions. The central finding of this analysis is that, even in a hypothetical future scenario in which one or more online

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75 We focus on current NBCU networks for three reasons. First, Comcast could withhold access to its cable networks absent the merger. Second, several of Comcast's networks (including Versus and its regional sports networks) specialize in live sporting events, which are ill-suited for online distribution because they can result in large numbers of viewers in a concentrated area simultaneously watching the programming and, thus, place large burdens on local access networks. Third, with respect to marquee, live sports programming, Comcast either: (a) does not control the online rights, or (b) is materially restricted or conditioned (either pursuant to sports league rules and regulations or its rights or affiliation agreements) in its ability to exploit or offer such content online. (Jeff Shell, President, Comcast Programming Group, May 3, 2010, interview.)

76 *See News Corp.-Hughes Order*, §§ V.B.3, VI.C.4.a.(ii), and VI.C.4.c.(iii).

77 Among the Commission's stated reasons to focus on broadcast networks has been the importance of sports and local programming to traditional MVPDs. (*See News Corp.-Hughes Order*, § VI.C.4.a.) It is less clear that such programming would be important to an online MVPD, which would likely have a broad geographic footprint and possibly face constraints on the streaming of live events, among other differences. {{ }} (Henry Ahn, Executive Vice President TV Networks Distribution (NBC Universal Networks Distribution), April 29, 2010, interview.)

78 See *Israel-Katz Initial Declaration,* particularly Sections II and VII. Note that, in a hypothetical world in which online MVPDs exist in addition to traditional MVPDs such as cable, DBS, and telco video providers, it can be expected that cable margins would be no higher than those used in our earlier analysis. When coupled with that earlier analysis, this fact implies that a strategy of foreclosing traditional MVPD rivals would be unprofitable under this new industry structure.

MVPDs emerges as a substitute for traditional MVPDs, Comcast would be highly unlikely to be able profitably to induce NBCU to withhold its content from such distributors in order to increase Comcast's non-NBCU profits. After presenting the details of our analysis of the costs and benefits associated with the foreclosure of an established online MVPD, we discuss how the analysis extends to a company that is seeking to enter the online video marketplace, but has not yet begun to offer service to consumers. In this scenario, too, Comcast would be highly unlikely to be able profitably to induce NBCU to withhold its content from such distributors in order to increase Comcast's non-NBCU profits.

A. A Framework for Estimating the Costs and Benefits of Foreclosure

56. In the News Corporation/DirecTV matter, Commission staff developed an economic model intended to provide a means of determining whether a firm vertically integrated into both video programming and multi-channel video distribution would find it profitable to withhold distribution rights from traditional MVPDs as a foreclosure strategy.[79] That model predicts the likelihood of foreclosure by determining whether the expected benefits of foreclosure are greater than the expected costs of foreclosure. This approach can also be applied to examine foreclosure in online video distribution. Specifically, the Commission staff's model provides a framework in which to calculate the costs and benefits of withholding content from a hypothetical online MVPD.

57. Withholding NBCU programming from online MVPDs would have both direct and indirect effects on NBCU and on Comcast Corporation's non-NBCU operations. We begin by summarizing the sources of those effects. First, there would be a direct negative effect on

[79] *News Corp.-Hughes Order*, Appendix D: Technical Appendix.

NBCU's profits:

- NBCU would lose the profits derived from affiliate fees and advertising on the foreclosed online MVPDs.

In addition to this direct effect, there would be several indirect effects on NBCU's profits that would arise as some subscribers to online MVPDs adjusted their behavior to the absence of NBCU programming.[80] These indirect effects on NBCU's profits can be partitioned into three blocks:[81]

- Over-the-air viewing of NBCU's broadcast programming might increase, which would increase the profitability of NBCU's broadcast operations.

- The demand for NBCU's programming available on supplementary websites (such as Hulu.com, NBC.com, or TV.com) might increase, which would increase the profitability of NBCU programming operations and—in those cases in which NBCU owned the site—the profitability of NBCU's online operations.

- The demand for traditional MVPDs' services might increase, which would increase the derived demand for NBCU's programming on those systems and could increase NBCU's profitability.

We denote the change in NBCU's profits due to foreclosure, which is the sum of the four effects identified above, as $\Delta\Pi_{NBCU}$.

58. There could also be effects on Comcast's profits derived from non-NBCU operations:

- The demand for Comcast's cable services might increase, which would increase Comcast's profitability.

- The demand for Comcast's high-speed data services might decrease as consumers no longer needed high-speed access to support their use of an online MVPD. This effect

80 For expositional convenience, we refer to the online MVPD's customers as subscribers. However, it is possible that hypothetical online MVPDs would rely on a variety of revenue models, including per-program charges or charges for various tiers defined in terms of available programming or the total number of hours viewed.

81 Note that one way NBCU viewers might react would be to stay with the online MVPD but to replace the lost NBCU programming with programming from other networks. However, this behavior would not serve to offset the direct negative effect on NBCU's profits, so it is not included in this list.

would reduce the profitability of Comcast's high-speed data operations.

- The demand for supplemental websites owned by Comcast Interactive Media (a division of Comcast Corporation) could be affected, although the effects are likely to be small.

We denote the change in the profits of Comcast's non-NBCU operations due to foreclosure, which is the sum of the three effects identified above, as $\Delta\Pi_{Comcast}$.

59. If $\Delta\Pi_{NBCU}$ and $\Delta\Pi_{Comcast}$ have the same sign, then GE's, Comcast's, and NBCU's managements will all have the same view on whether foreclosure is profitable. However, if $\Delta\Pi_{NBCU}$ and $\Delta\Pi_{Comcast}$ have opposite signs from one another, then NBCU's management's fiduciary responsibility to maximize NBCU's profits would mean that their view of the value of foreclosure would be the opposite of the effects on Comcast's non-NBCU operations.[82] When $\Delta\Pi_{NBCU}$ and $\Delta\Pi_{Comcast}$ have the opposite signs, there is a need to specify how these conflicting incentives are resolved.

60. Under the Commission staff's approach to evaluating the likelihood of foreclosure, the joint venture is modeled as basing its foreclosure decision on a weighted average of the effects on NBCU's profits and the effects on Comcast's non-NBCU profits:

$$\Delta\Pi_{NBCU} + s \times \Delta\Pi_{Comcast} ,$$

where s is a weighting parameter that should reflect the nature of fiduciary responsibility, corporate governance, and the decision structure of the joint venture.[83] We discuss the appropriate value for s below. Under the Commission staff's approach, the joint venture would

82 *See* Amended and Restated Limited Liability Company Agreement of Navy, LLC at § 6.01(a) (hereinafter *Newco LLC Agreement*).

83 *See Newco LLC Agreement* at § 6.01(a).

have incentives to engage in foreclosure if and only if $\Delta\Pi_{NBCU} + s \times \Delta\Pi_{Comcast}$ were positive. The remaining parts of this section construct projections of $\Delta\Pi_{NBCU}$ and $\Delta\Pi_{Comcast}$ and identify the appropriate value of s.

61. The two aggregate changes in profits, $\Delta\Pi_{NBCU}$ and $\Delta\Pi_{Comcast}$, each comprise several components, which are identified in the bullet points above. Each of the component changes has the following structure. Absent foreclosure, there is some level of the underlying activity (*e.g.*, online-MVPD subscription or over-the-air-broadcast viewing) and an associated profit margin. Profits in the absence of foreclosure are equal to the quantity times the margin. In the presence of foreclosure, there is a possibly different level of the underlying activity and a possibly different associated profit margin. Profits in the presence of foreclosure are equal to the product of this quantity and margin pair. The change in profits due to foreclosure is equal to the difference between the product of the quantity and profit margin in the presence of foreclosure and the product of the quantity and profit margin in the absence of foreclosure.

62. In theory, foreclosure could affect both the quantity of each component activity and the associated profit margin. Given the nature of the overall exercise—projecting the details of a hypothetical marketplace several years in the future—it is difficult to project changes in future margins with any confidence. Hence, we follow the approach taken by the Commission staff to analyze the issue of vertical foreclosure in the News Corporation/DirecTV transaction: we assume that margins are unaffected by foreclosure.[84] Therefore, the projected changes in profits

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84 *News Corp.-Hughes Order*, Appendix D: Technical Appendix.

are equal to the profit margin times the change in the level of the underlying activity.[85]

63. The next two parts of this section proceed as follows. For each of the component profit effects identified in the bullet points above, we discuss the appropriate value of the associated profit margin and we develop projections of plausible changes in the associated activity level. Part III.B examines the effects of foreclosure on NBCU's profits. Part III.C examines the effects of foreclosure on the profits of Comcast Corporation's non-NBCU operations. In some instances, it is impossible to identify a value for the change in quantity with a high degree of confidence. In these cases, we provide a range of values that bound the range of reasonable parameter values.

B. Effects on NBCU

64. Foreclosure could affect NBCU's profits through the four component effects described above. Before discussing each in detail, we note that we are not formally modeling one adverse effect on NBCU profits that could be very significant in practice. If online video viewing becomes an important alternative to traditional television, then maintaining the brand strength of NBCU's programming assets, cross-promoting various NBCU programs, and providing a full package of advertising opportunities to potential ad buyers would very likely require an extensive online presence. Restricting NBCU's online presence through the foreclosure of online MVPDs would risk substantial long-term harm to NBCU's programming assets.

1. NBCU would lose the profits derived from affiliate fees and advertising on the foreclosed online MVPDs.

65. We begin by considering the effects of foreclosure on the profits that NBCU would

[85] Observe that one would generally expect changes in the underlying activities that are driven by demand shifts to be associated with margin changes with the same sign. Hence, allowing for margin changes would tend to reinforce the component effects that we project.

otherwise derive from having its programming distributed by online MVPDs. As discussed above, the change in profits would be equal to the relevant margin times the change in the level of the associated activity.

66. To project the profit margin per subscriber that would be lost if NBCU programming were withheld from the online MVPD, we denote the amount of advertising revenue and license fees per subscriber that NBCU would lose by foreclosing the online MVPD as *OnlineProgProfit*.[86] In addition, to the extent that the business models adopted by online MVPDs retain some of the complementary elements that online models exhibit today, withholding its programming could also lead NBCU to suffer a decline in overall viewing, above and beyond the lost viewership at the online MVPD. Let *PromProfit* denote the profits derived from the promotion of other forms of viewing by online viewing (expressed as a dollar value per online-MVPD subscriber). Then NBCU's cost of foreclosure per online-MVPD subscriber would be:

$$OnlineProgProfit + PromProfit$$

67. In our calculations, we conservatively assume that *PromProfit* is zero, but it is important to keep in mind that, to the extent that complementary elements remain relevant, this would be an additional source of lost NBCU profits.

68. It is, of course, impossible to predict with certainty what affiliate fees or advertising revenues will be in a hypothetical future equilibrium in which an online MVPD has emerged. However, it is possible to identify economic forces that will create pressures for certain equilibrium relationships among relative prices to hold. If an online MVPD were to emerge as a

[86] There are assumed to be no marginal costs associated with advertising (after netting out commissions), so the net monthly advertising revenue is also the monthly incremental profit per subscriber.

substitute for traditional MVPDs, then it is reasonable to assume that content owners would seek revenue streams equal to or greater than those they would receive from incumbent, traditional MVPDs.[87] Indeed, they could be expected to seek higher revenue streams, because fundamental economic logic suggests that an additional buyer tends to raise the equilibrium price. It is our understanding that new MVPDs have traditionally paid more per subscriber for rights than incumbents were paying at the time of entry.[88] Nevertheless, we conservatively assume that *OnlineProgProfit* per viewer is equal to the average amount that NBCU would have earned via distribution by a traditional MVPD.

69. Based on our analysis of the affiliate fees and advertising revenue per subscriber for NBCU broadcast and cable networks, we calculate that the value of *OnlineProgProfit* ranges from ${{ }} per subscriber, per month in 2009 to a projected ${{ }} per subscriber, per month in 2010.[89] {{ }} percent of this amount is revenue derived from NBCU's cable

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87 These revenue streams could comprise various mixes of advertising revenues and affiliate fees. What is relevant is not the fraction of revenue that comes from each source, but rather the fact that content owners would seek per-subscriber revenue streams from online MVPDs that, combining all sources, are at least as large as the per-subscriber revenue streams they receive from traditional MVPDs.

88 *SNL Kagan*, "Telco TV Outlook: Competitive Analysis of U.S. Telco Video Deployments," 2007, at 47 (3rd Party Attachment 30).

89 For the purposes of this analysis, we consider affiliate fees and advertising revenues for the following networks: NBC, Telemundo, CNBC, CNBC World, MSNBC, Bravo, Oxygen, SyFy, mun2, Chiller, Sleuth, and Universal HD. For the cable networks, we obtain data on affiliate fees, advertising revenues and subscribers from SNL Kagan. (SNL Kagan, "TV Network Summary," 2009-2010 (3rd Party Attachments 14-15); SNL Kagan, "SNL Kagan's 10-Year Multichannel Projections, 2008-2019" (3rd Party Attachment 16).) To calculate the effective rates, we calculate affiliate fee and advertising revenue per subscriber by dividing total revenues by the number of MVPD households. This calculation implicitly accounts for both the revenue per subscriber to each network and the probability that a household subscribes to a network. For NBC and Telemundo, we obtain data on net advertising revenues on the national broadcast networks as well as revenues earned by the O&O stations from NBCU. To calculate per subscriber values, we divide these net advertising revenues by the total number of TV households as reported in SNL Kagan. (SNL Kagan, "SNL Kagan's 10-Year Multichannel Projections, 2008-2019" (3rd Party Attachment 16).)

We do not build an explicit retransmission consent fee into our calculation of the revenues for the NBC broadcast network. While, as detailed in the *Israel-Katz Initial Declaration*, NBC may earn retransmission consent fees in future negotiations, we do not know how those fees will affect the total price for all NBCU networks, so we conservatively exclude such retransmission consent fees from the present calculations.

networks.[90]

70. Now, consider the change in quantity. In the hypothetical future scenario we are modeling, an online MVPD exists and has a significant number of subscribers. We assume that, absent foreclosure, NBCU's programming would have been distributed to all of the online MVPD's subscribers.[91] If NBCU withholds its programming from the online MVPD, then the level of this activity would fall to zero, and NBCU would not earn affiliate fees or advertising revenues on any programming distributed over the online MVPD. It follows that the number of subscribers to the online MVPD is the quantity on which affiliate fees and advertising revenues would be lost if NBCU withheld its programming from the online MVPD. Thus, the change in NBCU's profits is equal to:

$$\textit{OnlineProgProfit} \times \textit{Number of Online-MVPD Subscribers}.$$

71. In what follows, it will be convenient to express all of the quantities as rates of change, rather than absolute quantities. We do this by dividing the various quantities by the number of online-MVPD subscribers. In the present instance, that means dividing the number of online-MVPD subscribers by itself, which is—of course—equal to one:

$$\frac{\textit{OnlineProgProfit} \times \text{Number of Online-MVPD subscribers}}{\textit{Number of Online-MVPD Subscribers}} = \textit{OnlineProgProfit}\ .$$

The resulting profit figure is the change in NBCU's profits per online-MVPD subscriber derived from affiliate fees and advertising on the foreclosed online MVPD, which, as noted above, is

90 As explained in *Israel-Katz Initial Declaration* (Section IV.C.3), basing this calculation on existing advertising revenue per subscriber is conservative because it does not account for the fact that, when viewership falls, the advertising price received per viewer generally also falls.

91 If the online MVPD did not wish to distribute NBCU programming to some or all of its subscribers, then those subscribers could be excluded from the analysis: Comcast could not weaken a rival distributor by denying it access to programming that it did not want.

projected to be between ${{ }} and ${{ }} per subscriber, per month.

2. *Over-the-air viewing of NBCU's broadcast programming might increase, which would increase the profitability of NBCU's broadcast operations.*

72. We next calculate the effects on NBCU's profits that arise when some consumers react to the absence of NBCU on the online MVPD by obtaining the NBC and Telemundo broadcast networks over the air. To do so, we need to specify NBCU's profit margin on over-the-air viewing (*BroadcastAdProfit)* and the change in the number of over-the-air viewers (*OTAChange).*[92] Expressed in these terms, the change in NBCU's profit from additional over-the-air viewing is given by:

$$BroadcastAdProfit \times OTAChange.$$

73. As in our initial declaration, *BroadcastAdProfit* is calculated as NBC's and Telemundo's monthly advertising revenue per available viewer, including both advertising revenue earned by the NBC and Telemundo broadcast networks and advertising revenue earned by the owned and operated ("O&O") stations. It is calculated as the sum of the NBC and Telemundo broadcast networks' net monthly advertising revenues and the O&O stations' net monthly advertising revenues, divided by the number of national television households.[93] *BroadcastAdProfit* was ${{ }} per subscriber per month in 2009. Note that 2009 was a particularly poor year for NBC's advertising revenue for reasons that include the lower political advertising revenue that is typical in odd-numbered years and the economic recession. Consequently, although we use 2009

92 As with *OnlineProgProfit*, we measure *OTAChange* as the fraction of online-MVPD subscribers who switch to viewing NBC broadcast network over the air.

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}} (Frank Comerford, President, Platform Development & Commercial Operations, NBC Universal, February 22, 2010, interview.)

advertising revenue per viewer as a lower-end estimate of *BroadcastAdProfit*, we also use projected 2010 advertising revenue per viewer as an alternative, which results in a figure of ${{ }} per subscriber per month.[94]

74. Next, consider the value of *OTAChange*. In the *News Corp.-Hughes Order*, the Commission estimated that 33 percent of subscribers who lost access to a broadcast signal on their traditional MVPD would continue to obtain access to the signal over-the-air.[95] The Commission justified a value of 0.33 as "twice the fraction of television households that currently receive video programming only via broadcast reception."[96] Applying the same methodology today yields a value of *OTAChange* equal to 0.22. In other words, we assume that 22 percent of those online MVPD's subscribers who would have watched NBC or Telemundo via the online MVPD would react to the loss of NBC and Telemundo by obtaining the broadcast signals over the air.

3. The demand for NBCU's programming on supplementary sites might rise, which would increase the profitability of NBCU's programming operations and any supplementary sites in which NBCU had an ownership interest.

75. If the joint venture were to pursue a foreclosure strategy following consummation of the proposed transaction, some consumers could be expected to switch to watching (at least some of) the foreclosed programming on "supplementary" online sites (*e.g.*, Hulu or NBC.com) that offer some NBCU programming but do not offer all programming or a full set of MVPD services.[97] These customers are closely analogous to those who get the programming over the air in that

94 The 2010 national network revenues include projected revenues from broadcasting the Vancouver Olympics.

95 *News Corp.-Hughes Order*, Appendix D, ¶ 6.

96 *Id.*

97 This could be true even though the supplemental sites were, on average, complementary to traditional and online MVPDs.

they do not leave the online MVPD, but instead find alternative ways to access the withheld NBCU content, in this case using supplementary websites.

76. To determine the profits that NBCU would earn from those customers who remained with the online MVPD but viewed NBCU's programming on supplementary websites, we need to specify the profit that NBCU would earn on such consumers (*OnlineSuppProfit*) and how many such customers there would be (*OnlineSuppChange*). With these values, the change in NBCU's profits due to these consumers would be equal to:

$$OnlineSuppProfit \times OnlineSuppChange \ .$$

We consider the appropriate values of each, in turn.

a) *OnlineSuppProfit*

77. The profit received by NBCU from online access at supplementary sites depends on several factors, including whether: (a) the site is owned by NBCU or another party,[98] and (b) the content is a broadcast program or a cable program. Lacking precise data on the profits earned at these various sites, we rely on a range of supplementary website profitability figures provided by NBCU, with the range accounting for (among other things) the differences in NBCU profits derived from wholly owned sites (*e.g.*, NBC.com) and other sites (*e.g.*, Hulu.com). Based on the NBCU estimates, {{

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78. If those viewers relying on supplementary sites for access to NBCU's programming were likely to replace all of the viewing they would have done at their online MVPD with viewing at the supplementary sites, then the value of *OnlineSuppProfit* would be estimated to be {{ }} of the total advertising revenue per subscriber across NBCU's networks. However, such consumers would be unlikely to replace all of their previous viewing of NBCU's programming at the online MVPD with viewing at supplementary sites. Full replacement is particularly unlikely given that supplementary sites generally do not have live programming and generally carry a limited set of programs rather than the full linear network content. To account for these limitations, we assume that viewers only replace half of the viewing they would have done via the online MVPD with viewing on supplementary sites. Consequently, *OnlineSuppProfit* is assumed to range {{ }} of the total national advertising revenue per subscriber across NBCU's networks.

b) *OnlineSuppChange*

79. There obviously are no data on the extent to which the withholding of NBCU content from an online MVPD would cause people to substitute to supplementary websites. The fact that supplementary sites would not be able to replace the full linear programming of NBCU's networks might limit the number of consumers using this alternative, thus pushing *OnlineSuppChange* down toward zero. However, the fact that online MVPD subscribers are likely to be web savvy suggests that this alternative might be at least as popular as the use of

99 See *Israel Katz Initial Declaration*, Section IV.C.1. As in that declaration we assume there is no marginal cost associated with an additional viewer, so that incremental revenue equals incremental profit.

over-the-air broadcast alternatives, in which case *OnlineSuppChange* would equal 0.22. For simplicity, we assume that these two factors offset one another, and that *OnlineSuppChange* equals 0.11, which is half way between 0 and 0.22.[100]

80. In closing our discussion of supplemental web sites, it is important to observe that there also may be another online alternative for viewers: pirated copies. For consumers who view pirated copies of NBCU programming, the company would lose all advertising revenues associated with those consumers.[101] The audience size for pirated copies is not easily measured and verified. Consequently, advertisers would not give NBCU credit for those viewers. Moreover, even if the number of pirated copies viewed could be measured, advertisements are often stripped out of pirated copies and legitimate advertisers generally do not want to be associated with pirated content. The potential to deter piracy has long been recognized as a reason for NBCU to support legitimate online distribution.[102] Because we do not include the losses that NBCU would suffer if (at least some) consumers turned to pirated content to replace NBCU content that was withheld from the online MVPD, our estimates of the profitability of foreclosure are (conservatively) too high.

4. *The demand for traditional MVPDs' services might rise, which would increase the derived demand for NBCU programming on those systems and could increase NBCU's profitability.*

81. If NBCU were to withhold its content from online MVPDs, some of the subscribers to those online MVPDs might be expected to switch to traditional MVPDs (including cable

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[100] The value of 0.11 is also the assumption on switching to supplementary websites that was implicit in our initial declaration. (*Israel-Katz Initial Declaration*, Section IV.A.3.)

[101] Statements in this paragraph rely on Ronald Lamprecht, SVP, Business Development & Sales (Digital & Affiliate Distribution), NBC Universal, February 19, 2010, interview.

[102] NBC Universal, {{ }} (NBCU Attachment 7).

MVPDs, DBS, and telcos) that carry NBCU programming, thus restoring some of the viewership of NBCU content that would have been lost had all the online subscribers stayed with the online MVPD. The resulting change in NBCU profits is equal to:

$$\textit{MVPDProgProfit} \times \textit{Change in Traditional-MVPD Subscriptions},$$

where *MVPDProgProfit* is the per-subscriber amount of advertising revenue and license fees that NBCU earns from traditional MVPDs and *Change in Traditional-MVPD Subscriptions* is the fraction of those consumers who would have subscribed to the online MVPD absent foreclosure who instead obtain a traditional MVPD subscription.

82. *Change in Traditional-MVPD Subscriptions* can be decomposed into two parts, the total number of subscribers who choose to leave their online MVPD (*Change in Online-MVPD Subscriptions*) times the percentage of those who opt for a traditional MVPD instead (*Fraction Switching to Traditional MVPD*). That is,

$$\begin{array}{c} \textit{Change in} \\ \textit{Traditional-MVPD} \\ \textit{Subscriptions} \end{array} = \begin{array}{c} \textit{Change in Online-} \\ \textit{MVPD Subscriptions} \end{array} \times \begin{array}{c} \textit{Fraction} \\ \textit{Switching to} \\ \textit{Traditional} \\ \textit{MVPD} \end{array}.$$

In what follows, we discuss each of the parameters determining the change in NBCU profits in turn.

a) *MVPDProgProfit*

83. For reasons discussed above, we assume that the amount of advertising revenue and license fees that NBCU earns per subscriber from traditional MVPDs (*MVPDProgProfit*) is the same as it would earn from online MVPDs (*OnlineProgProfit*).

b) Change in Online-MVPD Subscriptions

84. Next, consider *Change in Online-MVPD Subscriptions,* which equals the fraction of online-MVPD subscribers who would obtain subscriptions from traditional MVPDs if online MVPDs lost access to NBCU video programming. We observe at the outset that determining the magnitude of such switching in a hypothetical future world in which an online MVPD exists is difficult because, to date, online services have been largely complementary to traditional television viewing and MVPD services, in which case disadvantaging online video providers would actually *reduce* the demand for traditional MVPD services. Commission staff, however, explicitly asked us to consider hypothetical foreclosure of an online rival to MVPD services, which entails the assumption that there is some positive (or at least non-negative) amount of switching to traditional MVPDs following foreclosure of NBCU content.

85. Even so, this question remains difficult to answer because the precise form that an online MVPD will take, including the set of content it will offer, its share of MVPD subscribers, and other details of its business model are all unknowns today. However, regardless of the specific size or form the online MVPD takes, our main conclusion holds—available evidence indicates that withholding NBCU content is unlikely to have a large effect on an online MVPD's ability to attract or retain subscribers.

86. Several facts support the conclusion that foreclosure of online MVPDs by current NBCU networks would not have large, positive effects on traditional MVPDs' subscribership (that is, that *Change in Online-MVPD Subscriptions* would be small). The two most fundamental facts are: (a) there are many substitutes for the programming to which NBCU controls the online rights, and (b) online MVPDs entering the video distribution marketplace would likely use strategies to differentiate themselves from existing MVPDs. Hence, even without NBCU

content, a new online MVPD could seek to attract subscribers using its differentiated services along with non-NBCU content, making it unlikely that the loss of NBCU content would significantly harm the online MVPD's ability to attract and retain subscribers. We consider each of these two facts in turn.

87. First, consider the fact that there are many substitutes for the programming to which NBCU controls the online rights. As one illustration of this, note that, as shown in Table 1, streams of long-form NBCU content (meaning programming from NBCU networks) currently make up a small share of all streams of long-form professional video content online, as well as a small share of overall video viewership across online sites and television. Overall, NBCU accounted for less than [[ ]] percent of television viewing in 2009.[103] Similarly, NBCU accounted for between [[ ]] and [[ ]] percent of all streams of long-form professional video in 2009.[104]

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103 This calculation is based on Nielsen Total Day Live + 7 data for May – December 2009. The NBCU share includes all broadcast and cable networks in which NBCU has an ownership interest and for which Nielsen reports data, including O&O broadcast stations. Nielsen does not report data for CNBC World, Chiller, Sleuth, and Universal HD. We use this date range because that is the time period for which online streaming data are available. NBCU's share is not substantially different if we use data for all of 2009. Precise details of the calculation are contained in the backup (Backup Attachment 3 and 11).

104 This calculation is based on streaming video views as reported by comScore (excluding paid subscription or electronic sell-through sites). (comScore, Video Metrix, Ads vs. Content Preview, May - December 2009.) {{ }} Professional video sites were identified by Comcast. To identify the percentage of long-form content, short-form videos are assumed to average 1.5 minutes and long-form to average 20 minutes, based on interviews with Comcast. Eighteen percent of YouTube content is considered professional for calculations including YouTube. Precise details of calculations are contained in the backup (Backup Attachments 3 and 11).

Table 1: NBCU Share of Television and Professional Online Video

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88. The small NBCU share in Table 1 overstates the extent to which NBCU could withhold content from an online MVPD. As discussed in Section II.A.2 above, for the vast majority of the original programming that NBCU licenses from other content owners for inclusion in its linear broadcast and cable television networks, {{

}}[105] Given the prevalence of programming provided by non-NBCU studios, this fact implies that {{

}}[106] {{

}}[107]

89. A second fact supporting the conclusion that *Change in Online-MVPD Subscriptions* would be small is that, in order to create competitive advantages for themselves and maximize their expected profits, online MVPDs would be likely to use differentiated strategies to enter the video distribution marketplace. The offerings of an online MVPD would be unlikely to look exactly like those of traditional MVPDs. For example, an online MVPD might take advantage of the technological flexibility of the Internet to offer programming packages that are smaller than those offered by traditional MVPDs and are aimed at specific demographic groups. An online MVPD might also offer various forms of proprietary content. Such content could range from traditional long-form video programming to innovative, interactive programming. An online MVPD might even include other forms of video entertainment, such as video games, in its offering. The differentiation resulting from these various strategies makes it even less likely that

105 Michael Bonner, SVP, Digital Products & Marketing, NBCU, April 28, 2010, interview.

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107 *Id.*

the inability to obtain NBCU programming would have large effects on an online MVPD's subscriber base.

90. There are additional reasons to conclude that *Change in Online-MVPD Subscriptions* would be small. The Commission has previously expressed concern that the four major broadcast networks constitute "must-have" programming for traditional MVPDs,[108] which might be seen as suggesting that withholding the rights to NBC programming could be a particularly powerful way to disadvantage online rivals. However, two facts indicate that such a suggestion would be unwarranted. One is that NBCU cannot deny consumers access to NBC's signal via over-the-air reception. The other is that, to the extent that empirical evidence from the MVPD market is informative, past analyses have shown little effect on MVPD subscribership from the loss of a single broadcast television network. It is useful to consider each in a bit more detail.

91. Given the public policy environment in which broadcast television operates, NBCU has a limited ability to deny consumers access to NBC's over-the-air signal. As a result, consumers seeking the NBC content (the only NBCU content that is of a type that the Commission has previously defined as "must-have") could potentially get this content over-the-air without leaving the online MVPD. Indeed, an over-the-top provider might choose to put an antenna in consumer premises equipment. This is similar to the strategy currently employed by Sezmi:[109]

> [Sezmi utilizes a] set-top box that provides access to three types of TV sources: broadcast stations, cable channels, and Internet content. (It snags the first two kinds over the air, via a powerful antenna in a box that looks like a loudspeaker: Sezmi simply grabs local broadcast channels as is, and the company is leasing spectrum from local broadcasters to transmit cable channels – including both standard-def and HD.)

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108 *See News Corp.-Hughes Order*, §§ V.B.3 and VI.C.4.c.(iii).

109 Harry McCracken, "Hello, Sezmi -- Goodbye, Cable," *PC World*, November 16, 2009, *available at* http://www.pcworld.com/article/182300/hello_sezmi_goodbye_cable.html, *site visited* May 2, 2010.

NBCU has a distribution deal with Sezmi but it does not cover the NBC broadcast network.[110] Sezmi's business model has been to provide its customers with over-the-air access to the NBC television network.[111]

92. We also note that, even if particular online distributors emerge as substitutes, there are likely to be websites (including, for example, NBCU's own vertical sites) that remain complementary to traditional MVPDs and networks, providing, among other things, important promotional services for programming. Hence, it seems unlikely that NBCU would remove its content from the Internet entirely.[112] Given the ability to multi-home, discussed above, the presence of NBCU programs on such websites would reduce the incentives for subscribers to online MVPDs to switch to traditional MVPDs. Instead of switching MVPDs, subscribers would have the option of retaining their online MVPD and viewing NBCU programming on such supplementary sites.[113]

93. Lastly, to the extent it is applicable, empirical evidence from the MVPD marketplace suggests that *Change in Online-MVPD Subscriptions* should be small. Specifically, existing empirical evidence from the MVPD marketplace shows little effect on a traditional MVPD's

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110 Ronald Lamprecht, SVP, Business Development & Sales (Digital & Affiliate Distribution), NBC Universal, May 2, 2010, interview.

111 Sezmi Corp., Press Release, "First-Ever All-in-One Service Integrates Live TV, On-Demand Movies and Programs, and Web Video; Breakthrough Pricing Starting at Less Than $5 A Month," February 18, 2010, *available at* http://www.sezmi.com/about-sezmi/2010/press_02.18.10.php, *site visited* May 1, 2010 ("Sezmi Select customers receive local broadcast channels through the Sezmi advanced reception system, including the major broadcast networks such as ABC, CBS, FOX, NBC, MyNetwork, PBS, Azteca, Telefutura, Telemundo and Univision.").

112 {{ }}

113 If NBCU were to attempt to extend its hypothetical foreclosure strategy to its own web sites, it would suffer from the loss of promotional value as well any revenues generated directly by the sites.

subscriptions from the temporary loss of carriage of a single broadcast television network's signal by a rival MVPD.

94. In our earlier declaration, we found that there was no evidence that Comcast gained subscribers when rival MVPDs lost access to a broadcast network's signal. In particular, we studied a series of events in which DISH Network temporarily lost access to one or more of the top four broadcast networks and found that there was no detectable change in Comcast's share (or the growth rate of its share) during or immediately following the event.[114]

95. We also examined evidence from the introduction of local-into-local services by direct broadcast satellite companies. In that case, we studied a series of events in which a DBS provider's rollout of local-into-local service temporarily lacked at least one broadcast network (due to inability to come to contractual terms with one or more broadcast stations) but subsequently added the missing network(s). Again, we were not able to detect any measurable change in Comcast's share (or the growth rate of its share) following the addition of the missing network(s).[115]

96. Observe that one reason the loss of programming might not result in an MVPD's losing significant numbers of subscribers is that the MVPD may adopt counterstrategies, such as lower prices or higher levels of service quality, that allow it to retain its subscribers.

97. For all the reasons discussed in this part, we expect *Change in Online-MVPD Subscriptions* to be small. However, in computing the (lack of) profitability from a foreclosure strategy, we use values of *Change in Online-MVPD Subscriptions* equal to 0 and 33 percent to

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114 See *Israel-Katz Initial Declaration*, Section VI B.

115 *Israel- Katz Initial Declaration*, Section VI.C.

show that, even at a level as high as 33 percent (which is far above what we consider to be a reasonable prediction for *Change in Online-MVPD Subscriptions*), it would not be profitable to withhold NBCU's content from an online MVPD.

98. We close this discussion of the likely value of *Change in Online-MVPD Subscriptions* by noting the following relationship between this variable and *OnlineProgProfit*. If one concluded that withholding NBCU programming would have large effects on the ability of online MVPDs to offer attractive services to consumers (a conclusion we do not believe is supported by tbe facts), then logically one should also conclude that NBCU would have a stronger bargaining position with respect to online MVPDs. Consequently, one should then expect that NBCU would be able to attain a higher value of *OnlineProgProfit*. This increase in *OnlineProgProfit* would make foreclosure less profitable for NBCU.

c) Fraction Switching to Traditional MVPD

99. As noted above, some households that would drop their online-MVPD subscriptions if NBCU content were withheld from those providers might not choose to replace their online MVPD with a traditional MVPD. The existence of such consumers makes foreclosure strategies less profitable, as NBCU would lose profits on these subscribers with no offsetting gains in advertising and affiliate fees at traditional MVPDs.

100. To be conservative in our analysis, we assume that all consumers who leave their online MVPDs choose to switch to a traditional MVPD. In other words, we assume that *Fraction Switching to Traditional MVPD* is equal to one, although the actual number would almost certainly be lower.

C. Effects on Comcast

101. We turn now to the effects on Comcast, which include effects on Comcast's cable services, Comcast's high-speed data ("HSD") services, and the web properties of Comcast Interactive Media.

1. The demand for Comcast Cable might rise, which would increase Comcast Cable profitability.

102. As noted above, if the joint venture were to pursue a foreclosure strategy, some consumers might be expected to switch to traditional MVPDs (including cable MVPDs, DBS, and telcos) that carry NBCU programming. The effect of this switching on the profits of Comcast's cable services will he equal to the margin earned on those services (*MVPDProfit)* times the number of subscribers who switch to Comcast (*Change in Comcast Cable Subscriptions*) due to the withholding of NBCU content from the online provider:

$$\mathit{MVPDProfit} \times \begin{matrix}\textit{Change in Comcast}\\ \textit{Cable Subscriptions}\end{matrix}.$$

The rate, *Change in Comcast Cable Subscriptions* can, in turn, be decomposed into two components:

$$\begin{matrix}\textit{Change in Comcast}\\ \textit{Cable Subscriptions}\end{matrix} = \begin{matrix}\textit{Change in}\\ \textit{Traditional-MVPD}\\ \textit{Subscriptions}\end{matrix} \times \begin{matrix}\textit{Diversion to}\\ \textit{Comcast Cable}\end{matrix},$$

where *Change in Traditional-MVPD Subscriptions* was defined above and *Diversion to Comcast Cable* is equal to the fraction of those switching to a traditional MVPD who specifically choose Comcast Cable.

103. We have already discussed reasons why the value of *Change in Traditional-MVPD Subscriptions* is likely to be low. We now discuss what values are reasonable for *MVPDProfit* and *Diversion to Comcast Cable.*

a) *MVPDProfit*

104. *MVPDProfit* is computed as monthly revenue per Comcast video subscriber minus average variable cost per video subscriber, as determined from Comcast's internal 2009 P&L statements.[116] This yields a value for *MVPDProfit* of ${{ }}[117]

105. Our calculation of *MVPDProfit* here differs in an important way from the corresponding calculation in our earlier declaration (analyzing whether foreclosure of traditional MVPDs would be profitable). In our earlier analysis, we assumed that some new Comcast subscribers would choose double- or triple-play packages including HSD and/or digital voice services. This assumption was driven by the fact that the foreclosure strategy in our earlier analysis was directed toward other providers of double- and triple-play packages.[118] However, the online MVPDs under consideration in the present analysis very likely would distribute content over pipes that they did not own, and we analyze them as video-only providers. Hence, a reasonable simplification of the analysis is to assume that foreclosing on online MVPD would, at most, cause subscribers to seek a new video service without causing them to seek a new provider of

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116 For more discussion, see *Israel-Katz Initial Declaration*, Section IV.A.2.

Details of our classification of costs as fixed or variable are provided in Backup Attachment 11. Unlike before, where we accounted for the costs Comcast incurs to connect a new subscriber, we ignore those costs in this calculation. This assumption makes foreclosure appear more profitable than it actually would be. Another difference from the model in our previous declaration is that we do not need to account for {{ }}. Hence, we compute the average profit per subscriber per month rather than computing separate profits for the first year of a customer's tenure with Comcast.

117 Note that this figure is the difference between Comcast's average revenue per subscriber and average *variable* cost per subscriber, which is the relevant margin for the calculations in this section. Because our measure of *MVPDProfit* excludes operational expenses that do not vary directly with the number of subscribers and also excludes capital expenditures, this measure does not represent the average profitability per Comcast subscriber.

118 In the case of DBS, DirecTV and DISH partner with telcos rather than offering HSD and voice services directly. *See, e.g.*, Tim Mullaney, "Dish Drops as AT&T Taps DirecTV for Satellite Service," *Bloomberg*, Sep. 29, 2008, *available at* http://www.bloomberg.com/apps/news?pid=20601103&sid=aAYH4vD50x6E, *site visited* April 24, 2010.