UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

THOMAS LAUMANN, FERNANDA GARBER, ROBERT SILVER, DAVID DILLON, GARRETT TRAUB and PETER HERMAN, representing themselves and all others similarly situated, Plaintiffs, v. NATIONAL HOCKEY LEAGUE, *et al.* Defendants	CA No. 12-1817 (SAS)
FERNANDA GARBER, MARC LERNER, DEREK RASMUSSEN, ROBERT SILVER, GARRETT TRAUB, and PETER HERMAN, representing themselves and all others similarly situated, Plaintiffs, v. OFFICE OF THE COMMISSIONER OF BASEBALL, *et al.* Defendants	CA No. 12-3704 (SAS) **ECF Cases** **Filed Under Seal**

REPLY DECLARATION OF ARIEL PAKES

I. PLAINTIFFS AND DR. NOLL HAVE FAILED TO PROVIDE ANY VALID JUSTIFICATION FOR DR. NOLL'S FAILURE TO MODEL THE STRATEGIC INTERACTIONS AMONG THE VARIOUS MARKET PARTICIPANTS

1. As I noted in my original declaration, Dr. Noll's analysis is methodologically flawed because it ignores the strategic interactions among the various market participants.[1] In particular, Dr. Noll has failed to implement the supply-side bargaining that was the "central innovation" of the 2012 paper by Crawford and Yurukoglu ("C&Y")[2] upon which Dr. Noll claims to rely and which C&Y explain was necessary for that paper to obtain reliable and meaningful results. Indeed, Dr. Noll's model does not specify any form of interaction between the RSNs and the MVPDs (Comcast and DIRECTV) and, in fact, does not model the MVPDs' behavior at all. Since the outcome of the interactions among RSNs and MVPDs sets the costs to each MVPD, and costs are a central determinant of the prices the MVPD charges, Dr. Noll's model cannot reliably estimate retail prices for *à la carte* RSN networks.[3] It also cannot reliably estimate the price of the BFW League Package because that package price depends upon and, in equilibrium, is a function of the RSN prices. Further, Dr. Noll's model ignores that the MVPDs, not the League, set the price of the package and that the principles of multi-product pricing apply, detailed more fully below.

2. **Plaintiffs and Dr. Noll offer purported justifications for Dr. Noll's failure to implement a bargaining analysis, none of which are valid**. In their Daubert Response Brief ("DRB")[4], Plaintiffs argue that a bargaining analysis is not required because supply-side bargaining analyses are not standard in the economic literature (DRB p. 11), and the Bertrand analysis that Dr. Noll used

---

[1] Dr. Noll asserts that I have not challenged his general modeling approach as unreliable. (Reply Declaration of Roger G. Noll, December 29, 2014 ("Noll 3d Decl."), p. 10.) Yet my previous declaration clearly states that I find his methodology unreliable and inconsistent with basic economic principles. (Declaration of Ariel Pakes, November 11, 2014 ("Pakes Decl."), p. 2.)

[2] Crawford, Gregory S. and Ali Yurukoglu, "The Welfare Effects of Bundling in Multichannel Television Markets," *The American Economic Review*, Vol. 102, No. 2, April 2012.

[3] To the extent that Dr. Noll is suggesting that teams rather than RSNs could control the sale of game telecasts out-of-market (*see* Noll 3d Decl. p. 18), my analysis still applies. Dr. Noll has not modeled team distribution of telecasts (which does not occur in the actual world) and there would still need to be negotiations between teams and out-of-market MVPDs. In addition, the MVPDs would still mark up teams' prices when creating the retail products and prices for the MVPDs' customers.

[4] Memorandum of Law in Opposition to Defendants' Joint Motion to Exclude Opinions and Testimony of Plaintiffs' Expert Roger G. Noll, December 29, 2014.

is an "established technique" (DRB p. 8). They also claim that the paper often referred to as "BLP,"[5] which I coauthored and upon which much structural work relies, does not conduct a supply-side bargaining analysis (DRB p. 10). Dr. Noll additionally argues in his third declaration that the C&Y article shows that a supply-side bargaining analysis of RSN programming results in lower prices for sports content (Noll 3d Decl. p 19), that supply-side bargaining is not applicable to the Internet products that Dr. Noll envisions would be sold by RSNs directly to consumers in the BFW (Noll 3d Decl. pp. 20-21), and that MVPDs lack bargaining power, which renders a bargaining analysis unnecessary (Noll 3d Decl. p. 21). I now explain why each of these arguments is wrong.

3. **Dr. Noll's assertion that supply-side bargaining is not "standard" ignores that structural models must accurately represent the characteristics of the industry under study.** (Pakes Decl. p. 4.) In this case, the most directly applicable model is the one described in C&Y, in which the authors study the strategic interactions between content providers and MVPDs, exactly the industry and strategic interactions that are at issue in the current case. According to C&Y, "[t]he central innovation of our model is accounting for the change in distributors' input costs that result from bargaining between content and distribution in an à la carte world."[6] In particular, the authors found that when a bargaining analysis was included in the model, their consumer welfare results flipped. Dr. Noll's failure to account for the strategic interaction between the content providers and the MVPD's that this article demonstrates is fundamental to a reliable result renders Dr. Noll's analysis unreliable.

4. **Bertrand pricing by the producing firm is not an "established technique" for predicting consumer prices in the vertical supply chain at issue here.** As I described in my original declaration, the Bertrand pricing model is often used when modeling consumer product markets in which there are many customers who take the prices of products or services as given and decide how much (if any) to purchase (i.e., the consumer does not go back to the producer of the product or

[5] Berry, Steven, James Levinsohn, Ariel Pakes, "Automobile Prices in Market Equilibrium," *Econometrica,* Vol. 63, No. 4, July 1995, pp. 841-890 ("BLP").
[6] C&Y p. 644.

service with a counter-offer to purchase it at a different price). However, the vertical distribution chain at issue in this case does not have these characteristics and Dr. Noll's application of a Bertrand pricing model to it is anything but "established."[7] Prior to C&Y, there was no generally-accepted way of analyzing vertical relationships such as those presented here, but this did not result in researchers completely ignoring the upstream portion of the vertical market when it was relevant or using a Bertrand analysis, as Dr. Noll has done. Whenever vertical markets were considered, the nature of the upstream relationship was discussed. If there was a particular reason for ignoring the vertical dimension it was given,[8] and if not, an alternative method was used to model the vertical relationship.[9]

5. **Dr. Noll's use of a Bertrand pricing model is directly at odds with the institutions of the industry**. Dr. Noll's Bertrand pricing model assumes the RSNs set the prices that consumers pay. Thus, Dr. Noll not only fails to model the strategic interaction among RSNs and MVPDs, he completely ignores the incentives (and even the existence) of the MVPDs, which are the actors that actually set the prices to consumers. By contrast, C&Y analyze both the prices that content providers would charge MVPDs and the prices that MVPDs would actually charge retail consumers.

6. **Dr. Noll's claim that his Bertrand analysis is appropriate to determine prices for RSN Internet *à la carte* programming is wrong.** Dr. Noll assumes that in the BFW, RSNs will sell their game feeds to MVPDs for distribution over the television and directly to customers over the Internet, setting the prices for both channels of distribution.[10] One aspect of modeling on which

---

[7] In my published work, I have also described the need for an alternative to Bertrand analysis when analyzing vertical markets with few buyers and sellers. Pakes, Ariel, "Alternative Models for Moment Inequalities," *Econometrica,* Vol. 78, No.6, November 2010, pp. 1783-1822 ("Pakes 2010") at p. 1806.

[8] *See, e.g.*, Nevo, Aviv, "Measuring Market Power in the Ready-to-eat Cereal Industry" Econometrica, Vol. 69, No. 2 March, 2001, pp. 307-342 ("Nevo 2001"). In this article the vertical component is not modeled, because it is possible to take the mark-up of retailers as given.

[9] *See e.g.*, Pakes 2010 and Ho, Katherine, "Insurer-Provider Networks in the Medical Care Market," *American Economic Review* Vol. 99 No. 1, March 2009, pp. 393-430. The former article is my Fisher Schultz lecture presented at the World Congress of the Econometric Society (a once in five year event) and the latter won the International Health Economics Association's Arrow Award for best paper of the year.

[10] Noll 3d Decl., pp. 20–21; Declaration of Roger G. Noll, February 18, 2014, pp. 101–102.

there is complete agreement among economists is that when a multi-product firm sets the prices for its products, it considers the impact that the price of any given product will have on the total profits the firm earns from all of the products it markets.[11] As a result, when a firm owns two products, A and B, it chooses the price of Product A that takes into account the effect that the price of Product A will have on the profits it earns from Product B. Dr. Noll ignores this basic tenet of modeling and, as a result, fails to accurately model RSNs as multi-product firms. In particular, despite the fact that many content providers, such as 21st Century Fox, own multiple RSNs, and despite Dr. Noll's assumption that, in the BFW, RSNs would sell through both the Internet and MVPDs, Dr. Noll assumes that each RSN sets the price of its Internet channel without considering either the effect its price will have on the sales of the other RSNs that are owned by the same content provider, or the effect its Internet price will have on the RSN's sales to MVPDs. As a result, his Internet pricing model flies in the face of virtually all empirical modeling of prices since at least BLP, an article published twenty years ago.

7. If a single firm sells two products that substitute for one another (however imperfectly), as Dr. Noll claims Internet and MVPD distribution would, a pricing model that does not take into account the effect the price of Product A will have on the profits for Product B will underestimate the equilibrium prices of both products.[12] As indicated in my prior declaration, this same error applies to Dr. Noll's failure to consider multi-product pricing by MVPDs (Pakes Decl. p. 16). I cannot fathom an article being accepted to a reasonable journal that failed to take correct account of the pricing decisions of multi-product firms, and I would be unwilling to sign the dissertation of a student who failed to model the pricing decision of a multi-product firm.

---

[11] This basic economic concept is described in the 2010 Horizontal Merger Guidelines as the "unilateral price effect" of a merger between two firms that produce differentiated products. *See* Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines (2010), available at http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf, p. 21 ("2010 Horizontal Merger Guidelines"); Nevo 2001 p. 313, Eq. 1; Tirole, Jean. *The Theory of Industrial Organization*, (Cambridge, MA: MIT Press, 1988) pp. 69–70.

[12] 2010 Horizontal Merger Guidelines p. 21; Nevo 2001 p. 313, Eq. 1; Tirole, Jean. *The Theory of Industrial Organization*, (Cambridge, MA: MIT Press, 1988) pp. 69–70.

8. **The lack of bargaining analysis in BLP is appropriate for the industry under study in that paper.** Plaintiffs' argument that BLP did not use a bargaining model misses the point that *a model should fit the institutions of the industry studied* (Pakes Decl. p. 4, n. 5). In the case of the BLP paper, we concluded that abstracting from the negotiations between end consumers and the dealer did not have a meaningful impact on the results of interest—automobile prices.[13] By contrast, C&Y studied the industry at issue in this case and found that ignoring the strategic interaction among content providers and MVPDs had a meaningful impact on the results of interest—it reversed them. It is worth noting that in other contexts, where I found that abstracting away from the strategic interactions of vertical market participants was not valid, I modeled those interactions. In particular, when I studied the strategic interactions between HMOs and hospitals in the health care market, I used a model which allowed for bargaining.[14] Dr. Noll is simply wrong to imply that I have never used a model which allowed for bargaining.[15]

9. **The C&Y results for sports channels do not justify Dr. Noll's failure to conduct a bargaining model.** Dr. Noll claims that his failure to conduct a bargaining analysis is justified because C&Y purportedly found that renegotiation lowers the per-subscriber fee for some sports networks (Noll 3d Decl. p. 19). Dr. Noll's statement ignores C&Y's disclaimers about whether their analysis actually establishes this result. C&Y state that their methodology "may yield underestimates of WTP [willingness to pay] for channels for which household tastes are high for early minutes but decline quickly with minutes watched [like] … sports programming and overestimates WTP for [other] channels…"[16] C&Y conduct a robustness analysis to determine if this is an issue and show that "a range of channel-specific economic outcomes are misestimated" (i.e., the results on this aspect of their model are not reliable) when "households watch some

[13] Deposition of Ariel Pakes, December 8, 2014, pp. 32–33.
[14] Pakes 2010 p. 28.
[15] My 2010 paper contains an empirical and a theoretical analysis of HMO-hospital interactions. The empirical model explicitly allows for bargaining, and the theoretical model (which uses the empirical results) is a bargaining model.
[16] C&Y p. 678, n. 41.

channels less but value them more."[17] Despite this robustness check, Dr. Noll claims that C&Y have engaged in "conjecture" and that "[i]n the absence of systematic analysis of this issue" the effect is "unknown" (Noll 3d Decl. p. 19, n. 20). But if it were true that the effect is "unknown," Dr. Noll has no basis for claiming that the sports results in the C&Y paper justify his decision not to model the strategic interaction between MVPDs and RSNs.

10. **Dr. Noll's dismissal of C&Y's reservations about their sports results is further undermined by a more recent paper by Crawford and Yurukoglu**. In this paper, which focuses on the RSN/MVPD vertical relationships and was circulated at academic conferences last fall, Crawford and Yurukoglu, along with coauthors Lee and Whinston ("CYLW"),[18] undertake a detailed examination of viewership data for MVPD channels and negotiations between content providers (including RSNs) and MVPDs (CYLW p. 2). The authors conclude that (in the actual world) "[s]ports channels have consistently higher negotiated input fees than non-sports channels with similar viewership patterns (ratings), in cases receiving payments an order of a magnitude higher" (*Id*. p. 20). The authors explain that there is a "higher utility delivered to consumers for a given amount of time the channel is watched; thus, sports channels are able to negotiate higher input fees as they create greater gains-from-trade upon agreement with an MVPD" (*Id*. p. 10). As in Crawford and Yurukoglu's first paper, this new paper states, "all distributors and channel conglomerates bargain over input prices" (*Id*. p. 10). This article confirms that the demand for sports programming reflects the high "willingness to pay" that C&Y had explained, in their earlier

[17] In their robustness analysis, C&Y take a series of steps to understand how the results of the model change if, contrary to their assumption, longer viewer time does not necessarily imply higher value placed on the channel. First, it considers a version of the model in which some channels initially provide higher marginal utility that decays more quickly, while other channels provide consistent marginal utility over time. Second, they generate an artificial dataset of hypothetical consumers with varying preferences for these types of channels. Third, they estimate the original model using this dataset and compare the results to the results generated using the augmented model. From this comparison, C&Y conclude that although the original model can still estimate welfare effects in these situations, it does not accurately predict channel prices when viewers have more complex preferences.

[18] The article is entitled "The Welfare Effects of Vertical Integration in Multichannel Television Markets." The paper is not yet final, but has been presented and circulated at conferences, all in anticipation of its publication in an appropriate economic journal.

paper, would undermine any conclusion that unbundling would lead to lower prices for sports channels. CYLW thus provides the "systematic analysis" that Dr. Noll claims is lacking. As detailed below, CYLW also refutes Dr. Noll's attempt to model prices for TV products without doing a bargaining analysis and without including the mark-ups charged by MVPDs.[19]

11. **Dr. Noll's claim that a bargaining model is not required because Internet products are a close substitute to MVPD products is baseless**. Dr. Noll's final response on the failure to conduct supply-side bargaining is that Internet products are close substitutes for TV products and that MVPDs lack bargaining power (Noll 3d Decl. p 21). Yet he has failed to provide any evidence that Internet products and TV products are sufficiently close substitutes to support his argument, and the economic evidence presented in this case shows they are not. Indeed, Dr. Noll acknowledges that, through at least half of the class period, Internet and TV products could not have been close substitutes.[20] Moreover, a cursory review of the prices and sales of actual-world Internet and TV products demonstrate that they are presently not "very close" or perfect substitutes. Products are perfect substitutes to consumers only when they are regarded by the consumer as indistinguishable from one another. When this is the case, the standard theory of consumer demand is that only the product with the lower price will be purchased. A review of the prices in this case demonstrates that DIRECTV's and Comcast's Extra Innings prices have consistently been higher than the prices for Internet MLB's product MLB.TV—and [REDACTED]

[REDACTED]

[REDACTED][21] By itself, the fact that TV products command higher prices indicates that MVPDs do

---

[19] Dr. Noll also claims that he does not need to model the strategic interaction that was modeled in the C&Y paper because Dr. Noll has assumed that the League will still offer a bundle in the BFW, while C&Y considered a case in which no bundle would be offered (Noll 3d Decl. pp. 19-20). This is a non-sequitur. Even if an MVPD elects to sell a product two ways (bundled and *à la carte*), that does not imply that it will no longer bargain with the content provider over how to share the rents from the content.

[20] Deposition of Roger G. Noll, October 16-17, 2014 ("Noll Depo."), pp. 161–163.

[21] Over the period 2007 through 2012, DIRECTV's Extra Innings Regular Season Price has ranged from 66% (2008) to 90% (2009) higher than MLB.TV's Premium Full Season Price, while Comcast's Extra Innings Regular Season Price ranged from 59% (2012) to 81% (2009) higher than MLB.TV's Premium Full Season Price. [REDACTED]

not lack bargaining power, and in his recent declaration Dr. Noll now appears to disclaim the conclusion that MVPDs lack bargaining power. Referring to MVPD contracts with the Leagues to sell the out-of-market packages, he says that "[r]eal-world agreements" reflect that "both have substantial market power" (Noll 3d Decl. p. 24).[22]

II. PLAINTIFFS AND DR. NOLL HAVE FAILED TO JUSTIFY DR. NOLL'S FAILURE TO MODEL THE MVPDS OR CONSIDER THEIR PROFITS

12. In my initial declaration, I noted that Dr. Noll fails to account for the MVPDs' margin or pricing incentives and that this necessarily results in Dr. Noll understating the prices consumers would face. Plaintiffs and Dr. Noll now claim that there is no need to separately model the RSNs' and MVPDs' pricing decisions because, in the BFW, RSNs and MVPDs would sign contracts in which either there was no per-subscriber fee or the RSNs set the retail price.[23] Dr. Noll argues that these contract terms would result in the MVPD charging consumers the prices that he predicts in his DIRECTV model (i.e., the MVPD would set the same price that the RSN would set if it could set the price to consumers) (Noll 3d Decl. p. 25-26). These arguments have no basis.

13. **The assertion that RSNs and MVPDs would sign contracts that ensured the MVPD would price the same as the RSN price to eliminate "double marginalization" is pure speculation**.[24]

---

[22] Plaintiffs also assert that bargaining is not necessary because the products in question are "relatively similar" (DRB p. 12). This is another non-sequitur. Whether or not goods are similar does not have an impact on whether a bargaining model is appropriate. Moreover the claim is inconsistent with Dr. Noll's own demand model in which he claims that 43% of subscribers would not consider any RSN to be a substitute for their favorite RSN and another 22% who would only find one of the other 29 teams to be a substitute (Noll 3d Decl. p. 39).

[23] Noll 3d Decl. p. 23. Dr. Noll claims that vertical integration would lead to the same results, but he offers no evidence or explanation for how vertical integration could occur in the current industry in which each RSN sells to multiple MVPDs. That is, the 35 RSNs that carry professional hockey or baseball could not vertically integrate with each of the many MVPDs with which they contract. Declaration of Reagan E. Feeney, November 11, 2014 ("Feeney Decl."), Ex. A.

[24] Dr. Noll's assertion, which does not include any MVPD markup, is inconsistent with the CYLW paper, which confirms that RSNs and MVPDs negotiate over the input costs and that there is substantial mark-up in the MVPDs prices to customers. CYLW pp. 8, 11, 17 ("in stage 1 channels and distributors bargain bilaterally to decide input costs, and distributors also simultaneously set prices and make carriage decisions for each market in which they operate"; "each bundle has a price

Dr. Noll has failed to model or even consider the incentives of the MVPDs, and thus it is pure speculation for him to simply assume that the results of negotiations between RSNs and MVPDs (which he claims he does not need to model) would result in contracts with terms that resulted in the RSNs setting the prices to consumers. This speculation ignores the costs and that MVPDs sell multiple products and is directly contradicted by the characteristics of contracts that exist in the actual world between RSNs and MVPDs, characteristics that reflect the institutions of this market. That is, Dr. Noll's claim that an "efficient contract" would result in the prices that he has modeled ignores marginal costs that the MVPDs would incur and that MVPDs are multi-product firms. Dr. Noll is effectively arguing that an MVPD would ignore that it is a multi-product firm (i.e., it sells products besides the one RSN). Dr. Noll provides no evidence to support his assumption regarding the MVPD's marginal cost and as described above, ignoring the pricing incentive of a multi-product firm is not acceptable economic practice, and results in Dr. Noll understating the prices the MVPD would charge.

14. Dr. Noll claims to offer examples of "[r]eal-world" agreements which, he claims, demonstrate that products in the BFW would avoid double marginalization. These examples are not relevant and do not provide support for his conclusion. Dr. Noll points to the Leagues' contracts with MVPDs for the Extra Innings and Center Ice TV products. He claims that double marginalization is avoided under these contracts because the Leagues play "a role" in the pricing decision and do not charge on a per-subscriber basis (Noll 3d Decl. pp. 23–25). The Leagues' contracts with MVPDs do not involve the RSN/MVPD pricing relationship which is the subject of interest and for this reason alone have no relevance.[25]

---

and a marginal cost . . . that determine margins"; the "model's predicted price-cost markups should match those observed in the data (which we possess for Comcast and DirecTV)".)

[25] It is also worth noting that Dr. Noll stresses that the Leagues and MVPDs entered into this type of contract because they both have market power: he says that "[r]eal-world agreements between MVPDs and content suppliers when both have substantial market power contain provisions that involve the content provider in setting retail prices and/or set carriage fees on some basis other than a fixed fee per subscriber." (Noll 3d Decl. p. 24). Dr. Noll also claims that in the BFW the RSNs will all be viewed as substitutes and thus would *not* have market power (Noll Depo. pp. 60–61; 293). Since Dr. Noll is claiming that RSNs would not have market power, it is unclear why he thinks the terms in these contracts, which he claims are between two entities with market power, are relevant.

15. **Dr. Noll's argument that contracts between RSNs and MVPDs in the BFW would avoid double marginalization by having fixed rather than per-subscriber fees is inconsistent with the actual contracts between MVPD and RSNs**. There are many MVPD/RSN contracts involving MLB and NHL teams (DIRECTV, Comcast, Time Warner Cable, Dish Network, Cox and other MVPDs each enter into distribution agreements with as many as 28 RSNs in baseball and 23 RSNs in hockey) (Feeney Decl. Ex. A). However, Dr. Noll fails to identify a single contract between an RSN and an MVPD that does not include a per-subscriber fee.[26] Moreover, he fails to provide any reason why MVPDs and RSNs would change their general contracting practices and do away with per-subscriber prices.

16. **Dr. Noll also ignores the economic reasons RSNs include per-subscriber fees in their contracts**. By charging per-subscriber fees and also specifying the penetration tier (i.e., the percentage of an MVPD's subscribers who receive the RSN), the contracts share the risks and proceeds between the two parties while at the same time ensuring that the MVPD will place the telecast on a broadly-watched tier. If the contract simply had a large fixed fee, as Dr. Noll suggests would occur in the BFW, then the MVPD would bear all of the risk. Alternatively, if there were a per-subscriber fee but no penetration requirement, then the MVPD might have an incentive to include the RSN only in a premium sports tier, which might lower the MVPD's costs of serving subscribers who do not value sports but likely result in the RSN earning substantially lower profits. From an economic perspective, RSNs and MVPDs have elected to have a per-subscriber fee and a required penetration rate because this both splits the profits and shares the risks in a way that is acceptable to both parties.[27]

---

[26] [REDACTED] It is unclear why Dr. Noll would think this contract between an [REDACTED] is relevant or provides any insight into the types of contracts [REDACTED] would sign in his but-for world (Noll 3d p. 23).

[27] In the actual world, RSNs also price their services on a per-subscriber basis out-of-market as well, such as for inclusion in DIRECTV's Sports Pack.

III. DR. NOLL'S MODEL DOES NOT HAVE AN APPROPRIATELY DEFINED EQUILIBRIUM

17. As I demonstrated in my initial declaration, Dr. Noll has failed to put forth a model with an appropriately defined equilibrium because every team/RSN would have an incentive to deviate (i.e., drop out of the bundle) (Pakes Decl. p. 34, Ex. 6, 7). Neither Plaintiffs nor Dr. Noll dispute that equilibrium is a necessary condition of the structural model in order for it to be reliable. Instead, Plaintiffs and Dr. Noll's response is that: RSNs have no power to deviate because only the teams own the telecasts (Noll 3d Decl. p. 17), the current system is not in equilibrium, because the Yankees would have an incentive to deviate and industry profits would increase if they did, yet League rules preclude deviation (*Id*. p. 46), and League rules would preclude teams from deviating and dropping out of the package because of the importance of revenue sharing (DRB p. 18). I now explain why each of these arguments is wrong.

18. **Dr. Noll's argument that RSNs have no power to deviate is inappropriate because it seeks to apply contractual relationships and rules that exist under the present system to a BFW where, he asserts, there would be at least six months of negotiation to develop new contracts**. In the existing world, RSNs have contractually agreed to make their feeds available for free for use in the League out-of-market package ("OMP")—i.e., in areas where the RSNs are not themselves distributing those feeds. But in the BFW, according to Dr. Noll, RSNs would be asked to make their feeds available to the Leagues in a manner which competes with the RSNs' sale of the same feeds in standalone channels for TV and Internet distribution.[28] In that BFW, it is plain (as many RSN and League witnesses have attested),[29] that RSNs would be unwilling to provide free feeds, and might be unwilling under any circumstances to participate in a business model in which they competed against themselves.

19. Moreover, the BFW that Dr. Noll postulates changes the existing operating environment

[28] This remains true even under Dr. Noll's revised model that reinstates blackouts in the home territories, as RSNs would be competing with League packages in the out-of-market territories.
[29] Declaration of Patrick Crumb, April 4, 2014, p. 7; Declaration of Jon Litner, April 7, 2014, ¶21; Deposition of John Tortora, October 8, 2013, pp. 215, 246; Deposition of Jon Litner, October 8, 2013, pp. 62–3; 118–9.

dramatically. In the BFW that Dr. Noll hypothesizes, RSNs are being asked to provide their feeds for free for an OMP while simultaneously competing with not just the OMP, but all other RSNs in all out-of-market areas. Thus, Dr. Noll postulates a dramatic change in certain aspects of the contracts between RSNs and teams and yet assumes that other aspects of the RSN's contract (in particular, the requirement that the RSN provide the feed to the League for free) would stay the same. Dr. Noll assumes arbitrary restrictions on which terms will and will not be renegotiated in his BFW[30]

20. **Dr. Noll's own analysis proves that his claim that the system presently lacks equilibrium, but that League rules nonetheless preclude deviation, is baseless**. I have shown that the product offerings in Dr. Noll's BFW are not equilibrium offerings; if they were offered the teams would have incentives to deviate, and the deviations would be sanctioned by the League. As explained in my prior report, a model which is not in equilibrium should not be used for prediction. Dr. Noll claims that MLB presently precludes deviations (i.e., teams/RSNs dropping out of the OMP) even though the League as a whole would be more profitable if the Yankees were to deviate (Noll 3d Decl. p. 46). Yet under Dr. Noll's exhibit 5, if the Yankees were to deviate from the OMP in the current system, each of the remaining participants would be worse off.[31] Thus, if the League called a vote on this, the result would be to prevent the Yankees from withdrawing from the OMP. In contrast, the analysis I presented in my initial declaration (which modifies Dr. Noll's model to allow the Yankees to pull out of the bundle in the BFW but maintains the rest of Dr. Noll's assumptions) shows that in the BFW, all teams would gain if the Yankees opt out of the league package (Pakes

---

[30] Dr. Noll assumes in the BFW there will be certain dramatic changes to the contract terms that would result in dramatic changes in the profitability of the industry participants. However, Dr. Noll makes no attempt to show that the changes he assumes would be acceptable to the industry participants. Moreover, if Dr. Noll's proposed change did occur, then Dr. Noll's own model demonstrates that all RSNs/teams would benefit from the additional change of the Yankees leaving the bundle.

[31] Dr. Noll's exhibit 5 purports to show that the team's average profits from the DIRECTV Extra Innings package are [redacted] and that, if the Yankees were to deviate, the other 29 teams would only earn an average of $290,107 ($8,413,103/29), a loss of over [redacted] It is no answer to say that "industry profits" would be higher because the Yankees would achieve huge increases; owners are unlikely to vote for a change which made one team highly profitable at the expense of every other team.

Decl. p. 31, Ex. 5b).[32]

21. **The goal of revenue sharing is not dependent on the existence of a League OMP**. The revenue from the existing League OMP is shared equally among the teams, and this contributes to the Leagues' revenue sharing goals. But this is not the only way for the Leagues to share revenues. In fact, the Leagues have explicit revenue-sharing that is independent of revenue from the OMP. The goal of revenue-sharing cannot be used to rationalize a BFW that involves a package offering that lacks equilibrium because it is not in the interest of any team/RSN to participate in.

IV. PLAINTIFFS' CLAIM THAT IT WOULD BE COLLUSIVE FOR THE LEAGUE TO PRICE THE BFW LEAGUE PACKAGE IN A MANNER THAT IS PROFIT-MAXIMIZING IS INCORRECT.

22. In my initial declaration, I demonstrated that Dr. Noll's model fails to reliably predict prices if the League takes into consideration the profits achieved from both the standalone channels and the BFW League Package. Plaintiffs and Dr. Noll's response is that my analysis does not take into account in-market revenues earned by the team/RSN and thus does not actually model maximization of joint profits (Noll 3d Decl. p. 44); that I have taken an existing joint maximizing price and raised it, and thus double-counted to set a price above the profit-maximizing price (*Id*. p. 45); and that it would be "collusive" for the League to seek to maximize profits in the sale of these competing products (*Id*.). I now explain why these arguments lack any basis.

23. **Dr. Noll's criticism that the analysis I present in my initial declaration does not take into account in-market revenues earned by the team/RSN is actually a criticism of Dr. Noll's own model**. If, as Plaintiffs now assert, my analysis is "meaningless" because I have not considered in-market revenue, then Dr. Noll's analysis which *relies on the same assumption* is equally meaningless. As I noted in my report, my analysis shows that Dr. Noll's model and results are based

[32] Moreover, the introduction of a standalone Yankees channel in the actual world would likely have a much greater impact on the relative competitiveness of the various teams and thus be blocked by the League for that additional reason. By allowing the Yankees to be the only team that offered a standalone channel (the assumption made by Dr. Noll), the League would introduce direct competition for fans in all other teams' home television territories without balancing it out by allowing those teams to compete in the Yankees' home television territory. Deposition testimony suggests that this dynamic is of real concern to the Leagues. (Deposition of Christopher S. Tully, November 22, 2013, pp. 175; 213–214).

on inappropriate assumptions. Dr. Noll's claim here is that his model is inappropriate, and I agree.

24. **Dr. Noll's assertion that I take the joint-maximizing price of the League bundle and raise it, and thus "double-count" in some fashion, is wrong**. I only use what Dr. Noll claims is the current price for comparison. What I have done is taken Dr. Noll's purported price predictions for the BFW League Package and demonstrated that it is not profit-maximizing because of the failure to appropriately model the pricing decisions of the team/RSN and the League. I compare the price I compute to what Dr. Noll claims to be the actual price, to illustrate the magnitude of the problem. I do not use Dr. Noll's actual price in any part of the calculation of my predicted price.

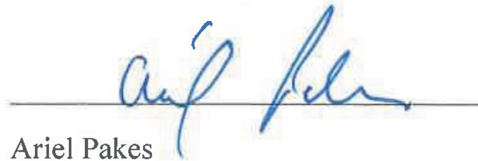
25. **The assertion that my update to Dr. Noll's model replaces competition with collusion is unfounded**. I do not assume that the teams/RSNs and the League coordinate to set prices. Rather, I simply update Dr. Noll's model to incorporate the applicable pricing incentives of the League. The team/RSN does *not* have any say in how the BFW League Package's price is set. Rather, an independent decision maker for the League is assumed to set the League price. The team/RSN recognizes that if they increase the price of their standalone offering, some of the consumers they lose will elect to purchase the BFW League Package and some of the profits from these consumers' purchases will flow back to the team/RSN. Whoever is chosen to set the price for the BFW League Package will recognize that the price which is set for the Package affects the profits the League owners (the teams) will earn on the products they individually sell (their standalone offerings).

V. CONCLUSION

26. Nothing in Dr. Noll's Third Declaration changes my opinion that Dr. Noll's pricing model is not reliable because the methodology and analytic framework he uses to construct his but-for world is seriously flawed.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 16 day of January, 2015



Ariel Pakes

Additional Documents Considered by Ariel Pakes, Ph.D.

Document Title, Bates Numbers	Document Date
Legal Pleadings	
Memorandum of Law in Opposition to Defendants' Joint Motion to Exclude Opinions and Testimony of Plaintiffs' Expert Roger G. Noll	December 29, 2014
Depositions	
Deposition of Christopher S. Tully	November 22, 2013
Deposition of Ariel Pakes	December 8, 2014
Declarations	
Declaration of Roger G. Noll	February 18, 2014
Declaration of Ariel Pakes	November 11, 2014
Reply Declaration of Roger G. Noll	December 29, 2014
Academic Articles and Public Press	
Tirole, Jean, *The Theory of Industrial Organization* (Cambridge, MA: MIT Press)	1988
Nevo, Aviv, "Measuring Market Power in the Ready-to-Eat Cereal Industry," *Econometrica,* Vol. 69, No. 2	March 2001
Ho, Katherine, "Insurer-Provider Networks in the Medical Care Market," *American Economic Review,* Vol. 99, No. 1	March 2009
Horizontal Merger Guidelines, U.S. Department of Justice and the Federal Trade Commission, http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf	August 19, 2010
Pakes, Ariel, "Alternative Models for Moment Inequalities," *Econometrica,* Vol. 78, No.6	November 2010
Crawford, Gregory S., Robin S. Lee, Michael D. Whinston and Ali Yurukoglu, "The Welfare Effects of Vertical Integration in Multichannel Television Markets" (Working Paper – Preliminary and Incomplete)	October 21, 2014
Bates-Numbered Documents	
MLB0017972	
MLB0108889	
MLB0227765	

All documents considered in my Declaration dated November 11, 2014.