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December 3, 2015

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: ***Application of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership For Consent to the Transfer of Control of Licenses and Authorizations*, MB Docket No. 15-149**

Dear Ms. Dortch:

Charter Communications, Inc. ("Charter"), Time Warner Cable Inc. ("TWC"), and Advance/Newhouse Partnership (collectively, the "Applicants") submit this letter to address the Transaction's impact on the distribution of TWC SportsNet and SportsNet LA, two regional sports networks ("RSNs") currently owned by TWC. As shown in the attached declaration by economists Dr. Steven C. Salop, Dr. Robert Stillman, Dr. Jarrod R. Welch, and Dr. Serge X. Moresi, the Transaction will not cause consumer harm from either foreclosure of multichannel video programming distributors ("MVPDs") from carrying the RSNs or a material increase in affiliate fees charged for their carriage.

We also note that TWC has previously agreed to allow immediate carriage of SportsNet LA by any MVPD that agrees to binding arbitration.[1] New Charter intends to continue to abide by that pledge upon the completion of the Transaction. Specifically, for a period of 3 years from the Transaction's close, New Charter commits to allow immediate carriage to any MVPD that enters into binding arbitration on substantially the same terms as those outlined in the *Adelphia Order*.[2]

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[1] *See* Letter of Robert D. Marcus, Chairman and Chief Executive Officer, Time Warner Cable Inc., to Tom Wheeler, Chairman, FCC (July 30, 2014) (expressing willingness to ensure carriage upon an MVPD's consent to binding arbitration).

[2] *Applications for Consent to the Assignment and/or Transfer of Control of Licenses; Adelphia*

Consistent with the instructions in the Protective Order, a Highly Confidential version of the attached declaration is being hand-filed under separate cover, and copies are being provided to the Media Bureau.

Please let me know if you have any questions.

Sincerely,

Samuel L. Feder

Enclosures

cc: V. Lemmé

Communications Corp., to Time Warner Cable Inc. and Comcast Corp., Memorandum Opinion and Order, 21 FCC Rcd 8203 (2006).

REDACTED – FOR PUBLIC INSPECTION

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	MB Docket No. 15-149
Application of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership For Consent to the Transfer of Control of Licenses and Authorizations	)	

Analysis of Video Programming Foreclosure Issues Involving TWC SportsNet and SportsNet LA

Steven C. Salop

Robert Stillman

Jarrod R. Welch

Serge Moresi

December 3, 2015

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I. EXECUTIVE SUMMARY

1. In a previous declaration, we analyzed the input foreclosure and customer foreclosure issues, and the impact on the equilibrium fees, regarding the ownership stakes in Discovery, Starz and New Charter by Dr. John Malone and Advance/Newhouse.[1] In this supplemental declaration, we analyze possible input foreclosure issues that might be raised regarding TWC's distribution rights for two RSNs, TWC SportsNet and SportsNet LA (SNLA). We understand that foreclosure likely would violate the FCC's current program access rules. We also understand that TWC has obligations under its various agreements to seek distribution deals for the networks and that TWC has offered binding arbitration of SNLA to other potential MVPD buyers. We nonetheless have analyzed the possible economic incentives of TWC (or New Charter) to engage in foreclosure notwithstanding the FCC rules or TWC's distributional obligations.

2. TWC SportsNet is an RSN that offers telecasts of the LA Lakers (NBA), Galaxy (MLS) and Sparks (WNBA). It is currently carried by all the MVPDs in Los Angeles except DISH, as well as some MVPDs outside the Los Angeles MSA. SNLA is an RSN that offers telecasts of the LA Dodgers. It currently is carried only by TWC, BHN and existing (or, "Old") Charter systems. It has only been carried by Charter since the announcement of this transaction and now under what is effectively a month-to-month carriage agreement. AT&T, DirecTV ("DTV"), Verizon FIOS ("Verizon"), DISH, and Cox have not carried SNLA since TWC gained distribution rights before the 2014 season.

3. No commenters have expressed any concerns about the effects of the merger on the carriage or affiliate fees of TWC SportsNet or SNLA content. We have nevertheless analyzed possible effects of the merger on the likelihood of permanent foreclosure and the equilibrium affiliate fee.

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[1] Steven C. Salop, Robert Stillman, Jarrod R. Welch and Serge Moresi, Analysis of Video Programming Foreclosure Issues Involving Dr. John Malone and Advance/Newhouse Partnership (November 2, 2015; hereinafter, "Salop et al. Declaration").

4. With respect to TWC SportsNet, we conclude that the merger is unlikely to lead to permanent foreclosure. We also conclude that it is unlikely to harm consumers by significantly increasing the equilibrium affiliate fee.

5. Because SNLA is currently not being carried by rival MVPDs, we focus on the possible effect of the merger on the equilibrium affiliate fee. We conclude that the merger is unlikely to harm consumers by significantly increasing the equilibrium affiliate fee.

6. The remainder of this section is organized as follows. Section II analyzes TWC SportsNet. Section III analyzes SNLA. Section IV briefly concludes. We provide more technical discussion of certain issues in Appendix A (which discusses the data), Appendix B (which carries out technical analysis of TWC SportsNet), Appendix C (which carries out technical analysis of SNLA), and Appendix D (which carries out econometric analysis of SNLA).

II. INPUT FORECLOSURE CONCERNS INVOLVING TWC SPORTSNET

A. Introduction

7. All of the leading MVPDs in the LA area (except for DISH) currently have carriage agreements with TWC SportsNet that allow them to offer telecasts of the LA Lakers (NBA), Galaxy (MLS) and Sparks (WNBA) to their subscribers. As shown in the table below, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[2] **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

[END HIGHLY CONFIDENTIAL INFORMATION]

8. No commenters have raised any concerns about the effects of the proposed merger on the likelihood that the current carriage agreements will be renewed or on the renewal prices. We have nevertheless analyzed these issues. Specifically, we have analyzed whether New Charter will have an incentive to demand significantly higher post-merger affiliate fees in these renewal negotiations than would TWC absent the merger. We have also analyzed whether New Charter might even find it profitable to simply refuse to supply TWC SportsNet to other MVPDs (permanent foreclosure), or might withhold the content for a short period of time when the contracts expire (temporary foreclosure).

9. Our analysis suggests that the permanent foreclosure is unlikely to occur. It also suggests that a significant increase in affiliate fees is unlikely to be profitable. Our analysis of the factors affecting the profitability of temporary foreclosure explains why the results of empirical estimation of the profitability of temporary foreclosure of this content likely would be unreliable.

10. In what follows, Section B analyzes permanent foreclosure, Section C analyzes the equilibrium affiliate fee and Section D discusses temporary foreclosure. Section E briefly states our conclusion that neither foreclosure nor significant increases in the affiliate fee are likely concerns in this matter. The data we use in our analyses are contained in Appendix A. The technical details of our analyses are contained in Appendix B.

B. Permanent Foreclosure

11. The analysis of permanent foreclosure involves determining whether the merged firm would find it more profitable to cease supplying programming to rival MVPDs rather than continuing to supply the content at the prices in the current contracts.

1. The no-foreclosure counterfactual

12. As explained above, we assume in this analysis that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION] A natural way to implement the analysis of permanent foreclosure therefore would be to compare the profitability to New Charter of not renewing (permanent foreclosure) relative to the profitability of renewing the carriage agreements at the prices to be charged **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

To determine whether it would be more profitable for New Charter to renew at this price versus foreclose, it is necessary to compare the profits that New Charter would realize if it renewed at prices based on the **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION] prices with the profits that New Charter would realize on any incremental subscribers that it would gain if it refused to supply other MVPDs.

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[END HIGHLY CONFIDENTIAL INFORMATION]

13. An analysis based on **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** prices raises a data complexity. Our data on the per subscriber profits earned from incremental subscribers comes from 2014, not **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** In order to achieve data comparability, we will use the 2014 price of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber. This is equivalent to an assumption that the per-subscriber profits would increase at the same rate as the contractual affiliate fee.

2. Critical departure rate

14. New Charter's profits from permanently refusing to supply TWC SportsNet to a rival MVPD would be lower than the profits it would earn at an affiliate fee of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, unless a sufficiently large number of the subscribers of the foreclosed MVPD would depart from that MVPD as a result of the foreclosure. The FCC has denoted that required minimum or critical subscriber loss as the "critical departure rate."[3] The critical departure rate can differ among the MVPDs. In the framework explained in detail in Appendix B, New Charter would only have the incentive to deny Verizon access to TWC SportsNet (while continuing to supply other MVPDs) if the actual departure rate were to exceed the critical departure rate of Verizon's subscribers. The estimated critical departure rate of Verizon's subscribers is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**. By contrast, for New Charter to have the incentive to deny AT&T/DTV access to TWC SportsNet (while continuing to supply other MVPDs), the actual departure rate must exceed the critical departure rate of AT&T/DTV subscribers, which we have estimated to be **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**. If New Charter simultaneously were to foreclose both Verizon and AT&T/DTV, the actual departure rate must exceed the estimated critical

[3] A general discussion of the FCC's conceptual approach to comparing critical and actual departure rates can be found at Comcast/NBCU Order, Appendix B at ¶¶ 6-9.

departure rate of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**.

15. Having estimated the *critical* departure rates, we turn next to the estimation of the likely *actual* departure rates for the foreclosure scenarios: withholding TWC SportsNet from Verizon only, from AT&T/DTV only, and from both MVPDs jointly. Our analysis indicates that the estimated actual departure rates are likely to be lower than the critical departure rates reported in the previous paragraph. As a result, a strategy of permanent foreclosure is unlikely to be profitable for New Charter.

3. Estimated actual departure rates

16. The "actual" departure rate is the percentage of a rival MVPD's subscribers that likely would leave the MVPD, if it did not offer the programming at issue.[4] All else equal, foreclosure is more likely to be profitable the higher the actual departure rate. This is because the gain in subscribers by the vertically integrated MVPD engaged in the foreclosure would equal the number of subscribers departing the foreclosed MVPD times the "diversion rate" to the integrated MVPD.[5]

17. The estimate of the actual departure rate from a particular foreclosed MVPD depends on whether or not other MVPDs also are foreclosed. The departure rate will be lower when all the MVPDs that compete with the vertically integrated MVPD are foreclosed simultaneously. For example, if New Charter chose to foreclose only AT&T/DTV, then some DTV subscribers in the Verizon footprint might switch to Verizon to continue watching TWC SportsNet content.[6] However, the actual departure rate would be lower if New Charter

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[4] Departure rates also are key inputs in the analysis of the impact of the proposed merger on the equilibrium renewal prices.

[5] The diversion rate is the share of the departing subscribers of the foreclosed MVPD that would divert (in this matter) to New Charter.

[6] DISH has not carried TWC SportsNet and so switching to DISH would not be a viable option for former DTV subscribers interested in continuing to watch TWC SportsNet content. DISH, unlike other major MVPDs, has increasingly dropped RSN coverage due to high costs. DISH's CEO said that it is "probably a valid long-term strategy" not to include any sports offering in the current economy due to their "out of line" fees. Yinka Adegoke, "What's Charlie Ergen's strategy this week?" available at http://blogs.reuters.com/mediafile/2011/11/07/whats-charlie-ergens-strategy-this-week/.

instead were to foreclose both AT&T/DTV and Verizon simultaneously. This is because AT&T/DTV's subscribers in the Verizon footprint would not have an incentive to switch to Verizon to watch the RSN and so more would remain with AT&T/DTV. At the same time, while the departure rate would be lower when MVPDs that compete with New Charter are all foreclosed, the diversion rate to New Charter in this scenario would be higher.

18. The FCC sometimes has estimated the actual departure rate from natural experiments involving blackouts of the content at issue.[7] There have been no recent blackouts of TWC SportsNet that can be used as a direct natural experiment. Using the estimated departure rates from blackouts of other RSNs also is problematic because the value of local sports can vary dramatically in different areas.[8]

19. The FCC also has estimated the actual departure rate from data on the affiliate fee being charged.[9] This methodology assumes that the affiliate fees in the current carriage agreements reflect a Nash Bargaining Equilibrium ("NBE"), based on the parties' common expectations of the likely departure rate and other relevant factors. We adopt that methodology here by using the 2014 affiliate fees in the contracts struck by the parties in 2012. Following the FCC's methodology, we also assume that the bargaining surplus is divided up equally between the bargaining parties.[10]

20. As shown in Table 2 above, all the MVPDs paid an affiliate fee in 2014 of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per relevant subscriber (where relevant subscribers as

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[7] See, for example, News Corp./Hughes Order, Appendix D at ¶¶ 39-46.

[8] For example, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

[9] Comcast/NBCU Order, Appendix B at ¶ 42.

[10] *Id.* at ¶ 40.

defined in the agreements equal about 90% of total MVPD subscribers).[11] In the typical carriage agreement, the MVPD is allowed to sell **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** minutes per hour of advertising. We understand that this provision reduces the net cost to MVPDs of carrying TWC SportsNet by approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, which based on the 2014 price of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** equals **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month.

21. Assuming that the profit margins observed in 2014 were consistent with expectations for 2014 when the 2012 agreements were negotiated, one can solve for an estimate of the actual departure rate that would produce **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** as a NBE in negotiations between TWC and each of the other MVPDs. Table 3 below summarizes the estimated actual departure rates implied by the 2014 prices and compares these estimates with the critical departure rates (i.e., the lowest departure rate at which permanent foreclosure would be profitable for New Charter). (There is no critical departure rate for "AT&T only" or "DTV only" because it is assumed that the negotiations between New Charter and AT&T/DTV will relate to all subscribers now served by the newly merged AT&T/DTV firm.)

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[11] As noted above, we focus on carriage fees in 2014 because we use 2014 data on profit margins.

[END HIGHLY CONFIDENTIAL INFORMATION]

22. Each estimated actual departure rate is less than the critical departure rate that would be required for permanent foreclosure to be a more profitable strategy for New Charter than would be renewing at the 2014 prices in the existing carriage agreements. These comparisons imply that permanent foreclosure likely would not be profitable, relative to renewing on the terms in the existing agreements.[12,13]

23. The estimates of actual departure rates shown above assume that the expectations in 2012 of the impact that not carrying TWC SportsNet content would have on subscriber numbers remain the expectations today. This may not be correct. We understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION] If the actual departure rate were lower than the range implied by the NBE, then permanent foreclosure would be even more unprofitable. As discussed below, it also would lead to a smaller merger-induced impact on equilibrium affiliate fees.

C. Impact on Equilibrium Affiliate Fees

[12] However, this does not imply that the 2014 prices likely would be the renewal prices negotiated in the future.

[13] To the extent that efficiency benefits reduce New Charter's costs and raise its margin, the critical departure rate will decrease somewhat. However, that change is unlikely to alter the result that foreclosure would not be profitable and in any event fails to account for the downward pricing pressure on subscriber rates as a result of the cost savings.

24. This analysis showing that permanent foreclosure would be unprofitable at the affiliate fee levels in the expiring contract does not imply that the parties will renew the carriage agreements at the same prices. The affiliate fees in **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** could change for a variety of reasons that are not related to the merger. For example, the parties may have revised their predictions of the departure rates and/or profits on incremental subscribers. These factors, however, are not merger-specific. They would affect renewal prices whether or not there is a merger.

25. A possible merger-specific effect can arise because, after the merger, New Charter will have the incentive to take into account the benefit of diversion to the cable operations in the Old Charter footprint (as well as the Old TWC footprint), if it did not enter a carriage agreement with rival MVPDs in the LA area.[14] An increase in the diversion rate – the share of departing rival MVPD customers that become subscribers of New Charter – would increase the minimum price that New Charter will find acceptable, relative to the minimum price that TWC alone would have found acceptable.[15] The diversion rate will increase because the merged firm will internalize diversion to Old Charter as well as to TWC. This effect pushes in the direction of higher equilibrium prices. This higher minimum price in turn would lead to a higher equilibrium affiliate fee.

26. To estimate the likely impact of the merger on renewal prices, we use the same estimates of actual departure rates as reported above. Using those inputs, we have estimated the impact of the merger on the NBE affiliate fees. The details of our analysis of renewal prices are presented in Section IV of Appendix B. We continue to assume estimated actual departure rates of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY**

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[14] New Charter will also have the incentive to take into account the benefit of diversion from rival MVPDs to BHN in the Bakersfield area (about 110 miles north of Los Angeles). BHN does not come into play in our Nash bargaining analysis, which assumes that a separate affiliate fee is negotiated for the Los Angeles DMA and which focuses on the possible effects of the merger on affiliate fees in the Los Angeles DMA. Los Angeles is by far the most populous DMA in the Dodgers region. BHN has only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** subscribers in the Bakersfield area.

[15] For further discussion, see Appendix B at ¶¶ 31-34.

CONFIDENTIAL INFORMATION] for AT&T/DTV and **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** for Verizon, as estimated above, and continue to use profit margins based on 2014 data. The combination of TWC and Old Charter in the LA area will increase the diversion rate from AT&T/DTV to New Charter to 74.5%, instead of the 62.3% diversion rate from AT&T/DTV to TWC that would prevail absent the merger.[16] For Verizon, the diversion rate to New Charter will increase from 45.1% to 53.9%.[17]

27. Under these assumptions, the merger would raise equilibrium renewal prices by approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per Verizon subscriber. For AT&T/DTV subscribers, the NBE fee increase from the New Charter transaction would be **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** These changes are very small, relative to a monthly standalone video subscription fee of approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month.

28. Other evidence also suggests that the renewal price is unlikely to increase by even this much. As noted above, we understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

    [END HIGHLY CONFIDENTIAL INFORMATION] With an actual departure rate lower than those estimated, the implied change in the renewal price would also be lower.

29. As discussed in our earlier Declaration, the American Cable Association ("ACA") has suggested that efficiency benefits from the merger will lead to larger increases in the equilibrium affiliate fee.[18] There will be efficiency benefits for the Old Charter systems from elimination of double marginalization for the cost of TWC SportsNet. Those efficiency benefits to Old Charter were accounted for in our initial Declaration, since we increased Old

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[16] See Appendix B at ¶ 16.

[17] *Id.* at ¶ 15.

[18] Salop et al. Declaration at ¶ 77. ACA Comments at 12.

Charter's margin by an amount equal to the affiliate fee paid to TWC SportsNet. To the extent that other efficiency benefits reduce New Charter's costs or raise its quality so that its quality-adjusted margin rises, the equilibrium affiliate fee could increase further. However, this effect likely is small. For example, as noted in Appendix B, a $5 increase in New Charter's post-merger margin would lead to a further increase in the NBE affiliate fee of less than **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** cents for Verizon and less than **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** cents for AT&T/DTV.[19] In addition, those same efficiencies also would incentivize New Charter to reduce its quality-adjusted monthly subscription prices.[20] These lower New Charter subscription prices in turn would place some downward pressure on rival MVPDs' monthly fees, *ceteris paribus*.[21] This means that an increase in the equilibrium affiliate fee by itself would overstate the overall competitive impact on consumer welfare from merger-specific efficiencies. In this matter, there is no reason to think that consumers would be harmed on balance from greater efficiencies.[22]

D. Temporary Foreclosure

30. In some previous transactions, the FCC has analyzed the profitability to a vertically integrated MVPD of a strategy of temporary foreclosure when the contract with one of the

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[19] See Appendix B at n. 29, 31. If the $5 margin increase applies only to the Old Charter systems, the NBE for AT&T/DTV would rise by only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** more.

[20] See Katz Reply Declaration at Section II.B (cost pass-through).

[21] In the AT&T/DTV transaction, some commenters also asserted that as a result of the efficiencies of the merger between AT&T and DTV, the profit margin would rise, leading to an increase in "the combined entity's opportunity cost of selling affiliated programming to rival MVPDs, leading in turn to higher prices for rivals and ultimate consumers." AT&T/DTV Order at ¶ 173. The Commission made the point that some of these efficiencies "would be passed onto consumers in the form of lower prices," which were not taken into account by the commenters. *Id.* at ¶ 175.

[22] Modern merger policy is premised on the idea that merger-specific efficiencies generally benefit consumers on balance, not the opposite.

rival MVPDs expires.[23] The analysis compares the profitability of continuing an expiring contract at the current price with the profitability of a strategy of temporary blackout before a new contract is renewed. To analyze merger-specific effects, this analysis would also evaluate whether the merger would be necessary to make a strategy of temporary foreclosure profitable when the contract expires, or whether it would also have been profitable absent the merger.

31. As discussed in our earlier Declaration, the analysis of temporary foreclosure is very complex and prone to error because of the fundamental role of subscriber expectations and inertia.[24] The analysis would require assumptions about subscriber expectations and subscriber inertia that are difficult to justify in a careful way. Subscriber movements in the short run and expectation of longer run movements also will change the affiliate fees that would be struck after the temporary foreclosure episode ends. In the absence of reliable evidence of these effects, the analysis will be overly speculative. For these reasons, we have not carried out that type of analysis here.

E. Conclusions

32. For these reasons, the evidence does not support the claim that the merger will lead to foreclosure or a significant increase in the affiliate fee charged for TWC SportsNet.

III. INPUT FORECLOSURE CONCERNS INVOLVING SPORTSNET LA

A. Introduction

33. SportsNet LA ("SNLA") is an RSN founded by AMP, the Dodgers' owners, to distribute telecasts of the LA Dodgers games and related content. TWC obtained the distribution rights to SNLA content from AMP before the beginning of the 2014 season. Under the contract, TWC is to pay approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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[23] See, for example, News Corp./Hughes Order, Appendix D at ¶¶ 39-46; Comcast/NBCU Order, Appendix B at ¶¶ 28-35.

[24] Salop et al. Declaration at ¶¶ 67-73.

[END HIGHLY CONFIDENTIAL INFORMATION] Distribution rights to the Dodgers telecasts had previously been assigned to Fox.

34. In 2014, the only MVPDs to carry SNLA were TWC itself, BHN and Champion Broadband (a small MVPD in the LA area that has since gone out of business).[25] Neither Old Charter, Cox, DTV, DISH,[26] AT&T nor Verizon[27] accepted TWC's offer.

35. TWC also struck out in attempting to obtain carriage for the 2015 season. Old Charter began carrying SNLA in June 2015 after this proposed merger was announced. But this carriage agreement involved only a 5 month deal that was set to expire on October 31, 2015.[28] Charter's carriage agreement also did not lead any of the other MVPDs to begin carriage of SNLA. We understand that TWC has offered binding arbitration regarding SNLA fees, but no MVPDs have chosen to do so.

36. No commenters expressed any concerns about the effects of the merger on the carriage of SNLA content. We have nevertheless analyzed possible effects of the merger on the likelihood of permanent foreclosure, actual or threatened temporary foreclosure, and the equilibrium affiliate fee (on the assumption that carriage agreements ultimately will be

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[25] Prior to the 2014 season, TWC concluded multi-year carriage agreements with BHN, which operates in Bakersfield (about 110 miles north of Los Angeles), and with Champion Broadband, a very small MVPD in the Arcadia and Monrovia sections of the LA area. Champion Broadband subsequently went out of business and, since August 2014, has been operating as Giggle Fiber. See https://gigglefiber.com/2014/08/giggle-fiber-acquires-network-and-internetphone-customers-from-champion/.

[26] We understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** See *supra* n. 6.

[27] Frontier Communications announced in February 2015 that it had reached a definitive agreement to purchase Verizon's landline assets in California, Florida and Texas. This transaction has not yet closed and we will continue to refer to "Verizon" in this response.

[28] We understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

reached with other MVPDs). We conclude that the merger is unlikely to significantly increase the affiliate fee or lead to an economic incentive to foreclose access to SNLA.

37. The remainder of this section is organized as follows. Section B analyzes permanent foreclosure. Section C analyzes temporary foreclosure. Section D analyzes the equilibrium affiliate fee. Section E concludes.

B. Permanent Foreclosure

38. SNLA has not been a successful venture for TWC. We understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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39. Despite these poor financial results and the fact that TWC's offer of binding arbitration has not been accepted by any MVPDs, it nonetheless might be suggested that TWC has been engaged in a foreclosure strategy against competing MVPDs – DTV, DISH, AT&T, and Verizon – where these initial losses are simply costs that will be recouped as Dodgers fans switch from the foreclosed MVPDs to TWC. Of course, if it is concluded that TWC in fact is currently engaged in a foreclosure strategy, then there would no merger-specific effect on foreclosure.

40. Alternatively, it might be suggested that whereas TWC would decide to modify its strategy and to set affiliate fees at levels that competing MVPDs would find acceptable, New Charter itself might find it profitable to pursue a strategy of foreclosure after the merger. In this scenario, foreclosure would be merger-specific.

41. In other mergers involving vertically integrated MVPDs, the FCC has used the current affiliate fee as the starting point for its foreclosure analysis. That analysis evaluates whether the merger would make a permanent foreclosure strategy profitable following the expiration

of current contracts. In this analysis, the profitability of permanent foreclosure is compared with the profitability of continuing to supply at the current price.

42. However, this type of analysis of permanent foreclosure cannot be applied to SNLA. Because the rival MVPDs do not carry the network in the current non-merger world, it is not possible to analyze whether the merged firm would have an incentive to enter new agreements when the existing agreements expire.

C. Temporary Foreclosure

43. It also might be suggested that New Charter would engage in strategy of temporary foreclosure (or would threaten to engage in this strategy) as a way of affecting bargaining outcomes. This type of analysis would be very speculative when there are no existing carriage agreements with non-TWC MVPDs, just as it would be for permanent foreclosure. Moreover, as we have discussed with respect to TWC SportsNet, the analysis of temporary foreclosure is complex and prone to error. In the absence of any probative evidence regarding the impact on subscribers of temporary foreclosure of SNLA, the relevant inertial factors and other required elements would be impossible to predict in a reliable way. For these reasons, we do not carry out any empirical analysis of temporary foreclosure here.

D. Impact on Equilibrium Affiliate Fees

44. It also might be suggested that, if one assumes that carriage agreements for SNLA ultimately would be concluded whether or not the merger occurs, then the merger would increase the affiliate fees that are paid in these agreements.

45. As discussed in the initial Salop et al. Declaration, the FCC has analyzed the impact of mergers on the bargaining equilibrium for content prices.[29] This involves analysis of the impact of the merger on the gains and losses of withholding content (i.e., permanent foreclosure) to the vertically integrated MVPD that owns the content as well as to the MVPD(s) that would be foreclosed. The merger-specific changes in the estimated gains and losses from no agreement (foreclosure) can be used to estimate the impact of the merger on the NBE affiliate fee when the current contracts expire.

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[29] See, for example, Comcast/NBCU Order, Appendix B at ¶¶ 46-47.

46. In the case of SNLA, there is no current contract and affiliate fee to use as a benchmark. If, however, one assumes that the MVPDs will eventually reach agreement on the terms of a carriage deal for SNLA content at some mutually acceptable fee, then it is possible to study the incremental effect the merger would be likely to have on the equilibrium fee. This analysis does not require an assumption about the NBE affiliate fee that would occur absent the merger. Instead it requires only an estimate of how the merger would change the minimum and maximum acceptable prices.

47. We have applied the Nash bargaining model to evaluate this impact on the affiliate fee. The model assumes the joint benefits of reaching an agreement are divided up between the two sides according to their relative bargaining strength. We assume that the bargaining surplus is divided equally, so that the impact on the equilibrium price equals 50% of the change in the buyer's maximum willingness to pay plus 50% of the change in the seller's minimum acceptable price.

48. We assume that DISH would not carry SNLA regardless of whether the other MVPDs agree to carry SNLA and that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**

49. We conservatively assume that if the merger does not go forward, Charter would not renew its carriage agreement for SNLA content unless AT&T/DTV and Verizon separately reached agreement.[30] We similarly assume that Verizon would agree to carry SNLA if and only if AT&T/DTV does. We also assume that the other MVPDs will pay the same fee as does AT&T/DTV. (This assumption simplifies the analysis and might be required by FCC non-

[30] If Charter chooses to carry SNLA absent the merger, then there would be no effect on the maximum willingness to pay of other MVPDs such as AT&T/DTV and Verizon. New Charter's minimum acceptable price would be higher than TWC's because New Charter would internalize diversion from AT&T/DTV and Verizon to Old Charter. As a result, the impact of the merger on the NBE outcome would be smaller than the impact we calculate below.

discrimination rules.) This means that absent the merger, only TWC would carry SNLA, unless AT&T/DTV agrees to carry it.[31]

50. As a result, we focus solely on the negotiations with AT&T/DTV and the likely effects of the merger on those negotiated prices.[32]

51. Determining the impact of the merger on the equilibrium affiliate fee does not require an estimate of the level of the equilibrium fee. Instead the analysis requires only an estimate of how the merger would change the minimum and maximum acceptable prices and how any bargaining surplus would be divided. To estimate the change in these acceptable prices given our assumptions, we estimate (i) the merger-related change in the (buy-side) maximum price that AT&T/DTV would be willing to pay for SNLA; and (ii) the difference between the (sell-side) minimum price that New Charter would find acceptable and the minimum price that TWC would have found acceptable absent to the merger. We turn next to the analysis of these issues.

1. Estimation methodology

a. Impact on AT&T/DTV's maximum willingness to pay

52. We compare the bargaining environments with and without the merger. We first consider the situation before the 2016 season, under the assumption that the merger is not consummated. Suppose that AT&T/DTV and TWC begin to bargain with respect to the LA area. AT&T/DTV would reason that carrying SNLA would permit it to gain back subscribers it

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[31] BHN signed a multi-year carriage agreement prior to the 2014 season whereby BHN also would continue to carry SNLA even if the proposed merger does not go forward. BHN operates in the Bakersfield area (about 110 miles north of Los Angeles). As such, BHN does not come into play in our Nash bargaining analysis, which assumes that a separate affiliate fee is negotiated for the Los Angeles DMA, by far the most populous DMA in the Dodgers region. That analysis is based only on the subscribers that would be gained or lost in the Los Angeles DMA if a MVPD does or does not carry SNLA, so BHN is not relevant to the empirical analysis.

[32] **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

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lost to TWC in 2014 and 2015 when it did not offer the Dodgers.[33] It also would gain back subscribers that it lost to Charter after Charter began carrying SNLA in June 2015. **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION] In addition, the potential benefits to AT&T/DTV from entering a carriage agreement also will depend on how much extra its own subscriber base would be willing to pay if AT&T/DTV has access to SNLA.

53. We next consider next the situation before the 2016 season, under the assumption that the proposed merger is consummated. If it agrees to carry SNLA, AT&T/DTV will gain the same benefit in the LA area from being able to recapture subscribers that it lost to TWC. It also will get the same benefits from being able to charge its own subscriber base for access to SNLA as absent the merger. **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

54.

[33] We explain the bargaining dynamics here simply in terms of the subscribers lost and gained in the past. We are using those gains and losses also to proxy gains and losses in the future. We do not take inertial effects into account.

55.

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b. Impact on New Charter's (or TWC's) minimum acceptable price

56. The minimum fee that the SNLA rights seller (i.e., either TWC or New Charter) would accept depends on the no-agreement profits that the seller would earn if it did not enter carriage agreements with AT&T/DTV (and by assumption any of the other MVPDs at issue). If the merger goes forward and AT&T/DTV and Verizon do not reach a carriage agreement, then the subscribers who have switched from these MVPDs to TWC and Charter would tend to remain at TWC and Charter.[34] Conversely, if carriage agreements are entered, TWC and Charter would lose subscribers. This is because some of the subscribers who switched to TWC and Charter when they were the only MVPDs offering SNLA would switch back. Absent the merger, TWC would care only about the subscriber losses that it would suffer if it reached carriage agreements with AT&T/DTV and Verizon. By contrast, after the merger,

[34] We say "tend to remain" because, in reality, a certain percentage of MVPD subscribers will leave their current MVPD for miscellaneous reasons. Some of these "leavers" will drop MVPD service; others will switch to another provider. In addition, in any period there will be a certain number of new subscribers who have moved to the area or who have decided to begin (or re-start) MVPD service. To simplify the exposition, we refer in this analysis only to the effect that carrying SNLA has on subscribers switching from one provider to another. A more complete exposition also would account for the effect that carrying SNLA has on the MVPD provider selected by new subscribers who are beginning or re-starting MVPD service.

New Charter would "internalize" the subscriber losses at TWC and Charter as part of its profitability analysis. Thus the minimum acceptable price to New Charter post-merger would tend to be somewhat higher than the minimum price acceptable to TWC pre-merger.

2. Estimating the effect of the merger on the NBE affiliate fee

a. The number of subscribers that would switch from Old Charter

57. As just explained, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION] New Charter's minimum acceptable price would be higher because New Charter internalizes the cost of the subscribers that would switch back to AT&T/DTV if AT&T/DTV were to sign a carriage agreement for SNLA. This means that the extent to which carrying SNLA has allowed Old Charter to attract additional subscribers is a driving factor in the analysis of the incremental effects of the proposed merger on equilibrium affiliate fees.

58. The available evidence suggests that offering SNLA has not had large effects on the number of Charter subscribers in the LA area. We have analyzed the data on MVPD shares and subscribers in the LA area using the econometric methods described in Appendix D. We find that TWC's subscribers in the LA area in the period since the second quarter of 2014 (when the 2014 baseball season began) were only about 60,000 higher (roughly 4.5%), after controlling for changes in the number of TWC subscribers in other DMAs before and after the second quarter of 2014. Adjusting for the difference between the number of TWC and Charter subscribers in LA, the implied increase in the number of Charter subscribers is about 12,000. We use this 12,000 figure in our analysis below.[35]

[35] This econometric analysis could not be run for Charter because Charter only began carrying SNLA in June 2015 and the SNL Kagan data used in the analysis end at the second quarter of 2015.

b. Average profits on incremental subscribers

59. The impact of the proposed merger on AT&T/DTV's maximum willingness to pay also depends on the profits per subscriber that AT&T/DTV would realize on subscribers that would switch from Old Charter to AT&T/DTV, if AT&T/DTV signed a carriage agreement. Similarly, the merger's effect on New Charter's minimum acceptable price depends on the profits per subscriber that New Charter would lose on subscribers that would leave Old Charter for AT&T/DTV.

60. As discussed in our initial Declaration, we assume that the average profit per subscriber earned on subscribers switching from Old Charter to AT&T/DTV is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**[36]

c. Estimated effect on the equilibrium affiliate fee

61. As explained above, the incremental effect of the merger on the equilibrium affiliate fee depends on the number of Charter subscribers who would switch to AT&T/DTV if AT&T/DTV reached a carriage agreement for SNLA. Using the model set out in Appendix C, we calculate the *change* in TWC's minimum acceptable price and the *change* in AT&T/DTV's maximum willingness to pay under the assumption that 12,000 Old Charter subscribers would switch and the profit per subscriber is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per month. Under these assumptions, the implied change in the NBE monthly fee is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber.

62. We understand that **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** If one were to assume instead that half the increase in carriage fees implied by the NBE analysis would be passed through to MVPD subscribers, the increase in prices paid by MVPD subscribers would amount to only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY**

[36] Salop et al. Declaration at ¶ 49.

CONFIDENTIAL INFORMATION] (assuming an average video-only price of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month). Even if the pass-through rate were assumed to be 100%, the increase would be only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** This assumption also does not take into account downward pricing pressure from various cognizable efficiency benefits.

63. To the extent that efficiency benefits reduce New Charter's costs or raise its quality so that its quality-adjusted margin rises, the equilibrium affiliate fee could increase. However, this effect likely is small. As noted in Appendix C, a $5 increase in New Charter's post-merger margin would increase the NBE affiliate fee by approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** more. If the $5 efficiencies would apply only to Old Charter, the extra increase would be only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** In addition, as noted already, those same efficiencies also would incentivize New Charter to reduce its quality-adjusted monthly subscription prices, which would place some downward pressure on rival MVPDs' monthly fees, *ceteris paribus*.

E. Conclusions

64. For these reasons, the evidence does not support the claim that the merger will lead to foreclosure or a significant increase in the affiliate fee charged for SportsNet LA.

IV. CONCLUSIONS

65. Our analysis shows that permanent foreclosure of either TWC SportsNet or SNLA is unlikely to be profitable for New Charter. The estimated impact of the New Charter transaction on the NBE affiliate fees is approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** in total, that is, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** of the average monthly video subscription fee.

66. This increase does not take into account potential efficiency benefits from the transaction other than elimination of double marginalization. If the New Charter margin were to increase by an additional $5, the increase in the estimated NBE affiliate fees would rise by about **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** more. If the $5 increase applied only to the Old Charter margin, the extra increase would be only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** more. However, these efficiencies would also create offsetting downward pricing pressure which could lead to increase in market demand. A $5 cost reduction would amount to more than 5% of the monthly video subscription fee and thus, it likely would swamp the upward pricing pressure from the increased NBE affiliate fee. Moreover, the downward pricing pressure would benefit consumers nationwide, whereas the upward pricing pressure occurs only in the Los Angeles area.

APPENDIX A

SUMMARY OF DATA AND CALCULATIONS

1. This Appendix describes the sources of data used for subscriber shares, margins, and revenues in the text of this submission.

I. SUBSCRIBER DATA

2. For MVPD video subscriber counts and shares, we use data from SNL Kagan. Table 1 shows subscriber shares for the various MVPDs for the Los Angeles DMA from 2014 Q4. Table 1 also indicates various aggregates. Because they are relevant to the calculation of diversion ratios, Table 1 also provides the subscriber shares of each cable MVPD in a universe of all cable MVPDs. Table 1 similarly provides the subscriber shares of each non-cable MVPD (i.e., DBS and Telco) in a universe of all non-cable MVPDs.

Table 1

Summary of Subscriber Data (Los Angeles DMA)

MVPD	Video Subscribers	Share of Video Subscribers	Share of Cable Subscribers	Share of DBS and Telco Subscribers
Charter	251,307	6.0%	14.0%	-
Time Warner Cable	1,286,701	29.0%	73.0%	-
Bright House	-	0.0%	0.0%	-
*New Charter Total**	1,538,008	35.0%	87.0%	-
Other Cable	234,861	5.0%	13.0%	-
DIRECTV	1,081,560	24.0%	-	40.0%
DISH	707,797	16.0%	-	26.0%
Verizon FiOS	516,544	12.0%	-	19.0%
AT&T U-verse	395,179	9.0%	-	15.0%
Other Telco	-	0.0%	-	0.0%
Total	**4,473,949**	**100%**	**100%**	**100%**

* New Charter represents a sum of Charter, TWC, and BHN, and is excluded from the totals.
Source: SNL Kagan, 2014 Q4.

II. DIVERSION RATIOS

3. In our foreclosure and the Nash Bargaining Equilibrium ("NBE") analyses, we assume proportional diversion.[1] That is, when subscribers leave MVPD-A, the fraction that will switch to MVPD-B is assumed to be equal to the subscriber share of MVPD-B in the universe of all MVPDs, but excluding both MVPD-A and also any MVPD that is not available to subscribers of MVPD-A. Formally, let S_X represent the share of MVPD-X among all MVPD subscribers, and let S_Y^{not} represent the share (among all MVPD subscribers) of all the MVPDs that are available to subscribers of MVPD-Y (excluding MVPD-Y). Then the diversion ratio from MVPD-A to MVPD-B is:

$$DR_{A\to B} = \frac{S_B}{S_A^{not}}$$

4. For example, in the analysis of the NBE for SNLA, the diversion ratio of DBS and Telco subscribers to New Charter would equal the share of New Charter of the Los Angeles DMA, divided by the share of all other MVPDs, excluding DBS and Telco MVPDs:[2]

$$DR_{DBS/Telco\to NewCharter} = \frac{S_{NewCharter}}{1 - S_{DBS} - S_{Telco}} = \frac{0.344}{1 - 0.400 - 0.204} \cong 0.87$$

We therefore assume a diversion ratio of 87% from DBS and Telco to New Charter in our NBE analysis of SNLA. This equals the share of New Charter among cable MVPD subscribers, as shown in Table 1 above.

5. Similarly, the diversion ratio of Verizon subscribers to New Charter would equal the share of New Charter in the LA DMA, divided by the share of all other MVPDs, excluding Telco MVPDs. This is because no other Telco MVPD is available to Verizon subscribers.

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[1] This follows the general approach of the Commission. See, for example, Comcast/NBCU Order, Appendix B. In their analysis the FCC acknowledges that DBS products might be closer substitutes to each other than to cable, and they make an adjustment to the assumption of proportional diversion. They do, however, use the assumption of proportional diversion between cable and Telco MVPDs. In our analysis, we assume that DISH does not and will not carry any RSNs, and that foreclosing other MVPDs from TWC RSNs would not lead to any significant diversion to DISH. We otherwise assume proportional diversion.

[2] We note that the calculations shown in the text and footnotes throughout this report may not be exact because of rounding.

III. MARGIN DATA

6. One input into our analyses is the average profit margin earned on subscribers who purchase video, either standalone or in a bundle. We use profit and subscriber data received from Charter and TWC, supplemented with subscriber data from BHN to calculate a weighted average margin for all bundles that include video in the range of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month, as shown in Table 2, which we round up to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**[3] Because we lack access to data from other MVPDs, we assume that this estimate applies to all MVPDs.

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IV. AFFILIATE FEES AND ADVERTISING REVENUES

7. The affiliate fees for TWC SportsNet are reported and discussed in Section II of this submission. For SNLA, we do not have any reliable information on affiliate fees for AT&T/DTV and Verizon because they currently do not carry SNLA at the fee demanded by TWC.

[3] Margins are based on calculations performed using Charter average revenue data from December 2014 and TWC average revenue data from September 2015, combined with Charter and TWC cost data covering the whole year 2014.

8. For advertising revenues, we received data from TWC covering both TWC SportsNet and SNLA. For TWC SportsNet, we received data on aggregate revenues, and the percentage of those revenues attributable to advertising, covering the 12 months ending September 2015. During that period, advertising revenues were **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** of total revenues; combined with the affiliate fee of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, this implies that TWC collects approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month in advertising revenues (i.e., **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**). For SNLA, we received data on total advertising revenue collected, and the total number of subscribers, covering the period from September 2014 through October 2015; based these data, we estimate an average of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** in advertising revenue per subscriber per month.[4]

[4] Technically these revenues would include advertising revenue collected on BHN and Champion subscribers, both of which are very small as compared to TWC and Charter. Additionally, since BHN does not operate in LA, the advertising revenue collected per BHN subscriber is likely to be less than for TWC and Charter subscribers. As a result, excluding the revenue collected on these subscribers from the calculation is not likely to move the average much at all. (Further, a range of values from zero to $1 for advertising revenue per subscriber per month does not significantly change the results.)

APPENDIX B

MODELING NEW CHARTER'S POTENTIAL INCENTIVES TO LIMIT RIVAL MVPDS' ACCESS TO TWC SPORTSNET

I. INTRODUCTION

1. In this appendix, we provide the technical details of the analyses that we have carried out to address potential concerns that New Charter might have an incentive to limit rival MVPDs' access to TWC SportsNet. We focus on New Charter's potential incentives to employ foreclosure or price raising strategies targeted at DBS and Telco MVPDs in the Los Angeles ("LA") area.

2. Section II develops the framework used to evaluate New Charter's incentives to engage in *permanent foreclosure* by denying rival MVPDs access to TWC SportsNet.[1] The costs to New Charter of foreclosing a rival MVPD are the foregone advertising revenues from reduced viewership of TWC SportsNet and the lost affiliate fees that the foreclosed MVPD would pay to New Charter absent the foreclosure. The benefit to New Charter from foreclosing that MVPD is the incremental profit earned by New Charter from subscribers that would leave the foreclosed MVPD (mainly hard-core fans of the Lakers, Galaxy and the Sparks) and switch to New Charter in order to continue to watch TWC SportsNet. We use this framework to calculate the "critical departure rate" of subscribers, that is, the minimum percentage of subscribers that the foreclosed MVPDs must lose for New Charter to find it profitable to deny those MVPDs access to TWC SportsNet at current prices. If this *critical* departure rate is higher than the *actual* departure rate that would occur (if New Charter were to engage in the foreclosure strategy), then the foreclosure strategy is *not* profitable.

3. In Section III, we estimate the *actual* departure rates by assuming that the affiliate fees in the current carriage agreements reflect a Nash Bargaining Equilibrium ("NBE"), based on the bargaining parties' common expectations of the likely departure rate and other relevant

[1] See e.g. Comcast/NBCU Order, Appendix B at ¶¶ 7-9. News Corp./Hughes Order, Appendix D at ¶¶ 2-9.

factors.[2] Accordingly, the current affiliate fees provide useful information on the likely departure rate following a hypothetical foreclosure strategy by TWC. We thus use the NBE model and the current affiliate fees – together with the available data on the current (but-for the merger) market outcome – to obtain an estimated actual departure rate if one or more MVPs are foreclosed. By comparing this *estimated* actual departure rate with the *critical* departure rate if a given MVPD were denied access to TWC SportsNet, we conclude that New Charter will lack the incentive to foreclose other MVPDs from TWC SportsNet.

4. In Section IV we apply the FCC's general framework and use the NBE model to estimate the potential effects of the merger on affiliate fees paid by MVPDs for TWC SportsNet.[3] The estimated price increases are small and unlikely to lead to consumer harm, particularly because the analysis does not account for the efficiencies generated by the merger.

II. PERMANENT FORECLOSURE SCENARIOS AND CRITICAL DEPARTURE RATES

A. Definitions, Assumptions and Notation

5. The number of subscribers that would leave a foreclosed MVPD, expressed as a percentage of the MVPD's initial subscribers, is called the "departure rate" and is denoted by d. The fraction of those departing subscribers that would switch to New Charter (as opposed to some other MVPD that carries TWC SportsNet) is called the "diversion ratio" and is denoted by α. We assume that all the MVPDs that currently carry TWC SportsNet in the LA area pay the same affiliate fee per subscriber, denoted by F.[4] We also assume that TWC SportsNet earns advertising revenues per subscriber, denoted by A.

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[2] See Comcast/NBCU Order, Appendix B at ¶¶ 42-46. For this analysis, NBCU was treated as a pre-merger standalone network, whereas TWC SportsNet is owned by an MVPD.

[3] *Id.* at ¶¶ 39-47. In Appendix C, we use a variant of the NBE model to analyze the likely impact of the proposed merger on the affiliate fees for SNLA.

[4] We ignore small MVPDs such as Champion Broadband. We also will ignore BHN in the remainder of this appendix. BHN operates in Bakersfield, about 100 miles north of LA and has only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** subscribers.

6. We assume that foreclosure would have no effect on TWC SportsNet's advertising revenue per subscriber (A) even if the foreclosure strategy under consideration would reduce viewership substantially. We also assume that foreclosure leads to TWC (pre-merger) or New Charter (post-merger) increasing its MVPD market share, but not its MVPD subscription prices. Thus, TWC's or New Charter's dollar margins per subscriber, denoted by M_{TWC} and M_C for the TWC and Charter territories, would not be affected by the foreclosure.

7. DISH currently does not carry TWC SportsNet. As discussed in the body of this declaration, we assume that DISH will not start carrying TWC SportsNet, regardless of whether the proposed merger goes through. In that DISH is not carrying TWC SportsNet or other RSNs, we also assume that the number of DISH subscribers would not increase significantly if New Charter were to foreclose other MVPDs from TWC SportsNet. We further assume that the foreclosure would not reduce the total number of MVPD subscribers in the LA area.

B. Profitability of Foreclosure and Critical Departure Rates

8. Suppose that New Charter does not foreclose any MVPD, but renews the current contract terms with all the MVPDs that are carrying TWC SportsNet. Then, New Charter's profit is equal to:

$$\pi_{NC}^{nf} = TA + (T - N_{TWC} - N_C)F + N_{TWC}M_{TWC} + N_C M_C \qquad (1)$$

where π_{NC}^{nf} denotes New Charter's profits with no foreclosure ("nf"), T denotes the total number of MVPD subscribers in the LA area (excluding DISH), and N_{TWC} and N_C denote the number of subscribers on TWC and Charter cable systems, respectively.[5] The first and second terms (i.e., TA and $(T - N_{TWC} - N_C)F$) are the advertising and affiliate revenues obtained by New Charter as the owner of TWC SportsNet, and the last two terms (i.e., $N_{TWC}M_{TWC}$ and $N_C M_C$) are the gross profits earned by New Charter in its two territories.

[5] We assume that the penetration rate of TWC SportsNet is the same across MVPDs that carry the network.

9. Suppose instead that New Charter were to foreclose Verizon and/or AT&T/DTV, while renewing the current contract terms with cable MVPDs (e.g., Cox). Let N_R denote the number of subscribers of the foreclosed MVPD(s). Then, New Charter's profit would be given by:

$$\pi_{NC}^{f} = \pi_{NC}^{nf} - N_R(1-d)(A+F) + N_R d[\alpha_{TWC}(M_{TWC}-F) + \alpha_C(M_C - F)] \quad (2)$$

10. The first term is New Charter's profit in the absence of foreclosure, as given in equation (1). The second term is the cost of foreclosure incurred by New Charter. That is, New Charter would lose the advertising and affiliate revenues $(A+F)$ on each of the $N_R(1-d)$ subscribers that would stay with the foreclosed MVPD(s). The last term is the benefit to New Charter from foreclosure. Indeed, on TWC cable systems, New Charter would capture a fraction α_{TWC} of the $N_R d$ subscribers lost by the foreclosed MVPDs, and New Charter would obtain a profit margin equal to $M_{TWC} - F$ on each of those captured subscribers.[6] Similarly, on Old Charter cable systems, New Charter would capture a fraction α_C of the subscribers lost by the foreclosed MVPDs and would obtain a profit margin $M_C - F$ on each of those captured subscribers.

11. It follows that New Charter will have no incentive to foreclose the MVPD(s) under consideration if its profit without foreclosure is greater than with foreclosure—i.e., if equation (1) is greater than (2). This condition can be written as follows:

$$d < \text{CDR} = \frac{A + F}{A + F + \alpha_{TWC}(M_{TWC} - F) + \alpha_C(M_C - F)} \quad (3)$$

In words, New Charter will have no incentive to foreclose if the actual departure rate (d) is smaller than the *critical departure rate* ("CDR").

12. The comparative statics of the CDR formula in equation (3) are intuitive. The CDR is higher (which tends to make it more likely that foreclosure is not profitable) if advertising

[6] The relevant margin is equal to $M_{TWC} - F$ because there is an opportunity cost of capturing a subscriber (holding d constant). If New Charter did not capture that subscriber, it would have switched to another MVPD, and that MVPD would have paid F to New Charter. Hence, the relevant margin on subscribers captured by New Charter on TWC systems is $M_{TWC} - F$.

revenues or affiliate fees are higher, while the CDR is lower if the gross margins or diversion ratios to TWC or Charter are higher.[7]

13. The formula for the CDR does not depend directly on the number of subscribers (N_R) of the foreclosed MVPD(s) because N_R is a scale factor that affects both the cost and the benefit of foreclosure proportionally. However, the CDR is smaller when the foreclosed MVPDs have higher diversion ratios to New Charter. For example, diversion ratios are higher when foreclosure is targeted at several MVPDs than when it is targeted at only one of the MVPDs.

C. Estimating the Critical Departure Rates for Foreclosure Targeted at Verizon, AT&T/DTV, or Both

14. Consider first a hypothetical foreclosure strategy simultaneously targeted at both Verizon and AT&T/DTV in the LA area. Because DISH is not carrying TWC SportsNet, the subscribers of Verizon and AT&T/DTV that would want to continue to watch TWC SportsNet would have to switch to their local cable operator. In this case, we assume that the diversion ratios from these foreclosed MVPDs to the TWC and Charter systems are equal to the TWC and Charter shares of cable MVPD subscribers in the LA area, i.e., $\alpha_{TWC} = 72.6\%$ and $\alpha_C = 14.2\%$.[8] We also assume that A = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**
F = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**
and $M_{TWC} = M_C$ = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**.[9] It then follows from equation (3) that

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[7] We make the obvious assumption that TWC and Charter earn gross margins on their MVPD services that are larger than the affiliate fee of TWC SportsNet.

[8] Throughout our analyses, we assume that diversion ratios are proportional to subscriber shares. See Appendix A for more details. In the LA area, there are a total of 1,772,869 cable MVPD subscribers, including 1,286,701 TWC subscribers and 251,307 Charter subscribers. Hence, TWC and Charter have 72.6% and 14.2% of the cable MVPD subscribers, respectively.

[9] We assume that TWC SportsNet earns an affiliate fee of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL**

the CDR for profitable foreclosure simultaneously targeted at both Verizon and AT&T/DTV is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

15. Consider next a hypothetical foreclosure strategy targeted only at Verizon. The subscribers that desire to continue to watch TWC SportsNet would have to switch to either cable or DTV (since AT&T/DTV does not offer AT&T service in Verizon's footprint, but offers DTV service). We assume that the diversion ratios from Verizon to New Charter's two systems (TWC and Charter) are equal to their MVPD shares divided by the sum of DTV's share and the share of cable, i.e. $\alpha_{TWC} = 45.1\%$ and $\alpha_C = 8.8\%$.[10] Using equation (3) and the above assumptions for A, F, M_{TWC} and M_C, the CDR is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

16. Consider next a hypothetical foreclosure strategy targeted only at AT&T/DTV. The calculation of the diversion ratio here requires taking into account the fact that different subscribers would have different options if they wanted to continue to watch TWC SportsNet. The subscribers of AT&T and the subscribers of DTV in AT&T's footprint would have only the option of switching to cable. Those subscribers represent 58.5% of the

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INFORMATION] and advertising revenue of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, both per subscriber per month. We also assume that all MVPDs have identical margins of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month. Hence, gross of the **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** affiliate fee for TWC SportsNet, the MVPD margin equals **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** See Appendix A.

[10] DTV has 1,081,560 subscribers in the LA area and cable has 1,772,869 subscribers, so that the total of these two numbers is 2,854,429 subscribers. TWC and Charter have 1,286,701 and 251,307 subscribers, respectively, and thus account for 45.1% and 8.8% of those 2,854,429 subscribers.

AT&T/DTV subscribers[11] and we assume that their diversion ratios to New Charter are equal to $\alpha_{TWC} = 72.6\%$ and $\alpha_C = 14.2\%$.[12] The remaining 41.5% of AT&T/DTV subscribers are DTV subscribers in Verizon's footprint. Those subscribers would have the option of switching to either Verizon or cable, and we assume their diversion ratios to New Charter are equal to $\alpha_{TWC} = 47.9\%$ and $\alpha_C = 9.4\%$ (i.e., the TWC (or Charter) share of MVPD subscribers divided by the sum of the two Telco MVPDs' share and cable's share).[13] Thus, the diversion ratios from AT&T/DTV to New Charter are $\alpha_{TWC} = 62.3\%$ (i.e., $0.585 \times 0.726 + 0.415 \times 0.479$) and $\alpha_C = 12.2\%$ (i.e. $0.585 \times 0.142 + 0.415 \times 0.094$). Using equation (3) and the above assumptions for A, F, M_{TWC} and M_C, the CDR is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**

III. ESTIMATING THE ACTUAL DEPARTURE RATE USING THE NASH BARGAINING EQUILIBRIUM MODEL

A. Estimating the Actual Departure Rate of Verizon Subscribers

17. Consider the 2012 negotiations between TWC and Verizon that led to the current carriage agreement. The profit of TWC is the same expression as given in equation (1), but without the terms involving Charter. If TWC and Verizon had not entered into a carriage agreement, we assume that TWC would have entered the same carriage agreements with the other

[11] AT&T has 395,179 subscribers in the LA area and Verizon has 516,544 subscribers. Hence, AT&T has 43.3% of the Telco MVPD subscribers. We assume that 43.3% of the 1,081,560 DTV subscribers, i.e., 468,793 DTV subscribers are in the AT&T footprint. Thus, a total of 863,972 AT&T/DTV subscribers are in the AT&T footprint. That amounts to 58.5% of the 1,476,739 AT&T/DTV subscribers in the LA area.

[12] See *supra* ¶ 14.

[13] AT&T and Verizon have 911,723 subscribers in the LA area and cable has 1,772,869 MVPD subscribers, so that the total number of Telco and cable subscribers is 2,684,592. TWC and Charter have 1,286,701 and 251,307 subscribers, respectively, and therefore 47.9% and 9.4% of those 2,684,592 subscribers.

MVPDs as it did then.[14] Thus, the profit that TWC would have obtained is the same expression as given in equation (2), without the terms involving Charter. It follows that the difference between equations (1) and (2) determines TWC's gain from the carriage agreement with Verizon:

$$\text{TWC's gain} = N_R(1-d)(A+F) - N_R d\alpha_{TWC}(M_{TWC} - F) \tag{4}$$

where N_R denotes the number of Verizon subscribers.

18. Verizon's gain from the carriage agreement is determined in a similar way. Verizon's profit with the carriage agreement is given by $N_R(M_R - F)$, where M_R denotes Verizon's gross dollar margin per subscriber (before paying the affiliate fee). In the absence of the carriage agreement, Verizon's profit would be equal to $(1-d)N_R M_R$. That is, Verizon would lose a fraction of its subscribers (equal to the departure rate d) but would save the costs of the affiliate fees.[15] The difference between these two profits yields:

$$\text{Verizon's gain} = N_R d M_R - N_R F \tag{5}$$

19. We follow the FCC's methodology and assume that the bargaining surplus is divided up equally between the bargaining parties.[16] Therefore, the gains in equations (4) and (5) are equal in the NBE. Solving this equation for the departure rate d yields the estimated *actual departure rate* ("ADR"):

$$\text{ADR} = \frac{A + 2F}{A + F + M_R + \alpha_{TWC}(M_{TWC} - F)} \tag{6}$$

20. The ADR for Verizon depends on the diversion ratio from Verizon to TWC, which we assume is TWC's share of MVPD subscribers divided by the sum of DTV's share and

[14] In the economics literature on bargaining, this is referred to as the "Nash-in-Nash" assumption. See, *e.g.*, Allan Collard-Wexler, Gautam Gowrisankaran and Robin S. Lee, "'Nash-in-Nash' Bargaining: A Microfoundation for Applied Work," mimeo, August 29, 2015.

[15] It is possible that Verizon might have tried to reduce the departure rate by increasing its subscriber retention efforts, which would have reduced its margin below M_R. Accounting for this effect would reduce the estimated actual departure rate and thus make it more likely that New Charter will have no incentive to foreclose Verizon.

[16] Comcast/NBCU Order, Appendix B at ¶¶ 40, 47.

cable's share, i.e., $\alpha_{TWC} = 45.1\%$.[17] We also assume A = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, F = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** and $M_R = M_{TWC}$ = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** It then follows from equation (6) that the ADR for Verizon is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** Since this estimated actual departure rate is lower than the critical departure rate of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** obtained earlier, we conclude that New Charter will have no incentive to deny Verizon access to TWC SportsNet.

B. Estimating the Actual Departure Rate of AT&T/DTV Subscribers

21. In 2012, TWC negotiated with AT&T and DTV separately, since AT&T and DTV only merged in 2015. Therefore, we first will apply the ADR formula in equation (6) to AT&T and DTV separately, and then explain how we estimate the departure rate if both AT&T and DTV were denied carriage of TWC SportsNet jointly.

22. We assume the diversion ratio from AT&T to TWC is equal to TWC's share of MVPD subscribers divided by the sum of DTV's share and cable's share, i.e., $\alpha_{TWC} = 45.1\%$. We also assume A = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, F = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** and $M_R = M_{TWC}$ = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, so that equation (6) implies that the ADR for AT&T is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

[17] See *supra* ¶ 15.

23. Note that this ADR of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** takes into account the fact that AT&T subscribers would have had the option to switch to DTV in 2012 when TWC and AT&T were negotiating. This assumes that they were taking as given that DTV was or would be carrying TWC SportsNet.[18] Thus, 37.9% of the **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** departure rate is accounted for by AT&T subscribers switching to DTV.[19] If DTV also does not carry TWC SportsNet (as would be the case following a foreclosure strategy targeted at AT&T/DTV), we assume that 50% of the AT&T subscribers that would have switched to DTV if it had carried TWC SportsNet would prefer to stay with AT&T, while the other 50% would switch to cable.[20] That implies a departure rate for AT&T subscribers equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**

24. Turning to DTV subscribers, we assume that the diversion ratio from DTV to TWC is TWC's share of MVPD subscribers divided by the sum of the two Telco MVPDs' share and

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[18] See *supra* note 14.

[19] DTV has 1,081,560 subscribers in the LA area and cable has 1,772,869 subscribers. DTV accounts for 37.9% of the sum of these two numbers.

[20] An alternative approach would be to assume that, in the absence of the proposed transaction, the AT&T/DTV merger would not change the negotiated affiliate fee for TWC SportsNet, and then calculate the implications of this assumption on the actual departure rate. Specifically, the assumption that the affiliate fee would remain at **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** implies that the departure rate of AT&T/DTV subscribers is about **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** which corresponds to the assumption that 41.7% of customers who would have switched to DTV would stay with AT&T (and vice versa). (In contrast, the 50% assumption used in the text implies a slightly lower departure rate of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** and thus that AT&T/DTV would negotiate a somewhat lower affiliate fee, i.e., **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** in the absence of the New Charter transaction.)

cable's share, i.e. $\alpha_{TWC} = 47.9\%$ (see above). We also assume A = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

F = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

and $M_R = M_{TWC}$ = **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, so that equation (6) implies that the ADR for DTV is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

25. This ADR of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** takes into account that some DTV subscribers would have had the option to switch to AT&T in 2012. Thus, 14.7% of the **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** departure rate is accounted for by DTV subscribers switching to AT&T.[21] If AT&T also does not carry TWC SportsNet, we again assume that 50% of the DTV subscribers that would have switched to AT&T, if it had carried TWC SportsNet, would prefer to stay with DTV, and the other 50% would prefer to switch to cable or Verizon. This implies an ADR for DTV subscribers equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

26. It follows from the above analysis that the estimated actual departure rate of AT&T/DTV subscribers (following a foreclosure strategy targeted at all subscribers of AT&T/DTV) is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** (i.e., the weighted average of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**). Since this estimated ADR is lower than the CDR of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY**

[21] AT&T has 395,179 subscribers in the LA area, Verizon has 516,544 subscribers and cable has 1,772,869 subscribers. AT&T accounts for 14.7% of the sum of these three numbers.

CONFIDENTIAL INFORMATION] obtained earlier, we conclude that New Charter will have no incentive to deny AT&T/DTV access to TWC SportsNet.

C. Estimating the Departure Rate of Verizon and AT&T/DTV Subscribers in the Event that Both MVPDs Simultaneously Would Be Foreclosed

27. As explained above, the estimated actual departure rate of AT&T subscribers in the event that AT&T would not be carrying TWC SportsNet is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, and 37.9% of that diversion corresponds to diversion to DTV (while the remaining 62.1% corresponds to diversion to cable). We also assume that 50% of that diversion to DTV would remain with AT&T (and 50% would go to cable), if New Charter would foreclose both Verizon and AT&T/DTV. That implies an estimated ADR of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** for AT&T subscribers.[22] We assume that the same is true for Verizon subscribers, since they are in the same position as AT&T subscribers (i.e., their options are to stay put or switch to cable).

28. The estimated ADR of DTV subscribers in the event that DTV would not be carrying TWC SportsNet is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**[23] and 34.0% of it corresponds to diversion to AT&T and Verizon.[24] This implies an estimated ADR for DTV subscribers equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**

29. It follows that the weighted-average estimated actual departure rate for Verizon and AT&T/DTV subscribers is equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** Since this estimated actual departure rate is lower than the critical departure rate of **[BEGIN**

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[22] See *supra* ¶ 23.

[23] See *supra* ¶ 24.

[24] AT&T and Verizon have 911,723 subscribers in the LA area and cable has 1,772,869 subscribers. AT&T and Verizon account for 34.0% of the sum of these two numbers.

HIGHLY CONFIDENTIAL INFORMATION] **[END HIGHLY CONFIDENTIAL INFORMATION]** obtained earlier, we conclude that New Charter will have no incentive to deny both Verizon and AT&T/DTV access to TWC SportsNet.

IV. PREDICTING POTENTIAL PRICE EFFECTS USING THE NASH BARGAINING EQUILIBRIUM MODEL

30. For each of Verizon and AT&T/DTV, the gain obtained from a TWC SportsNet carriage agreement is not affected by the proposed Charter/TWC merger. Within the framework of the NBE model described above, the gain to either MVPD is the expression shown in equation (5), which does not change from the proposed merger. In particular, the maximum affiliate fee per subscriber that each MVPD would be willing to pay (to avoid being the only MVPD with DISH that would not be carrying TWC SportsNet) is equal to dM_R, either with or without the proposed merger.[25]

31. The post-merger gain to New Charter from a carriage agreement, however, is different from TWC's pre-merger gain. The latter is given by equation (4) which we rewrite as follows:

$$\text{TWC's gain} = N_R(A + F_R) - N_R d(A + F) - N_R d\alpha_{TWC}(M_{TWC} - F) \qquad (7)$$

where F_R is the affiliate fee negotiated between TWC and the MVPD under consideration, while F is the affiliate fee in the carriage agreements with the other MVPDs.[26]

32. The minimum affiliate fee per subscriber that TWC is willing to accept in exchange for giving the MVPD access to TWC SportsNet is the value of F_R that makes equation (7) equal to zero:

$$\text{TWC's min acceptable price} = d[\alpha_{TWC}M_{TWC} + (1 - \alpha_{TWC})F] - (1 - d)A \quad (8)$$

[25] Equating (5) to zero and solving for F yields $F = dM_R$. Intuitively, dM_R is the loss incurred by the MVPD from not carrying TWC SportsNet, spread over its initial subscriber base. Thus, the MVPD would be willing to pay a maximum affiliate fee per subscriber equal to dM_R in order to avoid that loss.

[26] In the pre-merger NBE, we have $F_R = F$, and equation (7) reduces to equation (4).

Intuitively, TWC needs to be compensated for the profit that it could capture from each subscriber leaving the MVPD (i.e., the term in square brackets), net of the loss of advertising revenue on each subscriber that stays with the MVPD.

33. Post-merger, we have:

New Charter's min acceptable price =

$$d[\alpha_{TWC}M_{TWC} + \alpha_C M_C + (1 - \alpha_{TWC} - \alpha_C)F] - (1 - d)A \qquad (9)$$

34. In this setting, the NBE affiliate fee can be defined in either of two equivalent ways. It is the affiliate fee that divides the gains from a carriage agreement equally between TWC (or New Charter) and the MVPD. It also is the mid-point between the minimum and maximum acceptable prices of the two bargaining parties. The latter definition is more convenient to use because the maximum price that the MVPD is willing to pay is not affected by the proposed merger. It follows that the post-merger increase in the NBE affiliate fee is equal to 50% of the increase in the minimum acceptable price:[27]

$$\text{Increase in NBE affiliate fee} = \frac{1}{2} d\alpha_C(M_C - F) \qquad (10)$$

35. For Verizon, we have estimated earlier an actual departure rate of $d =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** and a diversion ratio to Old Charter of $\alpha_C = 8.8\%$. Assuming $M_C =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** and $F =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]**, the post-merger increase in the NBE price is equal

[27] The formula in equation (10) is very similar to that used by the FCC. See Comcast/NBCU Order, Appendix B at ¶ 39. It implicitly assumes that the proposed merger would have no effect on the margin that New Charter will earn on the TWC cable systems. If instead the TWC margin would increase by ΔM_{TWC} as a result of merger efficiencies, then the correct formula would include a second term, $(1/2)\, d\alpha_{TWC}\Delta M_{TWC}$, in addition to the term in equation (10). However, that analysis would be incomplete in that the cost savings generated by the merger will result in a downward pressure on the prices charged by New Charter to subscribers (and therefore on margins).

to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per Verizon subscriber per month.[28, 29]

36. For AT&T/DTV, we noted above that their merger would lead to a lower NBE affiliate fee absent the New Charter transaction.[30] Starting from this NBE, we can estimate the increase in the NBE affiliate fee from the New Charter transaction. To do so, we have estimated an actual departure rate $d =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** and a diversion ratio to Old Charter $\alpha_C = 12.2\%$ (see above). Assuming $M_C =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** and $F =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**, the post-merger increase in the NBE affiliate fee is

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[28] The New Charter margin takes into account the elimination of double marginalization. The **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** increase in the NBE affiliate fee paid by Verizon assumes for simplicity that other MVPDs continue to pay **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** However, the NBE affiliate fees paid by other MVPDs increase as well. Accounting for this effect would result in a slightly higher price increase. (Rounded to the nearest penny, the increase in the NBE affiliate fee remains equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**)

[29] If the margin that New Charter would earn on Old Charter's cable systems increases by (say) $5 as a result of merger efficiencies (i.e. $M_C =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**), the post-merger increase in the NBE affiliate fee would be **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** (instead of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**). If, in addition, the TWC margin also increases by $5 as a result of additional efficiencies, the increase in the affiliate fee would be **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**

[30] See *supra* note 20.

equal to **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per AT&T/DTV subscriber.[31]

[31] If the margin that New Charter would earn on Old Charter's cable systems increases by (say) $5 as a result of merger efficiencies (i.e.
$M_C =$ **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**), the post-merger increase in the NBE affiliate fee is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** (instead of **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**). If, in addition, the TWC margin also increases by $5 as a result of efficiencies, the increase in the affiliate fee would be **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**.

APPENDIX C

MODELING THE NASH BARGAINING EQUILIBRIUM FOR SNLA

1. In this appendix, we describe the Nash Bargaining Equilibrium ("NBE") model that we have applied to compare the pricing of SNLA content with and without the proposed merger.[1]

I. NO-MERGER SCENARIO

A. Assumptions and Notation

2. We assume that DISH will not carry SNLA whether or not there is a merger and regardless of whether other MVPDs carry SNLA.

3. TWC and Charter are the only MVPDs currently offering SNLA in the Los Angeles area.[2] We make the following assumptions about SNLA carriage if the proposed merger is not consummated. We assume that if AT&T/DTV would not carry SNLA, then Charter also will not renew its carriage agreement. This assumption has an important implication for our analysis; if AT&T/DTV would not carry SNLA, it would gain some subscribers from Charter (since Charter would stop carrying SNLA).[3] We further assume that no MVPDs in the LA area other than TWC will carry SNLA if AT&T/DTV would not enter into a carriage agreement. Therefore, AT&T/DTV would gain subscribers from Charter without losing any subscribers to other MVPDs (including TWC and Verizon) because these MVPDs (other than Charter) would not change their current carriage decisions, if AT&T/DTV does not change its current decision of not carrying SNLA.

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[1] This NBE model for analyzing the impact of the proposed merger on the affiliate fees for SNLA has a similar structure to the model used for TWC SportsNet (Lakers, Galaxy and Sparks). See Appendix B.

[2] We ignore small MVPDs such as Champion Broadband. We also will ignore BHN. BHN operates in Bakersfield, about 100 miles north of Los Angeles and has only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** subscribers.

[3] If Charter were to continue to carry SNLA absent the merger, the impact of the merger on the NBE affiliate fee would be smaller.

4. If TWC and AT&T/DTV do enter into a carriage agreement, we assume that all the other MVPDs (excluding DISH) also will enter into carriage agreements and will pay the same price per subscriber as AT&T/DTV. Thus, if AT&T/DTV carries SNLA, it will gain some subscribers from both New Charter and DISH (since TWC and Charter already carry SNLA, and DISH will continue not to carry SNLA).[4] However, AT&T/DTV will not gain subscribers from Verizon and other cable MVPDs, which also will carry SNLA if AT&T/DTV does. The model allows for the possibility that the advertising revenue per subscriber that TWC realizes as the sales agent for SNLA will increase as a result of the substantial increase in SNLA viewers. However, in our empirical analysis, we will assume that the advertising revenue per subscriber of SNLA will not change as a result of either Charter dropping SNLA or other MVPDs carrying SNLA.

5. We make several assumptions to simplify the modeling. We assume that SNLA carriage agreements have no effect on the total number of MVPD subscribers. We also assume that SNLA carriage agreements have no effect on the prices that MVPDs charge to their subscribers.

6. We use the following notation:

   N Current total number of MVPD subscribers (excluding DISH).

   N_j Current number of subscribers of MVPD j.

   $\Delta_{j,C}$ Change in the number of subscribers of MVPD j if Charter drops SNLA.

   Δ_j Change in the number of subscribers of MVPD j if all MVPDs (except DISH) carry SNLA.

   M_j Dollar margin per video subscriber of MVPD j.

   A Current SNLA advertising revenue per MVPD video subscriber.

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[4] Our empirical analysis in Appendix D shows that pre-merger AT&T/DTV gains more subscribers from TWC, Charter and DISH in the scenario described in this paragraph (i.e., where it carries SNLA, as does Verizon, Charter, TWC and all other cable MVPDs) than it would gain from Charter in the scenario described in the preceding paragraph (i.e., where it does not carry SNLA and neither does Verizon, Charter and all the other MVPDs except for TWC).

δ Increase in SNLA advertising revenue per MVPD subscriber if all MVPDs (except DISH) carry SNLA.

F SNLA price (affiliate fee) per subscriber.

B. Profits of TWC and AT&T/DTV With and Without a Carriage Agreement

7. If there is no carriage agreement between TWC and AT&T/DTV, their profits are given by:

For TWC: $$N_{TWC}(M_{TWC} + A) \quad (1a)$$

For AT&T/DTV: $$(N_{ATT} + \Delta_{ATT,C})M_{ATT} + (N_{DTV} + \Delta_{DTV,C})M_{DTV} \quad (1b)$$

In words, TWC's profit is equal to the number of TWC video subscribers (N_{TWC}) multiplied by the sum of TWC's margin per video subscriber (M_{TWC}) and TWC's advertising revenue per video subscriber (A).[5] The profit of AT&T/DTV is the sum of the profits from AT&T video subscribers (i.e., the term $(N_{ATT} + \Delta_{ATT,C})M_{ATT}$) and the profits from DTV subscribers (i.e., the term $(N_{DTV} + \Delta_{DTV,C})M_{DTV}$). We track the number of subscribers on each of the two AT&T/DTV systems and account for the fact that the number of subscribers on each system will increase (relative to current levels) if there is no carriage agreement, because Charter will not renew its carriage agreement. The model also allows the margins per subscriber possibly to be different between AT&T and DTV subscribers, although we assume they are identical in our empirical analysis.

8. If instead TWC and AT&T/DTV enter into a carriage agreement, their profits are given by:

For TWC: $$N(F + A + \delta) + (N_{TWC} - \Delta_{TWC})(M_{TWC} - F) \quad (2a)$$

For AT&T/DTV: $$(N_{ATT} + \Delta_{ATT})(M_{ATT} - F) + (N_{DTV} + \Delta_{DTV})(M_{DTV} - F) \quad (2b)$$

[5] Since TWC's cost of carrying SNLA is a fixed cost, it can be ignored in this analysis.

The expression for AT&T/DTV's profit is similar to that without an agreement (see equation (1b)), except that here the margins per subscriber are reduced by the affiliate fee, F, and the increase in the number of subscribers when AT&T/DTV carries the Dodgers (Δ_{ATT} and Δ_{DTV}) is likely different from the increase in the number of subscribers in equation (1b) when Charter stops carrying the Dodgers ($\Delta_{ATT,C}$ and $\Delta_{DTV,C}$). The expression for TWC's profit in equation (2a) accounts for the fact that the advertising revenue per subscriber might be larger (i.e., $A + \delta$ instead of A) if the number of subscribers is higher. It also accounts for the fact that TWC will lose Δ_{TWC} subscribers to AT&T/DTV and other MVPDs as a result of the carriage agreements.[6]

9. Subtracting equation (1a) from equation (2a), one obtains the following gain for TWC from a carriage agreement:

$$\text{TWC gain} = (N - N_{TWC})(A + F) + N\delta - \Delta_{TWC}(M_{TWC} - F) \qquad (3a)$$

The first term (i.e., $(N - N_{TWC})(A + F)$) is the increase in TWC's advertising and affiliate revenues, evaluated using the current number of TWC subscribers (N_{TWC}) and the current advertising revenue per subscriber (A). The second term ($N\delta$) accounts for the fact that the advertising revenue per subscriber likely will be higher as a result of the carriage agreements. The last term (i.e., $\Delta_{TWC}(M_{TWC} - F)$) is the loss to TWC from the reduction in the number of TWC subscribers (as a result of rival MVPDs carrying SNLA), where the margin per

[6] Two technical comments are in order. First, in equation (2a), the TWC margin per subscriber is reduced by the affiliate fee (i.e., $M_{TWC} - F$) because, in the first term (i.e., $N(F + A + \delta)$) we have assumed for convenience that TWC collects the affiliate fee also on its own subscribers. Second, we define the change in the number of TWC subscribers, Δ_{TWC}, as a positive number and thus write the final number of TWC subscribers as $N_{TWC} - \Delta_{TWC}$.

subscriber is reduced by the affiliate fee since TWC will lose the margin M_{TWC} on those lost subscribers but will collect the affiliate fee F on them from the MVPD that they switch to.

10. Similarly, subtracting equation (1b) from (2b), one obtains the following gain for AT&T/DTV from a carriage agreement:

AT&T/DTV gain =

$$(\Delta_{ATT} - \Delta_{ATT,C})M_{ATT} + (\Delta_{DTV} - \Delta_{DTV,C})M_{DTV} - (N_{ATT} + \Delta_{ATT} + N_{DTV} + \Delta_{DTV})F \quad (3b)$$

The last term, i.e., $(N_{ATT} + \Delta_{ATT} + N_{DTV} + \Delta_{DTV})F$, is the cost to AT&T/DTV from paying the affiliate fee. The first two terms, i.e., $(\Delta_{ATT} - \Delta_{ATT,C})M_{ATT} + (\Delta_{DTV} - \Delta_{DTV,C})M_{DTV}$, are profit gains because AT&T and DTV gain more subscribers (from TWC, Charter and DISH) when they carry the Dodgers than they would gain (from Charter) when they do not carry the Dodgers (and neither does Charter).[7]

11. Setting TWC's gain in equation (3a) equal to zero and solving for the affiliate fee F yields:

$$\text{TWC's minimum acceptable price:} \quad F_{TWC} = \frac{\Delta_{TWC}(M_{TWC}+A) - N\delta}{N - N_{TWC} + \Delta_{TWC}} - A \qquad (4a)$$

Note that, if SNLA's advertising revenues are relatively large (or TWC's loss of subscribers is relatively small) then TWC's minimum acceptable price can be negative. In other words, under some conditions TWC might have an incentive to pay AT&T/DTV (and hence also the other MVPDs) to carry SNLA. The same possibility will exist for New Charter after the merger.

12. Similarly, using equation (3b):

[7] For a more intuitive explanation of these scenarios, see *supra* ¶¶ 3, 4 and n. 4.

AT&T/DTV's maximum acceptable price:

$$F_{ATT/DTV} = \frac{(\Delta_{ATT} - \Delta_{ATT,C})M_{ATT} + (\Delta_{DTV} - \Delta_{DTV,C})M_{DTV}}{N_{ATT} + \Delta_{ATT} + N_{DTV} + \Delta_{DTV}} \tag{4b}$$

C. Nash Bargaining Equilibrium in the No-Merger Scenario

13. Assuming $F_{ATT/DTV} > F_{TWC}$ and that TWC and AT&T/DTV have equal bargaining weights, the NBE affiliate fee (which we denote by F^*) is the average of AT&T/DTV's maximum acceptable price and TWC's minimum acceptable price:[8]

$$F^* = \frac{1}{2}(F_{ATT/DTV} + F_{TWC}) \tag{5}$$

We next describe the NBE model for the scenario with the merger.

II. MERGER SCENARIO

14. The assumptions and notation change in a natural way for this scenario. If AT&T/DTV would not carry SNLA, New Charter ("NC") will be the only MVPD that carries SNLA. Thus, *unlike* in the no-merger scenario, AT&T/DTV would *not* gain any subscribers because Old Charter will continue to carry the Dodgers if the proposed merger is consummated. If instead AT&T/DTV carries SNLA, then all the other MVPDs (excluding DISH) also will carry SNLA and will pay the same price as AT&T/DTV. Thus, like in the no-merger scenario, AT&T/DTV will gain some subscribers from Charter and DISH. As before, we assume that SNLA carriage agreements have no effect on the total number of MVPD subscribers or the prices that MVPDs charge to their subscribers. We also assume that New Charter will have the same bargaining strength as TWC, and hence that New Charter and AT&T/DTV will have equal bargaining weights (as TWC and AT&T/DTV would have absent the merger).

[8] Comcast/NBCU Order, Appendix B at ¶ 36.

15. If there is no carriage agreement between New Charter and AT&T/DTV, their profits are given by:

For NC: $$N_{TWC}M_{TWC} + N_C M_C + (N_{TWC} + N_C)A \quad (6a)$$

For AT&T/DTV: $$N_{ATT}M_{ATT} + N_{DTV}M_{DTV} \quad (6b)$$

16. If instead there is a carriage agreement, their profits are given by:

For NC: $$N(F + A + \delta) + (N_{TWC} - \Delta_{TWC})(M_{TWC} - F) + (N_C - \Delta_C)(M_C - F) \quad (7a)$$

For AT&T/DTV: $$(N_{ATT} + \Delta_{ATT})(M_{ATT} - F) + (N_{DTV} + \Delta_{DTV})(M_{DTV} - F) \quad (7b)$$

17. Subtracting equation (6a) from equation (7a), and equation (6b) from equation (7b), one obtains the following gains from a carriage agreement:

NC's gain = $$(N - N_{TWC} - N_C)(A + F) + N\delta - \Delta_{TWC}(M_{TWC} - F) - \Delta_C(M_C - F) \quad (8a)$$

AT&T/DTV's gain = $$\Delta_{ATT}M_{ATT} + \Delta_{DTV}M_{DTV} - (N_{ATT} + \Delta_{ATT} + N_{DTV} + \Delta_{DTV})F \quad (8b)$$

18. Comparing equations (8a) and (3a), and holding the affiliate fee F constant, one can see that New Charter's gain from a carriage agreement with AT&T/DTV is lower than TWC's gain in the no-merger scenario. The gain decreases by the amount $N_C(A + F) + \Delta_C(M_C - F)$. The first term reflects the fact that an agreement with AT&T/DTV is no longer necessary to prevent Old Charter from dropping SNLA. The second term reflects the fact that Old Charter will lose Δ_C subscribers, which is a loss that TWC does not internalize in the no-merger scenario.

19. Comparing equations (8b) and (3b), and holding F constant, one can see that the merger increases AT&T/DTV's gain from a carriage agreement by the amount $\Delta_{ATT,C}M_{ATT} + \Delta_{DTV,C}M_{DTV}$. This is because, in the absence of a carriage agreement with AT&T/DTV, Old Charter will continue to carry the Dodgers, whereas it would not have renewed its agreement in the no-merger scenario.

20. Setting equation (8a) equal to zero and solving for F yields:

NC's minimum acceptable price: $F_{NC} = \frac{\Delta_{TWC}(M_{TWC}+A)+\Delta_C(M_C+A)-N\delta}{N-N_{TWC}+\Delta_{TWC}-N_C+\Delta_C} - A$ (9a)

Comparing this equation with equation (4a), one can show that the merger increases the minimum acceptable price (i.e., $F_{NC} > F_{TWC}$).[9] Similarly, using equation (8b):

AT&T/DTV's maximum acceptable price post-merger:

$$F^{post}_{ATT/DTV} = \frac{\Delta_{ATT}M_{ATT} + \Delta_{DTV}M_{DTV}}{N_{ATT}+\Delta_{ATT} + N_{DTV}+\Delta_{DTV}} \quad (9b)$$

Comparing this equation with equation (4b), then the maximum price that AT&T/DTV is willing to accept is larger with the merger than without the merger.

21. We assume that AT&T/DTV's maximum acceptable price would be higher than New Charter's minimum acceptable price (i.e., $F^{post}_{ATT/DTV} > F_{NC}$). This implies that post-merger there will be "gains from trade" and thus the two companies will have a mutual incentive to enter into a carriage agreement.

22. Assuming that New Charter and AT&T/DTV have equal bargaining weights, the post-merger NBE affiliate fee (which we denote by F^{**}) is the average of AT&T/DTV's maximum acceptable price and New Charter's minimum acceptable price:

$$F^{**} = \frac{1}{2}\left(F^{post}_{ATT/DTV} + F_{NC}\right) \quad (10)$$

[9] We implicitly assume that TWC's minimum acceptable price (F_{TWC}) is positive or, equivalently, that carriage of SNLA by AT&T/DTV would not lead to a significant increase in advertising revenue per subscriber (i.e. δ is sufficiently small to imply $F_{TWC} > 0$). In our empirical analysis, we conservatively assume $\delta = 0$. This is conservative because $\delta > 0$ would imply a smaller increase in New Charter's minimum acceptable price, and hence a smaller increase in the post-merger affiliate fee for SNLA.

23. The effect of the merger on the NBE affiliate fee is given by the difference between equations (10) and (5):

$$F^{**} - F^{*} = \frac{1}{2}\left(F^{post}_{ATT/DTV} - F_{ATT/DTV}\right) + \frac{1}{2}\left(F_{NC} - F_{TWC}\right) \qquad (11)$$

The first term in parentheses is the increase in AT&T/DTV's maximum acceptable price, while the second term in parenthesis is the increase in New Charter's minimum acceptable price (relative to TWC's).

24. In our bargaining analysis, the merger creates upward pricing pressure ("UPP") on the affiliate fee because the merger increases the minimum price that New Charter is willing to accept and, in addition, because it also increases the maximum price that AT&T/DTV is willing to pay. The latter effect was not present in the Commission's analysis of Comcast/NBCU.[10] The UPP from the increase in AT&T/DTV's maximum acceptable price is given by:

$$\frac{1}{2}\left(F^{post}_{ATT/DTV} - F_{ATT/DTV}\right) = \frac{1}{2}\,\frac{\Delta_{ATT,C}\,M_{ATT} + \Delta_{DTV,C}\,M_{DTV}}{N_{ATT} + \Delta_{ATT} + N_{DTV} + \Delta_{DTV}} \qquad (12)$$

25. This UPP reflects the assumption that, absent the merger, Charter will drop SNLA if AT&T/DTV does not carry it, whereas with the merger Old Charter would keep SNLA. Hence, AT&T/DTV is more eager to carry SNLA with the merger than without the merger, which creates UPP.

III. DATA, ASSUMPTIONS, AND PREDICTED MERGER EFFECTS

26. As described in Appendix D, we have estimated that Charter likely has gained approximately 12,000 subscribers, given that it has approximately 20% of the number of subscribers of TWC in LA. In the event that all MVPDs except DISH enter carriage agreements for SNLA, we assume that the subscribers that TWC and Charter gained as a result of their carriage of

[10] See Comcast/NBCU Order, Appendix B at ¶ 39 ("In the Nash bargaining framework, the increase in opportunity cost improves the integrated firm's BATNA, leading to an increase in the price that firm negotiates when selling NBCU content to Comcast's video distribution rivals.").

SNLA, with the exception of former DISH subscribers, would be lost back to their original MVPDs. Since DISH accounts for approximately 26% of DBS and Telco MVPD subscribers, this means that approximately 74%, or 44,277 of TWC's newly acquired 60,000 subscribers and 8,855 of Charter's newly acquired 12,000 subscribers, would be lost back to their original MVPD.[11] **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

27. We assume that advertising revenue is approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month. We assume an average margin on video bundles equal to approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**.[12] Since Charter did not carry SNLA in 2014, this is the margin we use for MVPDs who do not carry SNLA.

28. Using these data inputs, and the formulae derived above, **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**; the change in TWC's minimum acceptable price is approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** Using equation (11) above, this equates to an increase in the NBE affiliate fee of approximately **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** per subscriber per month. If the New Charter margin were to increase by $5 as a result of merger-induced efficiencies, then that would lead to a further increase in the post-merger NBE affiliate fees of about **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL**

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[11] See Table 1, Appendix A. For simplicity of exposition, we explain the bargaining dynamics here simply in terms of the subscribers previously lost and to be gained back. However, we are using those gains and losses also to proxy gains and losses in the future.

[12] See Table 2, Appendix A.

INFORMATION] If the $5 resulting from efficiencies would apply only to Old Charter, the extra increase would be only **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]**

[END HIGHLY CONFIDENTIAL INFORMATION]

APPENDIX D

ESTIMATING CHARTER'S SUBSCRIBER GAIN AS SOLE PROVIDER OF SNLA

I. INTRODUCTION

1. The purpose of this appendix is to estimate the number of subscribers Charter would gain if it were the only MVPD telecasting SNLA in its service area. This figure is one of the inputs to our analysis of the possible effects of the merger on the NBE affiliate fee for SNLA. Charter in fact began carrying the SNLA network in 2015 Q2 (and was the only MVPD in its service area to do so), but we cannot estimate that subscriber impact on Charter directly because of a shortage of observations.[1] We instead have inferred what that impact would be based on the TWC experience.

2. Beginning in 2014 Q2 (i.e., at the start of the 2014 baseball season), TWC became the only MVPD in its footprint to offer SNLA telecasts. Other MVPDs chose not to carry the SNLA network at the price offered by TWC. Following the same type of econometric methodology as used by the FCC in previous transactions, we have estimated the impact on the number of TWC subscribers resulting from its de facto sole carriage in 2014 and early 2015.[2]

3. As explained below, we estimate that TWC's subscriber gain in the LA DMA from carriage of SNLA is about 60,000 (i.e., approximately 5% of its MVPD subscribers in the LA area). We use this estimate to infer the number of subscribers that have moved to Charter as a result of its carriage of SNLA in 2015 by assuming that its carriage increase is the same 5% as gained by TWC. This implies that Charter gained 12,000 subscribers.

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[1] We are unable to directly estimate the impact on the number of Charter subscribers gained from its carriage beginning in June, 2015, because the available subscriber data ends with 2015 Q2.

[2] FCC, News Corp./Hughes Order, Appendix D at ¶¶ 18-21 (ABC-TWC dispute in Houston); *Id.* at ¶¶ 42-43 (YES – Cablevision dispute in New York); Comcast/NBCU Order, Appendix B at ¶¶ 31-34 (Fisher-DISH dispute in Pacific Northwest and California).

II. ANALYSIS OF THE IMPACT ON TWC SUBSCRIBER NUMBERS OF RIVAL MVPDS FROM FAILURE TO CARRY SNLA

4. Our econometric analysis uses monthly subscriber data by DMA and by quarter from SNL Kagan. We have estimated a "difference-in-differences" regression model in which the dependent variable was the natural log of TWC subscribers. We have estimated this model with subscriber data 2013 Q1 through 2015 Q2 from (i) the LA DMA (the most populous DMA in the SNLA region by far) and (ii) control-group DMAs (as discussed below).[3]

A. Data

5. Figures 1 and 2 plot TWC's subscribers in the LA DMA, and TWC's share of all MVPD subscribers in the period from 2013 Q1 to 2015 Q2. It is clear from these figures alone that there were no dramatic increases in TWC's subscriber numbers in the LA DMA after 2014 Q2 (the dashed vertical line in the figures), when SNLA was carried solely by TWC.

[3] The LA DMA and 4 other DMAs fall into what is described in the agreements as Zone 1. The MVPD subscribers in the LA DMA equal 89% of the total MVPD subscribers in the DMAs covered by Zone 1. (Based on SNL Kagan MVPD subscriber data for Bakersfield, Los Angeles, Palm Springs, Santa Barbara, in 2014 Q4.)

Figure 1

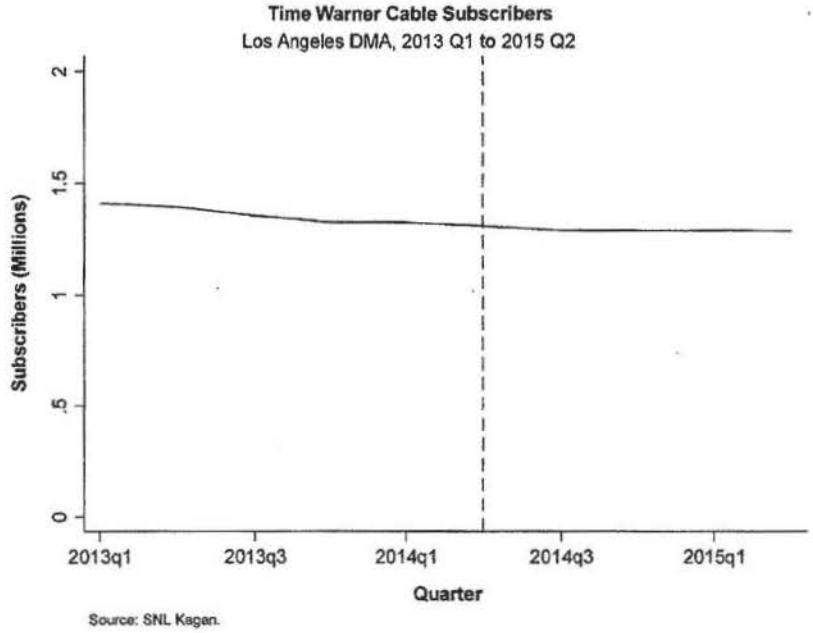
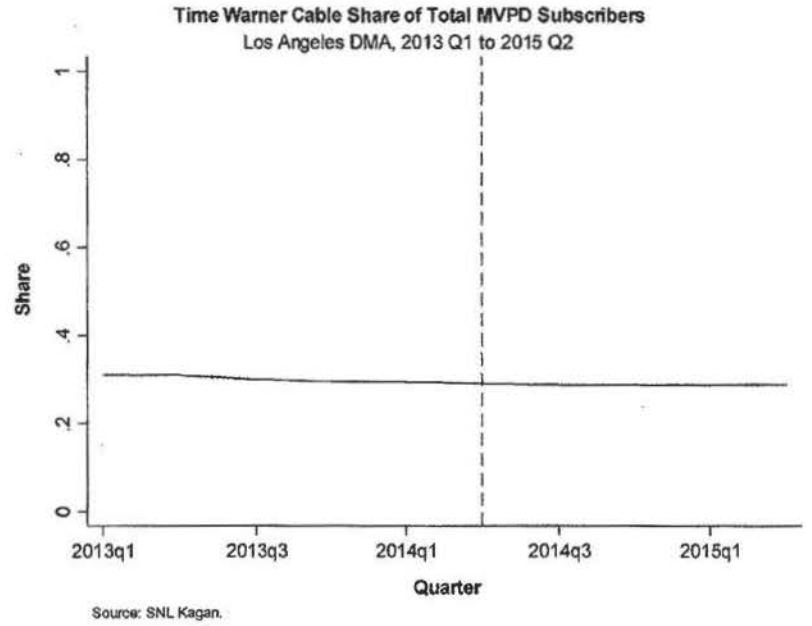
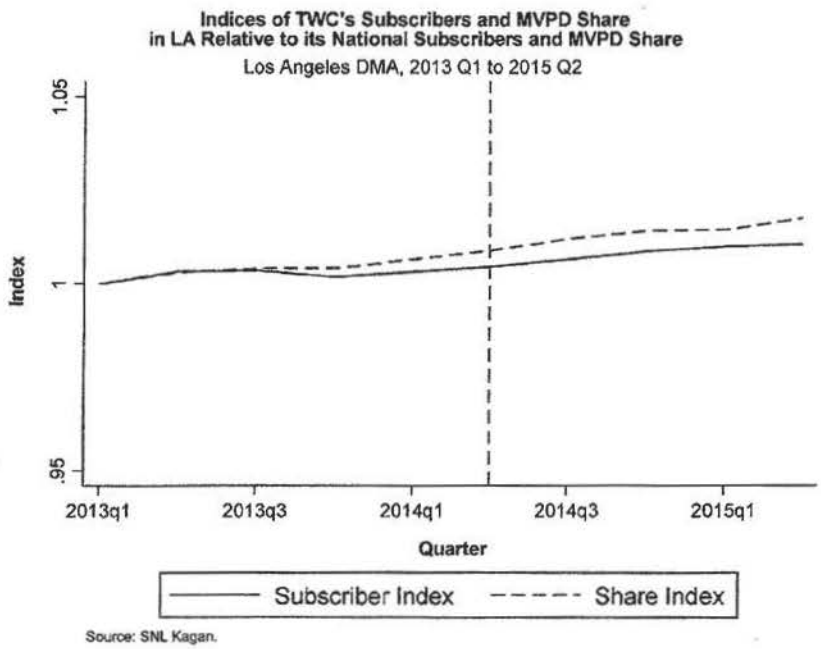


Figure 2



6. Figure 3 plots two index numbers to indicate the nationwide trends in TWC's subscribership as possible controls. The first index number, shown by a solid line, tracks TWC's subscribers in the LA DMA relative to its total subscribers nationwide (excluding DMAs covered by SNLA). The other index number, shown by a dashed line, tracks TWC's share of MVPD subscribers in the LA DMA relative to TWC's nationwide share of MVPD subscribers (again excluding other DMAs covered by SNLA). Both indices are set equal to 1 in 2013 Q1. The figures suggest that, despite the small downward movement in TWC subscribers and MVPD share in the LA DMA, TWC's performance in the LA DMA was slightly better than its performance in the country as a whole. TWC's decline in subscribers and in MVPD share appears to have been greater in other parts of the country.

Figure 3



B. Control Group

7. Our econometric strategy is similar to the FCC's approach in the Comcast/NBCU transaction for analyzing the subscriber impact on DISH of the retransmission consent dispute between

Fisher (an owner of multiple broadcast stations) and DISH in 2008-09.[4] During that six-month dispute, DISH lost the rights to provide its subscribers with Fisher's local broadcast network affiliates. To estimate the subscriber impact on DISH, the FCC methodology compared the number of DISH subscribers in the DMAs where Fisher withdrew its local broadcast network affiliates from the DISH line-up with the DISH subscriber numbers in areas where DISH continued to offer network affiliates to its subscribers. As a control group, the analysis used selected DMAs in which the network affiliates were available to DISH subscribers and that had been identified as otherwise comparable to the DMAs affected by the retransmission consent dispute.

8. We examine three possible control groups. One possible control group is the 78 DMAs outside the SNLA region in which TWC operated. However, most of these DMAs had only very limited competition from Telcos. In contrast, in the period leading up to TWC's sole carriage of SNLA (2013 Q1 – 2014 Q1), Telco MVPDs account for about 19% of the MVPD subscribers in the LA DMA. As a second possible control group, we used only DMAs in which the Telco share of MVPD subscribers during this period was at least 10%. This control group has 16 DMAs.[5]

9. We have also defined a third possible control group that more closely resembles the market structure in the LA DMA. TWC's share of MVPD subscribers in the LA DMA, over the five-quarter period prior to TWC's sole SNLA carriage, was about 30%, or about 1.6 times the Telco MVPD share. To increase the comparability across control and the treatment groups, we limited the third control group to TWC DMAs in which the ratio of TWC subscribers to Telco MVPD subscribers is in the 0.5-2.5 range, thereby bracketing the 1.6 ratio in the LA DMA. This reduces the control group to 9 DMAs.

C. Regression Analysis

10. The precise specification of our regression equation is given by:

$$\ln(Subs_{mdq}) = \gamma_q + \delta_d + \beta * Treated_{mdq} + \varepsilon_{mdq}$$

[4] Comcast/NBCU Order at Appendix B, ¶¶ 32-34.

[5] There are another 8 DMAs in which the Telco share is above 10% for at least two quarters; but these 16 are the only other DMAs in which the Telco share is consistently above 10%.

where

- $Subs_{mdq}$ is equal to the number of subscribers for MVPD m in DMA d in quarter q
- γ_q controls for shocks common to all DMAs in quarter q
- δ_d controls for time-invariant characteristics of DMA d
- $Treated_{mdq}$ is equal to 1 in the LA DMA starting in 2014 Q2 and zero otherwise.

11. The coefficient β is the parameter of interest, and represents the difference-in-differences estimate of the average impact of the sole SNLA carriage on TWC subscribers. Because the dependent variable is the natural log of subscribers, the coefficient β can be interpreted as an approximation of the *proportion* of subscribers gained or lost as a result of TWC be the sole MVPD to carry SNLA.

12. The regression results using the three control groups described above are summarized in the following table:

Table 1

Change in Subscribers due to TWC Exclusive Carriage of Dodgers in LA

	All TWC DMAs	Telco Share > 10%	TWC/Telco - 0.5-2.5
"Treatment"	0.00388	0.037	0.0452**
	-0.108	-1.283	-2.603
Observations	790	170	100
R-squared	0.999	> 0.999	> 0.999
Sample Mean of Subs in 2014Q1	1,362,167	1,362,167	1,362,167
Implied Change in Subscribers	5,285	50,400	61,570

t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Notes:

1: LHS variable is log subs, so coefficient approximates the proportional change in subs.

2: Model includes DMA and year/quarter fixed effects.

3: Treatment indicator is equal to 1 starting in 2014Q2 in the LA DMA.

Source: SNL Kagan Total Video Subs by DMA, 2013Q1-2015Q2; all models exclude other DMAs covered by SNLA.

13. The estimated coefficient on the treatment dummy variable is positive for each of the three control groups.[6] This positive coefficient indicates that TWC's subscribers increased after it

[6] The R-squared statistics are notably high because, while the number of TWC subscribers varies across DMAs and changes over time, the number of TWC subscribers within a DMA does not fluctuate significantly from quarter to quarter. As a result, the DMA and quarter fixed effect dummy variables explain a high percentage of the variation in the dependent variable.

became the sole MVPD to carry SNLA in the LA area. But the coefficient is very close to zero and has a very low t-statistic for the control group of all the DMAs outside the SNLA area in which TWC operates. By contrast, the estimated coefficients when the control group is limited to areas with a significant Telco video presence, or where the ratio of TWC to Telco subscribers is approximately of the same relative magnitude, are in the vicinity of 4-5%. For the most narrow control group, the analysis indicates that TWC gained around 60,000 subscribers in the period since 2014 Q2, when SNLA telecasts were no longer available on MVPDs in the LA area that compete with TWC. The coefficient on the treatment variable in this narrowest control group has a t-statistic indicating statistical significance at the 5% level.

14. Based on these results, we have used 60,000 as an estimate of the number of subscribers that TWC has gained as a result of being the only MVPD in its footprint since 2014 Q2 to offer SNLA telecasts An increase of 60,000 subscribers is approximately 1% of the total MVPD subscribers in the LA area and approximately 5% of TWC subscribers.

15. We use this analysis of TWC's subscribers to estimate the implied increase in Charter subscribers from carrying SNLA. In 2014 Q1, before the first season in which TWC had sole carriage of SNLA in LA, TWC had about 1.3 million subscribers in the LA DMA. In 2015 Q2, just before Charter began carriage of SNLA, Charter had about 248,000, that is, slightly less than 20% of the approximately 1.3 million TWC subscribers in Q1 of 2014, just before TWC's sole carriage of SNLA began. If we assume that carrying SNLA would have the same percentage effect on Charter's subscribers as it had on TWC's subscribers, then the implied increase in Charter subscribers from carrying SNLA would be approximately 12,000 subscribers (i.e., 20% of 60,000).