

Thus, by limiting distribution of programming to only one of several competing MVPDs, the programmer forsakes the opportunity to gain audience through other MVPDs. This will be profitable only if the programming is sufficiently attractive that it results in large numbers of MVPD subscribers moving from MVPDs that lack the programming to the MVPD that offers the programming, or the exclusive arrangement provides sufficient other benefits to the program supplier or the MVPD that is granted the exclusive. In terms of the impact on economic efficiency, the loss of access *per-se* generally reduces efficiency and would have to be offset by another benefit, such as enhanced investment or service, or by improved pricing (that would expand output). Again, the fact that non-vertically integrated programmers generally do not engage in exclusive arrangements suggest that these conditions are rarely met.

Vertical integration makes an efficiency-based case for MVPD exclusives even harder to justify. The market evidence, and in particular the recent separation of Time Warner Cable (a MVPD) from Time Warner Inc. (which owns national programming networks), and the general decline in the percentage of satellite-delivered national networks that are cable affiliated,³⁸ suggests that the benefits of vertical integration are not great.³⁹ But even if the gains to vertical integration were large, many operational and promotional efficiencies from vertical integration do not require exclusivity.⁴⁰ To the extent that the integrated MVPD has advantages because it can coordinate better with the programmer, it will be able to monetize this value without simultaneously denying access to subscribers of competing MVPDs. As explained above, the general rationale for exclusive distribution is that it increases the incentive for the distributor to make investments in developing the market and promoting the product, because it allows the distributor to capture the return on those investments without fear of free riding by other distributors. In the case of vertically integrated distribution, the incentive to invest can be generated through internal control mechanisms that align incentives within the firm, which reduces the need to rely on the market-based incentives generated by exclusive distribution.

³⁸ Notice, ¶26.

³⁹ Notice, ¶17-18. However, the Commission noted that, since 2007, “the number of cable-affiliated RSNs has increased from 18 to 31 (not including HD versions).” Notice, ¶34.

⁴⁰ In principle, the prohibition on the use of exclusives by cable-affiliated programmers would discourage efficient vertical integration since program suppliers would have to forgo the use of exclusives in order to gain the other benefits of vertical integration. However, this is not a significant concern here since non-integrated suppliers rarely use exclusives and integration would likely reduce the need for exclusives.

Accordingly, vertically integrated MVPDs should have less need for exclusives to the extent those exclusives are designed to incentivize non-contractible investments in promotion and other distributor efforts.⁴¹

The nature of the services provided by MVPDs makes it unlikely that even non-integrated suppliers (who should have the greatest need for exclusives under the standard efficiency theories) would rely on exclusivity. In particular, exclusives should be rare because:

- MVPDs generally do not supply the type of promotional services that are subject to the kind of inter-retailer externalities that generate the need for exclusives (promotion that increases the demand for the program supplier's content at other MVPDs rather than helps the MVPD increase its own sales).⁴² Other promotion-related elements (e.g., tiering decisions, pricing) appear to be easily contractible and are in fact often specified contractually.
- MVPDs do not need to make long-term investments specific to programming.
- Video programming has low marginal supply costs (often negative for advertiser-supported networks), making restricted distribution costly and inefficient.
- Consumers of MVPD services typically buy from only one MVPD, which implies that exclusivity is likely to result in a significant reduction in the ability to reach end consumers.
- Differentiation across MVPDs is not required in order to achieve product variety. Individual MVPDs can and do offer multiple packages, and the expanded bandwidth

⁴¹ Although it is possible that vertically integrated firms can use exclusives to solve the types of incentive problems outlined above because they have other mechanisms to prevent adverse responses generated by the lack of competition, I point out below that the types of services MVPDs provide to program suppliers do not seem to fit this paradigm.

⁴² In fact, the successful promotion of the supplier's programming by one MVPD could very well reduce the number of subscribers to that same programming through the MVPD's competitors by inducing subscribers interested in that programming to select that MVPD over its rivals.

available to cable MVPDs, DBS, and others likely makes this even truer today than in the past. This further reduces the need for exclusives.⁴³

Taken together, these factors imply that there likely is little benefit from MVPD exclusives and non-trivial costs in lack of access to customers. Not surprisingly, as I showed above, we see very few exclusive relationships between non-vertically integrated program suppliers and MVPDs.

D. The Type of Programming that has been Distributed on an Exclusive or Limited Basis Suggests a Value-Capture Rather than Efficiency Explanation

Some programming is particularly effective at attracting customers to an MVPD. When the value of programming varies substantially across customers, it can be difficult to capture a large share of the potential value generated by that programming by charging customers directly (i.e., by selling it as a separate premium service). If the programming is priced low, then value is collected from more customers, but not the additional value from those with more intense preferences for the programming. If the price is high, then more is collected from customers that value the programming highly, but none from customers that place a lower but still significant value on the programming.

One way the program supplier can capture more value than it could through a single price is to target that programming for inclusion in one of the MVPD's popular programming tiers (so that it obtains a broad audience), and then charge a licensing fee to the MVPD that reflects the ability of that programming to attract subscribers to the MVPD. MVPDs will be willing to pay high fees because the programming attracts additional subscribers to their service, including a relatively large number of customers that place a high value on the programming and a relatively smaller number of customers that value it less highly. In this way, the program supplier effectively collects its return based on the value provided to both high and low value customers.

⁴³ For example, DIRECTV currently markets at least five major service tiers and Comcast currently markets at least three major service tiers, in addition to premium channels available a la carte. English Packages – DIRECTV, http://www.directv.com/DTVAPP/new_customer/base_packages.jsp?footernavtype=-1&lpos=header; XFINITY TV Channels, Comcast.com, <http://www.comcast.com/Corporate/Learn/DigitalCable/TVChannelLineUp.html>.

Sports networks are an example of this type of pricing. They have high license fees relative to advertising revenues (capturing the ability of the network to draw customers), as shown in Table 1, which ranks networks by the ratio of per-subscriber fees to ad revenues. ESPN represents perhaps the best known example, but sports networks in general tend to have relatively high license fees, reflecting the ability of these programs to draw and retain subscribers.

As I demonstrated in my submission in the Comcast-NBCU proceeding, vertically integrated MVPDs have an incentive to charge higher license fees for programming that is particularly effective in gaining MVPD subscribers than do non-vertically integrated MVPDs. This is because, if no carriage arrangement is reached, they can capture as additional subscribers some of the customers that the competing MVPD will lose if it did not carry the network. As I show below, when licensing affiliated programming has a large competitive impact on MVPD prices, the incentive to withhold can be sufficiently strong that there may be no gains from trade between the parties, and hence no carriage arrangement will be reached. In this situation, the vertically integrated MVPD will maintain an exclusive, even though a non-vertically integrated supplier of the same programming still would profit from dealing with the rival MVPD.

V. An Economic Framework and Model for Evaluating the Effects of Vertical Integration on the Incentives to License Programming

The incentive for vertically integrated MVPDs to withhold programming from rivals – and thus be the exclusive distributor of this programming – can be analyzed using a simple economic model of bargaining between unaffiliated MVPDs and a programming supplier that is vertically integrated with a MVPD.. The vertically integrated MVPD can increase its profits through exclusivity by making its competitors’ product offerings less attractive, thereby reducing the need for it to cut prices in order to win subscribers. However, because this requires a sacrifice of licensing and advertising revenues that its affiliated programmer otherwise could earn by licensing to the MVPD rival, a vertically integrated firm will find it in its interest to withhold the programming from its rival only when the gain from the reduced competitive pressure exceeds the loss of licensing and advertising revenues.

As my model shows, all else equal, a vertically integrated MVPD's incentive to withhold programming from MVPD rivals is greater when (a) the integrated MVPD has a greater market share (because it forgoes access to fewer subscribers), (b) the programming earns lower advertising revenues per subscriber (because it forgoes less ad revenue), (c) the programming plays a more important role in motivating customers' choice among MVPDs (i.e., the diversion rate is high), and d) a competitor's access to the programming would create competitive pressure on the affiliated MVPD to cut prices. With respect to (c), this tends to be the case when the programming is very popular and non-replicable, including live sports events and other programming that the FCC has characterized as "marquee" programming.⁴⁴

Even when it does not have an incentive to withhold completely, an MVPD that controls programming may have different pricing and tiering incentives than do non-integrated programmers. The integrated MVPD may have an incentive to allow its programming to be available only on competitors' higher-priced tiers, which could have an analogous economic effect to withholding the programming entirely.

A. An Economic Model

I illustrate the incentives of vertically integrated suppliers to use exclusives with a simple model of bargaining between a program supplier and an individual MVPD. It is possible to use many different models and alternative assumptions, but the model below is simple and provides insight into the primary incentive effects. I build on the framework that I used to analyze the potential impact on competition from Comcast's acquisition of NBCU, a framework that the FCC subsequently employed in its analysis of the competitive effects of vertical integration.⁴⁵

To keep things simple, I consider a market with two MVPDs ($MPVD_0$ and $MPVD_1$). My goal is to illustrate conditions under which a program supplier would find it profitable to refuse to supply (i.e., not reach a deal to supply) programming to one of the MVPDs and instead supply the other MVPD exclusively.

⁴⁴ *Applications of Comcast Corp., General Electric Co. and NBC Universal, Inc.*, 26 FCC Rcd. 4238, ¶ 36 (2011) ("Comcast/NBCU Order")

⁴⁵ Kevin M. Murphy, *Economic Analysis of the Impact of the Proposed Comcast/NBCU Transaction on the Cost to MVPDs of Obtaining Access to NBCU Programming* (attached to Comments of DIRECTV, Inc., MB Docket No. 10-56 (filed June 21, 2010)) ("*Murphy Comcast/NBCU Report*"); *Comcast/NBCU Order*, at App. B, at *passim*.

To fix ideas, I start by assuming no vertical integration and consider the factors affecting negotiations between the program supplier and MVPD₁, assuming that the program supplier supplies MVPD₀. (I consider later negotiations when the program supplier and MVPD₀ are vertically integrated.) I address the question whether the program supplier will reach agreement to supply MVPD₁ (whether trade will occur) and, if it does, the factors that influence the resulting license fee.

Whether the two parties reach a deal depends on their payoffs with and without a deal. To keep things simple, I assume the programming would be part of MVPD₁'s basic network package (no separate charge to the end user), but allow the price of this basic package to change if the programming is licensed.

The payoff to MVPD₁ depends on the price it charges for its product (P_1), its number of subscribers (Q_1), its variable costs per subscriber other than the cost of the programming being negotiated (C_1), and the license fee it pays for this programming if it licenses the network (L_1). The payoff to the program supplier depends on the license fee it charges to MVPD₁ (L_1), the license fee it charges the other MVPD (L_0), its ad revenue per subscriber (R), and the number of subscribers of each MVPD. I denote the case where the programming is supplied to MVPD₁ by Y (for yes) and the case where programming is not supplied by N (for no). If there is no agreement between them, then the payoff to the program supplier (S) and MVPD₁ will be:

$$1) \quad \begin{aligned} S(N) &= Q_0(N)(R + L_0) \\ MVPD_1(N) &= (P_1(N) - C_1)Q_1(N) \end{aligned}$$

These payoffs reflect the fact that, with no agreement with MVPD₁, the program supplier obtains advertising and licensing revenue from MVPD₀ but not from MVPD₁. If the program supplier and MVPD₁ reach an agreement, the corresponding payoffs are:

$$2) \quad \begin{aligned} S(Y) &= Q_0(Y)(R + L_0) + Q_1(Y)(R + L_1) \\ MVPD_1(Y) &= (P_1(Y) - C_1 - L_1)Q_1(Y) \end{aligned}$$

The question of whether there are gains from trade if the supplier and MVPD₁ reach a licensing agreement amounts to whether their combined payoffs from reaching a deal, $T(Y)$,

exceeds their combined payoffs without a deal, $T(N)$. Using equations 1 and 2, these combined payoffs are

$$3) \quad \begin{aligned} T(Y) &= Q_0(Y)(R + L_0) + Q_1(Y)(R + P_1(Y) - C_1) \\ T(N) &= Q_0(N)(R + L_0) + Q_1(N)(P_1(N) - C_1) \end{aligned}$$

The gains from trade, GFT, equal the difference between $T(Y)$ and $T(N)$, or

$$4) \quad \begin{aligned} GFT &= (Q_0(Y) + Q_1(Y) - Q_0(N))R + (Q_1(Y) - Q_1(N))(P_1(Y) - C_1) + \\ &Q_1(N)(P_1(Y) - P_1(N)) - (Q_0(N) - Q_0(Y))L_0 \end{aligned}$$

Equation 4 shows that the gains from trade consist of four terms: (1) the gain in advertising revenues generated by the increase in total viewers of the programming from extending the license to MVPD₁; (2) the margin earned by MVPD₁ on the additional viewers it gains if it adds the programming; (3) the increase in price MVPD₁ realizes from the improvement in the product it provides to consumers generated by adding the additional programming, and (4) the loss of revenues to the program supplier from the decrease in subscribers to MVPD₀ (because some subscribers move to MVPD₁). A sufficient set of conditions for positive gains from trade (and thus for MVPD₁ to license the programming) is that (a) total subscribers to the network increase (i.e., $Q_0(Y) + Q_1(Y) > Q_0(N)$), (b) the total margin earned by MVPD₁ (not including the license fee paid to the supplier) is at least as large as the license fee paid by MVPD₀ (i.e., MVPD₁ could earn a positive margin if it paid the license fee paid by MVPD₀), (c) the price MVPD₁ can charge does not fall when it adds additional content, and (d) total subscribers to the two MVPDs combined do not decrease.⁴⁶ It is reasonable to assume that conditions (a), (b) and (c) will be met: the number of network subscribers will increase with the addition of MVPD₁, MVPD₁ will charge at least as high a price when it has more content, and MVPD₁ will earn a positive margin at the going license price (L_0). This means that gains from trade will be positive whenever the number of subscribers to the two MVPDs does not decline (i.e., $Q_1(Y) + Q_0(Y) \geq Q_1(N) + Q_0(N)$); that is, whenever there is no decline in combined MVPD subscribers, which again is what would be expected. Thus, under plausible conditions, the supplier will find it profitable to serve MVPD₁ in addition to MVPD₀.

⁴⁶ (c) and (d) combined imply that the second and fourth term combined are positive.

I now consider how bargaining differs when the supplier is vertically integrated with MVPD₀. The gains from trade with MVPD₁ change because the programming supplier now internalizes any impact that licensing MVPD₁ has on the profits of MVPD₀. In particular, the payoffs without agreement now are:

$$5) \quad \begin{aligned} S(N) &= Q_0(N)(P_0(N) - C_0 + R) \\ MVPD_1(N) &= Q_1(N)(P_1(N) - C_1) \end{aligned}$$

while the returns to the two parties from reaching an agreement are:

$$6) \quad \begin{aligned} S(Y) &= Q_0(Y)(P_0(Y) - C_0 + R) + Q_1(Y)(L_1 + R) \\ MVPD_1(Y) &= Q_1(Y)(P_1(Y) - C_1 - L_1) \end{aligned}$$

The corresponding total payoffs are:

$$7) \quad \begin{aligned} T(Y) &= Q_0(Y)(P_0(Y) - C_0 + R) + Q_1(Y)(P_1(Y) - C_1 + R) \\ T(N) &= Q_0(N)(P_0(N) - C_0 + R) + Q_1(N)(P_1(N) - C_1) \end{aligned}$$

This implies that total gains from trade from licensing MVPD₁ when the programming supplier is integrated with MVPD₀ is

$$8) \quad \begin{aligned} GFT_{VI} &= (Q_0(Y) + Q_1(Y) - Q_0(N))R - (Q_0(N) - Q_0(Y))L_0 + \\ & (Q_1(Y) - Q_1(N))(P_1(Y) - C_1) + Q_1(N)(P_1(Y) - P_1(N)) + \\ & (Q_0(Y) - Q_0(N))(P_0(Y) - C_0 - L_0) + Q_0(N)(P_0(Y) - P_0(N)) \end{aligned}$$

Comparing the expressions for the gains from trade under the vertical integration scenario (equation 8) with gains from trade without vertical integration (equation 4) shows how vertical integration changes the nature of the programming supplier's incentives.⁴⁷ The terms in the first and second lines of equation 8 appear in both equations, and represent the change in advertising revenues and license fees from MVPD₀ for the programming supplier and the change in the profits (before the licensing fees) of MVPD₁, respectively. The difference between the two cases is the third line of equation 8, which reflects how the programming supplier internalizes the

⁴⁷ Some caution needs to be taken when comparing across the vertically integrated and non-vertically integrated cases. Because there are different pricing incentives in the two cases, the price and quantity outcomes can be somewhat different for each of the states (N and Y) under the VI and non-VI scenarios. The analysis I present here is intended to illustrate the differences in the economic forces that operate in the two cases.

profit impact on MVPD₀ from licensing programming to MVPD₁. To understand the incentives to deal in the vertically integrated case, it is instructive to simplify some of the terms and re-write equation 8 as

$$9) \quad GFT_{vi} = (Q_0(Y) + Q_1(Y) - Q_0(N))R + (Q_1(Y) - Q_1(N))(P_1(Y) - C_1) + \\ Q_1(N)(P_1(Y) - P_1(N)) + Q_0(N)(P_0(Y) - P_0(N)) - (Q_0(N) - Q_0(Y))(P_0(Y) - C_0)$$

Equation 9 makes clear that, unlike in the non-vertically integrated case, the lost license fees from MVPD₀ drop out (since they are simply transfers within the firm in the vertically integrated case) and now are replaced by the larger loss of profits to the combined entity from the lost sales, $(Q_0(N) - Q_0(Y))(P_0(Y) - C_0)$. The forces that determine whether programming will be withheld in the vertically integrated case can be seen more clearly by making the simplifying assumption that the margins of the two MVPDs are equal (when both sell the same package of programming), so that the expression for the gains from trade with vertical integration (equation 9) reduces to:

$$10) \quad GFT_{vi} = (Q_0(Y) + Q_1(Y) - Q_0(N))R \\ + (Q_0(Y) + Q_1(Y) - Q_0(N) - Q_1(N))(P_1(Y) - C_1) \\ + Q_1(N)(P_1(Y) - P_1(N)) + Q_0(N)(P_0(Y) - P_0(N))$$

Equation 10 shows that the gains from trade consist of three terms: (1) the gain in advertising revenue obtained by expanding programming output, (2) the additional profits earned from expanding total MVPD output, and (3) two terms that reflect the effect on the pricing of MVPD₀ and MVPD₁. Gains from trade under the non-vertically integrated scenario (equation 4) can be written in a similar form as

$$11) \quad GFT = (Q_0(Y) + Q_1(Y) - Q_0(N))R \\ + (Q_0(Y) + Q_1(Y) - Q_0(N) - Q_1(N))(P_1(Y) - C_1) \\ + Q_1(N)(P_1(Y) - P_1(N)) + (Q_0(N) - Q_0(Y))(P_0(Y) - C_0 - L_0)$$

The first two terms in equation 11 have the same form as those in equation 10 and capture the output-expansion effects of licensing to MVPD₁. The next term is again the same as that in the vertically integrated case and captures the effect on the price charged by MVPD₁. The final term differs from the vertically integrated case due to the different treatment of the effect on MVPD₀ in the two cases. In the vertically integrated case, the gains from trade are reduced due

to the downward pressure on MVPD₀'s price caused by MVPD₁'s improved programming lineup. In contrast, in the non-vertically integrated case shown in equation 11, the gains from trade (and hence the incentive to deal) instead are augmented by the margin loss of MVPD₀ from subscribers moving to MVPD₁. This difference in how the loss of profits to MVPD₀ are treated in the two cases explains why vertically integrated programmers can have an incentive to withhold programming from MVPD competitors, even when non-vertically integrated programmers would not.⁴⁸

Equation 10 also identifies three conditions that make it likely that a vertically integrated programming supplier will refuse to license to a rival MVPD:

1. Advertising revenues (R) are low relative to the impact on subscribers and MVPD margins;
2. There is little change in the overall number of subscribers (e.g., the MVPD market is mature with few marginal buyers of MVPD services); and
3. The competitive impact of licensing on MVPD prices is large (i.e., rival MVPDs compete aggressively when they get access to programming, which forces the vertically integrated cable operator to respond by reducing prices).

As I explain below in Section V.B, this last condition is especially important, but seems to not have been the focus of past proceedings. Before doing so, however, I note an additional issue regarding the impact of cable service “bundles” on my model. Equation 10 was based on the assumption that the two MVPDs have the same margin when both have access to the same

⁴⁸ The analysis of withholding presented here for the non-integrated case assumes that the programmer deals with each MVPD independently. This is the framework used by the FCC in past proceedings and the one I adopted in my previous work. In principle, one could consider a variety of bargaining frameworks that involve different coalitions of the parties or different contracting structures. For example, one could consider the case where a coalition of MVPD₀ and the program supplier negotiates with MVPD₁. This of course would yield the same outcome as in the vertically integrated case, because the parties would achieve by contract the same outcome they achieve by vertical integration. However, while cooperation between the supplier and MVPD₀ is natural in the vertically integrated case, there is no particular reason why that coalition would form in the absence of integration. Moreover, as I discuss elsewhere in this report, there is evidence that withholding decisions of vertically integrated suppliers differ from those of non-vertically integrated suppliers, which I interpret as evidence that the parties' interests are not fully aligned absent integration. However, it is important to note that the issues of coalition formation do not affect my analysis of the vertically integrated case (which is the focus of this inquiry) since there are only two parties to the bargaining process in that case.

programming. If the two MVPDs have different incremental margins on gaining a subscriber, then the formula has an additional term. In particular, equation 10 becomes

$$\begin{aligned}
 12) \quad GFT_{vi} = & (Q_0(Y) + Q_1(Y) - Q_0(N))R \\
 & + (Q_0(Y) + Q_1(Y) - Q_0(N) - Q_1(N))(P_1(Y) - C_1) \\
 & + Q_1(N)(P_1(Y) - P_1(N)) + Q_0(N)(P_0(Y) - P_0(N)) - \\
 & (Q_0(N) - Q_0(Y))[(P_0(Y) - C_0) - (P_1(Y) - C_1)]
 \end{aligned}$$

The last term measures the loss (gain) from shifting volume from MVPD₀ to MVPD₁ when MVPD₀ has a higher (lower) margin than MVPD₁. When the integrated supplier earns a higher margin on an additional subscriber than does the competing MVPD, this term further reduces the incentive for the vertically integrated supplier to share programming. This could be the case with cable relative to DBS, because cable can provide Internet and phone service as well as video, and earn the additional margin on those services (or on the bundle).⁴⁹ Moreover, to the extent that the triple play continues to grow in importance over time, the incentives of vertically integrated cable operators to withhold may be greater in the future than they are today or were in the past.

B. Implications of the Model for the Proceeding

The economic framework presented above helps explain (at least in part) why RSNs have been the subject of exclusives by cable-affiliated programmers, and why other programming with a strong ability to attract subscribers (and thus command relatively high fees) could be the subject of exclusives if the rules permitted. Sports programming has a large value to end users, as evidenced by relatively high license fees and relatively low advertising revenues compared to ratings and fees.⁵⁰ This makes it more likely that an MVPD that provides this programming will be able to charge its MVPD rivals higher prices that reflect the added value to the rival and the

⁴⁹ Even if the ability to offer the triple-play and other bundles is good for consumers in other respects, it could generate the incentive for a cable supplier to withhold programming it otherwise would have the incentive to supply.

⁵⁰ The high level of fees reflects the programming's ability to increase the demand for the MVPDs service allowing the MVPD to charge higher prices and/or attract more subscribers.

implicit costs to the integrated supplier from lost subscribers. At the same time, a rival MVPD that lacks access will be forced to charge lower prices or suffer a loss of subscribers.⁵¹

The model also shows that that there can be an incentive for vertically integrated programmers to refuse to license programming to competing MVPDs. *Importantly, this incentive is greatest when the competitive harm to consumers is greatest, and thus the benefits to consumers would be greatest if the prohibition is extended and licensing occurs.* In particular, the affiliated programmer has the incentive to withhold when licensing the affiliated programming to a competing MVPD would result in the greatest downward pressure on the price the vertically integrated cable operator charges consumers for its MVPD service and when the competing MVPD takes the benefits from having access to the programming largely by competing for additional subscribers rather than raising prices. In practice, these two conditions are likely to go together since, if the competing MVPD does not raise price but instead attempts to take its gains from program access in increased sales, the integrated cable operator likely will be forced to cut price to match the lower quality-adjusted price offered by its competitor.

To illustrate with a simple example, assume MVPD₁ does not have access to an RSN's programming but MVPD₀ does. Then presumably (all else equal) MVPD₀ can charge a higher price to subscribers because it has a higher quality product. If MVPD₁ later gets access to the programming and thus raises the quality of its offering, it will see an increased demand for its service (i.e., more subscribers at any given price). It can take the benefit of this increased demand either by raising price or increasing the number of subscribers (or a combination of the two). For example, it could increase its price to meet that charged by MVPD₀ or it could continue to price below MVPD₀ and take some or all of its gains in the form of more subscribers. In the latter case, MVPD₀ would have to respond by lowering its price to meet the competition from MVPD₁. When licensing the competing MVPD creates substantial pricing pressure on the vertically integrated MVPD, it will not be in the interest of the integrated firm to license. In contrast, if licensing to a competing MVPD does not create pricing pressure on the vertically integrated MVPD (because the competing MVPD simply raises price to consumers when it adds

⁵¹ The lower per-subscriber costs from not having the RSN fees would also push in this same direction.

the programming), then the vertically integrated programmer will charge a high price to competing MVPDs for access but will not refuse to provide access.

C. Conclusion

Vertically integrated programmers will find it in their interest to withhold precisely when withholding has the worst price impacts for consumers, i.e., in those cases where the prices of the vertically integrated MVPD would fall the most and its competitor's prices would increase the least if the rival MVPD had access to the programming. The competitive conditions where extending the cable exclusivity prohibition likely will benefit consumers the most through price competition are those where the vertically integrated firm has the greatest incentive to refuse to license.

Vertically integrated cable companies may claim that the cable exclusivity prohibition is unnecessary because they have no incentive to refuse to provide their programming to competing MVPDs. For much of their programming they may be right, because they prefer to offer their programming to competing MVPDs, albeit at a price higher than the MVPD would pay if the programmer were not vertically integrated.⁵² However, those cases where they would find it in their interest to withhold are the ones where charging a high price to a competing MVPD is not as profitable a strategy as refusing to supply the programming altogether. Those are cases where the competing MVPD would put too much downward pressure on the vertically integrated cable company's price, and so where extending the prohibition can benefit consumers (although not the cable-affiliated programmer).

While the incentives to refuse to license are high for RSNs and similar programming that individually are very attractive to viewers, the incentive to refuse to license to competitors extends to bundles of networks – including national networks – that collectively can create large value for viewers, even when their components do not have a high value individually. The current program access rules, which apply to all of the programming supplied by a vertically

⁵² The effect of vertical integration on pricing incentives was covered in my submissions in the Comcast-NBCU proceeding.

integrated cable MVPD, assure that competing MVPDs can have access to such bundles.⁵³ Limiting the applicability of the program access rules to RSNs and similar individual programming networks would not prevent affiliated programmers from refusing to license bundles of other national networks. Withholding such a bundle of programming could have the same adverse impact on consumers as withholding access to an RSN or other “marquee” network.

VI. Exclusive Licensing of NFL Sunday Ticket to DIRECTV is Consistent with the Economic Framework

I explained above that economic models of efficiency-enhancing effects of exclusives and of bargaining between program suppliers and MVPDs show that non-vertically integrated program suppliers would not frequently utilize exclusives. Empirical evidence is highly consistent with this prediction. The history of exclusive licensing of NFL Sunday Ticket by DIRECTV is an exception to this empirical regularity. But even this exception is consistent with the general economic framework described above.

I explained above that an important reason why non-vertically integrated program suppliers do not license exclusively is that it is costly to forgo customers that prefer other MVPDs, and so give up all revenues (including advertising revenues) from customers that remain with the unlicensed MVPDs. However, in the case of NFL Sunday Ticket, the NFL can recapture some of this lost revenue in the form of advertising revenues from games broadcast on local channels at the same time as the programming provided through Sunday Ticket. Indeed, since viewers of Sunday Ticket do not receive local advertising, advertising revenues for the broadcast networks (and hence indirectly for the NFL) are actually higher for those that view NFL games on local broadcast channels. In the model outlined above, this could even reverse the sign on the advertising effects, making it costly rather than beneficial to have broad distribution of Sunday Ticket. Essentially, Sunday Ticket can be thought of as vertical product differentiation in which the program supplier (the NFL) provides the major substitute for its own product.

⁵³ This is analogous to my discussion in my initial report in the Comcast-NBCU proceeding, where I explained that my bargaining framework applies not only to individual networks but also “blocks” of networks. *Murphy Comcast/NBCU Report* at 22.

In addition to pricing incentives, there are several other reasons for the historical licensing arrangement between the NFL and DIRECTV. In particular,

1. When NFL Sunday Ticket was developed (in 1994), cable suppliers lacked the channel capacity to offer programming that sometimes required at least 10 channels and was broadcast only one day per week four months out of the year. DBS and C-band were the only technologically viable options.⁵⁴
2. Given that DIRECTV had the installed base of Sunday Ticket customers as a result of its initial technological advantages, it made sense for the NFL to continue to license through DIRECTV. Essentially, the customer gain from adding additional MVPDs was smaller than it would have been if DIRECTV's existing customer base did not already include a disproportionate share of households with a high willingness to pay for Sunday Ticket.
3. The NFL has obtained substantial value from DIRECTV because Sunday Ticket helped DIRECTV attract and retain customers. It has been reported that DIRECTV "collects only around \$600 million from its roughly 2 million Sunday Ticket subscribers,"⁵⁵ while paying about \$1 billion to the NFL annually.

VII. Without the Cable Exclusivity Prohibition, Vertically Integrated Cable Companies Could Find it Profitable to Withhold Some Programming from their MVPD Rivals

I explained above that there likely are very limited efficiencies from exclusive licensing agreements between MVPDs and programmers. I also explained why economic theory suggests that a vertically integrated cable operator could have an incentive to withhold programming to disadvantage other MVPDs and thus limit the competition they face. The limited empirical evidence suggests that cable-affiliated programmers could refuse to license at least some of the programming that they control, including RSNs and other "marquee" content, if the prohibition

⁵⁴ "[T]he NFL signed a deal in 1994 to beam Sunday Ticket over startup satellite carrier DirecTV ... before digital cable, most cable carriers lacked the bandwidth to show multiple viewer-elected channels simultaneously, so in the 1990s, Sunday Ticket probably couldn't have gone on cable anyway." "It's time to open up NFL Sunday Ticket to everyone," Gregg Easterbrook, ESPN.com (Nov. 1, 2007).

⁵⁵ See, <http://www.multichannel.com/article/190869-DirecTV-s-Sunday-Ticket-Renewal-Sets-NFL-Network-s-Game-Plan.php>

on exclusivity were eliminated.⁵⁶ The evidence also shows that the consequence could be weaker competition between cable MVPDs that withhold affiliated content and their MVPD competitors.

The primary empirical evidence that integrated cable companies might withhold programming derives from conduct permitted under the so-called “terrestrial loophole” that allowed exclusivity for terrestrially delivered, cable-affiliated programming. Before the Commission closed this loophole,⁵⁷ there were several cases in which cable-affiliated RSNs refused to license programming to competing MVPDs, most notably Comcast SportsNet Philadelphia and Cox 4 San Diego.⁵⁸ In terms of the overall quantity, this is a relatively small amount of withholding. But it represents a substantial percentage of the programming that cable-affiliated programmers *could* withhold, suggesting that the conditions that motivate withholding are not rare (at least for RSNs). Indeed, with respect to terrestrially delivered, cable-affiliated RSN programming, withholding from at least some competitors in some respects appears to have been common.

The competitive impact on DBS penetration of its lack of cable-affiliated RSNs was examined in two studies during the Adelpia proceeding.⁵⁹ These studies used similar regression frameworks, which related the DBS penetration rate to dummy variables for DMAs in which the terrestrial loophole allowed cable MVPDs to withhold RSNs from competitors, conditional on a series of controls. The FCC's analysis found that the DBS penetration rate in Philadelphia, San Diego, and Charlotte was lower than in other "control" markets, although the difference was not statistically significant in Charlotte. Analysis by Lexecon, conducted on behalf of DirecTV,

⁵⁶ My theoretical analysis indicates that integrated MVPDs can have an incentive to refuse to license other programming as well, including programming that is licensed as part of bundles that collectively have a high value to consumers.

⁵⁷ See generally *2010 Program Access Order*.

⁵⁸ “Comcast has withheld [Comcast SportsNet Philadelphia], which carries regional professional sports programming in Philadelphia, from DBS firms. This RSN was the subject of previous program access complaints, which were denied because [it] was terrestrially delivered and thus beyond the scope of the program access rules...” *First Report and Order In the Matter of Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements*, MB Docket No. 07-198, FCC, 1/20/2010, p. 22. This contrasts with licensing practices for Fox, which as far as I know, Fox generally has been willing to offer to license its RSNs to all MVPDs.

⁵⁹ *Adelpia Communications Corp., Time Warner Cable Inc., and Comcast Corp.*, 21 FCC Rcd. 8203, ¶ 138-46 and App. D (2006). See also *ANALYSIS OF POTENTIAL ANTICOMPETITIVE EFFECTS OF THE PROPOSED ADELPHIA/COMCAST/TIME WARNER TRANSACTIONS*, Compass Lexecon.

found that the DBS penetration rate in Philadelphia, San Diego, and New Orleans was lower than in other "control" markets, though the difference was not statistically significant in San Diego.⁶⁰

Evidence from other programming limitations reinforces the conclusion that exclusivity reduces the competitive strength of rivals. Until 1999, DBS firms were not allowed to distribute the signals of local broadcast stations into local markets, which effectively made cable the only MVPD with retransmission rights (although some DBS viewers could augment their service with antennas that allowed them to receive broadcast signals over the air). Passage of the Satellite Home Viewer Improvement Act in late 1999 relaxed this restriction, and DBS firms gradually began to roll out "local-into-local" service across local markets. In my initial report in Comcast/NBCU, using evidence from a study by Klein, et al on behalf of DIRECTV, I found that adding local channels to DIRECTV's lineup was associated with a [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] increase in its subscribership over the two-and-a-half years after the channels were added.⁶¹ Allowing DBS firms access to broadcast networks – that is, eliminating cable MVPDs' *de facto* exclusivity – enhanced their ability to compete successfully for subscribers.

Further evidence from this same experience suggests that firms that gain access to additional programming realize the majority of their gains in the form of increased subscribers rather than higher prices. In my initial report in *Comcast-NBCU*, I used evidence from Klein, et al.'s analysis of the introduction of "local-into-local" to infer the extent to which DIRECTV took the gains from increased demand resulting from access to local broadcast signals in the form of higher prices versus higher quantities. I found that it took the vast majority of these gains [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] in higher quantities and only [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] in the form of higher prices.⁶² The effort (and success) of DBS to attract subscribers based on their improved content provided for stronger competition vis-à-vis cable MVPDs. That stronger competition showed up in the form

⁶⁰ *Adelphia Communications Corp., Time Warner Cable Inc., and Comcast Corp.*, 21 FCC Rcd. 8203, ¶ 138-46 and App. D (2006). See also *ANALYSIS OF POTENTIAL ANTICOMPETITIVE EFFECTS OF THE PROPOSED ADELPHIA/COMCAST/TIME WARNER TRANSACTIONS*, Compass Lexecon.

⁶¹ *Murphy Comcast/NBCU Report*, Appendix A.

⁶² *Id.*

of higher shares for DBS firms (which is consistent with a reduction in the quality-adjusted price of their product).

VIII. Conclusion

The analysis I presented above shows that vertically integrated programmers find it in their interest to withhold precisely when withholding has the worst price impacts for consumers, i.e., when the prices, charged by the vertically integrated MVPD would fall the most and its competitors' prices would increase the least with access to the programming. Since the theoretical and empirical economic evidence suggest that there would be little if any loss of other efficiencies from continuing the prohibition, its continuation could provide non-cable MVPDs with important programming that they otherwise would lose, and could prevent withholding in those cases where program access would have the largest competitive benefits to consumers.

Table 1
2010 Annual Network Statistics
Limited to Networks With Total Revenue Greater Than or Equal to 200M

<i>Network</i>	<i>Network Type</i>	<i>In Millions</i>			<i>Avg. Est. Households Delivered [Thousands]</i>		<i>License Fee to Net Ad Rev</i>
		<i>Subscribers at Year End</i>	<i>License Fee Revenue</i>	<i>Net Advertising Revenue</i>	<i>Prime Time</i>	<i>24 - Hour</i>	
MSG Plus	RSN	7.8	197.5	21.0	12	4	940.3%
BTN	BASIC	46.5	200.5	24.5			817.2%
FOX Sports Southwest	RSN	8.1	236.7	32.3	45	16	733.0%
YES Network	RSN	11.9	371.1	53.8	85	37	689.5%
NFL Network	BASIC	56.8	522.5	80.0	181	87	653.3%
Comcast SportsNet Washington	RSN	4.7	179.9	28.4	21	7	632.9%
SportsNet New York	RSN	7.4	193.2	32.6	59	20	592.0%
FOX College Sports	BASIC	42.5	176.1	36.0			488.9%
Madison Square Garden Network	RSN	7.8	223.5	47.2	29	9	473.8%
FOX Sports West	RSN	7.2	201.3	43.4	39	13	464.0%
MLB Network	BASIC	55.2	159.4	40.8	45	31	390.3%
ESPN/ESPN HD	BASIC	99.8	5,235.6	1,585.2	1,676	801	330.3%
NBC Sports Network	BASIC	75.2	229.4	70.4	49	76	326.0%
ESPNNews	BASIC	73.4	153.2	52.5	65	52	291.7%
ESPN2	BASIC	99.7	689.0	265.1	404	247	259.9%
SPEED	BASIC	77.3	188.7	82.2	134	110	229.5%
Golf Channel	BASIC	83.2	259.6	113.9	84	63	228.0%
CNN	BASIC	100.1	626.1	307.3	437	347	203.8%
SOAPnet	BASIC	75.1	135.3	66.9	236	146	202.4%
CNBC	BASIC	98.2	352.6	234.1	156	166	150.6%
National Geographic Channel	BASIC	69.9	178.4	118.6	287	185	150.4%
TNT	BASIC	100.4	1,271.9	870.0	1,509	1,018	146.2%
FOX News	BASIC	98.9	827.0	622.2	1,432	899	132.9%
Disney XD	BASIC	77.9	124.9	94.6	221	192	132.0%
E! Entertainment Television	BASIC	97.9	246.9	202.0	463	319	122.2%
FX Network	BASIC	95.9	495.5	437.3	818	483	113.3%
AMC	BASIC	96.4	284.0	262.2	681	439	108.3%
Travel Channel	BASIC	95.6	123.2	121.3	331	217	101.6%
MSNBC	BASIC	95.2	187.5	187.6	557	319	99.9%
WE tv	BASIC	76.8	101.2	106.4	226	138	95.2%
WGN America	BASIC	72.7	142.2	149.9	226	214	94.9%
The Weather Channel	BASIC	100.6	141.2	158.3	181	213	89.2%
CMT	BASIC	91.9	98.2	117.3	250	180	83.7%
TBS	BASIC	101.0	621.1	754.7	1,197	676	82.3%
Discovery Channel	BASIC	100.5	409.8	503.9	798	492	81.3%
Spike TV	BASIC	99.5	253.2	317.4	600	427	79.8%

Notes: Total revenue is calculated as the sum of net advertising revenue and license fee revenue. Limited to networks with available license fee and net advertising revenue figures.

Source: © 2011 SNL Kagan, a division of SNL Financial LC – downloaded June 21, 2012.

Table 1
2010 Annual Network Statistics
Limited to Networks With Total Revenue Greater Than or Equal to 200M

<i>Network</i>	<i>Network Type</i>	<i>In Millions</i>			<i>Avg. Est. Households Delivered [Thousands]</i>		<i>License Fee to Net Ad Rev</i>
		<i>Subscribers at Year End</i>	<i>License Fee Revenue</i>	<i>Net Advertising Revenue</i>	<i>Prime Time</i>	<i>24 - Hour</i>	
TLC	BASIC	99.5	210.0	273.9	745	397	76.7%
Animal Planet	BASIC	97.1	109.3	143.7	403	284	76.1%
TV Land	BASIC	97.8	136.7	179.9	623	454	76.0%
History	BASIC	99.1	266.9	356.4	1,048	599	74.9%
A&E	BASIC	99.8	310.0	426.2	994	607	72.7%
USA	BASIC	100.0	684.5	955.1	2,144	1,116	71.7%
ABC Family Channel	BASIC	98.5	261.3	370.5	906	520	70.5%
Bravo	BASIC	93.9	218.5	321.1	571	299	68.0%
Syfy	BASIC	98.2	254.2	379.1	1,197	428	67.1%
Lifetime Television	BASIC	99.7	345.0	528.5	780	510	65.3%
Oxygen Network	BASIC	76.3	91.8	143.0	324	205	64.2%
VH1	BASIC	98.7	192.7	309.7	338	227	62.2%
BET	BASIC	90.7	185.6	324.6	520	373	57.2%
Cartoon Network	BASIC	99.3	216.7	390.6	129	862	55.5%
MTV	BASIC	99.2	414.6	755.4	659	413	54.9%
Nickelodeon/Nick At Nite	BASIC	100.3	566.7	1,098.1	1,537	1,576	51.6%
truTV	BASIC	92.6	111.6	234.3	725	524	47.7%
Comedy Central	BASIC	99.0	172.3	427.2	710	418	40.3%
Food Network	BASIC	100.2	177.8	481.7	758	516	36.9%
HGTV	BASIC	99.4	166.3	515.9	906	554	32.2%
Hallmark Channel	BASIC	87.3	60.8	199.5	648	389	30.5%

Notes: Total revenue is calculated as the sum of net advertising revenue and license fee revenue. Limited to networks with available license fee and net advertising revenue figures.

Source: © 2011 SNL Kagan, a division of SNL Financial LC – downloaded June 21, 2012.

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EXHIBIT A

CURRICULUM VITA OF PROFESSOR KEVIN M. MURPHY

Curriculum Vitae

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March 2012

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Current Positions

July 2005-Present: George J. Stigler Distinguished Service Professor of Economics,
Department of Economics and Booth School of Business, University of Chicago

Faculty Research Associate, National Bureau of Economic Research

Education

University of California, Los Angeles, A.B., Economics, 1981

University of Chicago, Ph.D., 1986

Thesis Topic: *Specialization and Human Capital*

Previous Research and Academic Positions

2002-2005: George J. Stigler Professor of Economics, Department of Economics and Booth School of Business, University of Chicago

1993 – 2002: George Pratt Shultz Professor of Business Economics and Industrial Relations, University of Chicago

1989 – 1993: Professor of Business Economics and Industrial Relations, University of Chicago

1988 – 1989: Associate Professor of Business Economics and Industrial Relations, University of Chicago

1986 – 1988: Assistant Professor of Business Economics and Industrial Relations, University of Chicago

1983 – 1986: Lecturer, Booth School of Business, University of Chicago

1982 – 1983: Teaching Associate, Department of Economics, University of Chicago

1979 – 1981: Research Assistant, Unicon Research Corporation, Santa Monica, California

Honors and Awards

2008: John von Neumann Lecture Award, Rajk College, Corvinus University, Budapest

2007: Kenneth J. Arrow Award (with Robert H. Topel)

October 2005: Garfield Research Prize (with Robert H. Topel)

September 2005: MacArthur Foundation Fellow

1998: Elected to the American Academy of Arts & Sciences

1997: John Bates Clark Medalist

1993: Fellow of The Econometric Society

1989 – 1991: Sloan Foundation Fellowship, University of Chicago

1983 – 1984: Earhart Foundation Fellowship, University of Chicago

1981 – 1983: Fellowship, Friedman Fund, University of Chicago

1980 – 1981: Phi Beta Kappa, University of California, Los Angeles

1980 – 1981: Earhart Foundation Fellowship, University of California, Los Angeles

1979 – 1981: Department Scholar, Department of Economics, University of California, Los Angeles

Publications

Books

Social Economics: Market Behavior in a Social Environment with Gary S. Becker, Cambridge, MA: Harvard University Press (2000).

Measuring the Gains from Medical Research: An Economic Approach edited volume with Robert H. Topel, Chicago: University of Chicago Press (2003).

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