# CAN VERTICAL MERGER ANALYSIS BE SALVAGED AFTER THE *AT&T/TIME-WARNER* MERGER DECISION?

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# I. INTRODUCTION

In the last decade, Post-Chicago economists developed a collection of game-theoretical vertical models. Building on static Nash-Bertrand models of differentiated products, these analyses created a "vertical arithmetic" to balance the upstream and downstream effects on consumer welfare to determine if a vertical merger (or comparable exclusionary tactic) is likely to substantially harm consumers.[2] A simplified version of this game theoretic model was litigated by the Department of Justice ("DOJ") in the recent *AT&T/Time Warner Inc.* ("*AT&T/TW*") merger.[3]

The core allegation involved the claim that the merged firm would increase the price of Time Warner's Turner programming channels to multi-video program distributor ("MVPD") competitors of AT&T. In effect, economic theory predicts that *AT&T/TW* would "raise its rival's costs" and injure some consumers. As long as the consumer injury materially exceeds the consumer benefit associated with the vertical merger's efficiencies, the merger could be considered anticompetitive. All the DOJ needed to do was establish the facts necessary to parameterize their exclusion theory and prove the anticompetitive effect. As even a quick reading of the court decision suggests, this did not occur; instead the factual evidence showed that vertical bargaining analysis did not prove competitive injury.[4] The Appeals Court upheld the district court decision, paying particular attention to the lack of effects evidence supporting a competitive concern.[5]

This paper explores some reasons why the hypothesized bargaining model failed to represent the relevant economic situation. At best, institutional realities suggest that the static bargaining analysis is much more complicated than the simple model envisioned by the DOJ. At worst, dynamic considerations preclude static bargaining analysis, and the merger creates the potential for innovation, while requiring the merged firm to retain existing relationships, in case their innovative products fail the market test. These considerations show how the court's insistence on factual analysis of the merger's likely competitive effect was appropriate.

On the other hand, more traditional vertical analyses focus on evidence of monopoly power and enhancement of barriers to entry to show a clear structural link between the vertical merger and the likely competitive concern. These analyses make use of the standard tools of horizontal merger policy (in a vertical context) and once the facts are collected, infer an anticompetitive effect. Potential examples are presented to illustrate applications of these concepts to internet-based markets.

2 For a presentation of the modeling structure, see Serge Moresi & Steven Salop, *vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers*, 79 Antitrust L.J. 185 (2013).

3 *United States v. AT&T Inc. et al.*, Case No. 17-2511 (RJL) (D.D.C. June 12, 2018). For a more extensive discussion of the opinion, see Joshua D. Wright & Jan M. Rybnicek, *United States v. ATT/Time Warner: A Triumph of Economic Analysis*, CPI Antitrust Chronicle, September (2018), https://www.competitionpolicyinternational.com/united-states-v-atttime-warner-a-triumph-of-economic-analysis/.

4 *Id.*

5 *United States v. AT&T Inc. et al.*, Case No. 18-5214 (February 26, 2019).

## II. THE VERTICAL BARGAINING MODEL AND THE *AT&T/TIME WARNER* CASE

The vertical bargaining model is simple. Pre-merger, the upstream firm negotiates contracts with downstream firms that reflect an upstream product price driven by a balancing of the pre-existing bargaining power held by the firms in the vertical arrangement.[6] As the vertical merger combines the upstream firm with one of the downstream firms, the bargaining position of the merged firm's upstream business with its customers is strengthened. Thus, the price at which the merged firm could profitably refuse a sales contract (i.e. the "threat point") increases. In the world of theoretical economics, this increase in the threat point enhances the integrated firm's bargaining power and thus generates higher prices for the merged firm's upstream product (and injures consumers unless the price effect is negated by efficiencies). Economics has spoken and thus all the merger plaintiff needs to do is justify parameters sufficient to predict a substantial lessening of competition.

Application to the *AT&T/TW* merger appeared straight-forward.[7] The upstream firm, Time Warner, controlled a wide variety of cable networks valued by downstream distributors, while the downstream firm, AT&T, had a range of distribution assets that could benefit from more exclusive access to Time Warner content. Some evidence existed to show that the content was highly valued, and the AT&T distribution share was material. Thus, the DOJ alleged that the merger was likely to substantially lessen competition by enhancing the combined *AT&T/TW's* post-merger bargaining power, thereby leading to a post-merger price increase for some Time Warner content.[8]

The district court was not impressed. The court found that the government failed to meet its burden to establish sufficient "case-specific evidence" to prove that the merger was likely to substantially lessen competition.[9] In making its findings, the court reviewed both "real world objective evidence" (information linked to prior regulatory filings, internal documents, or statements by third party competitors) and expert testimony sponsored by the litigants. As "neither category of evidence was effective in proving the Government's increased-leverage theory," the merger challenge was dismissed.[10] The Appellate court upheld the district court's opinion, taking issue only with a technical detail in the efficiency finding. The court found that the DOJ's bargaining model was considered by the district court and then rejected as factually inapplicable to the relevant market.[11] Of particular interest was the defendant's natural experiment evidence that failed to find a price effect for content affected by previous vertical mergers was seen as particularly probative, as was the evidence on the dynamic nature of the market.[12]

To make a long story short, the court rejected the bulk of the DOJ's evidence, even questioning if the 27 cent per month rate increase alleged by the plaintiff would substantially lessen competition.[13] In particular, the court rejected the "must-have" nature of Time-Warner content, as some MVPDs competed without it, found the evidence supporting the applicability of the bargaining model was insufficient, and observed the customer complaints were speculative in nature (of particular interest, no MVPD admitted it would have to accept higher prices after the merger). The DOJ's expert fared even worse, with (1) the evidence showing a long term blackout was infeasible and (2) the estimates of customer switching in response to a blackout were badly overstated.[14] Moreover, a re-computation of the expert's analysis with more recent margins all but eliminated the competitive concern, and even this analysis would also need to be adjusted to reflect customer contracts.[15]

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6 The supplier's threat point is the price at which it would find it more profitable not to sell and the buyer's threat point is the price at which it would find it more profitable not to buy. Bargaining determines a price above the supplier's threat point, but below the buyer's threat point.

7 Previously, the model had been applied in the Comcast/NBC investigation and two European Union cases, thus the application of the model was not novel or unexpected. For a discussion of these vertical cases, see Cristina Caffarra, Gregory S. Crawford & Helen Weeds, *Kabuki Dance or Rube Goldberg Machine, Vertical Analysis of Media Mergers*, CPI Antitrust Chronicle, August (2018), https://www.competitionpolicyinternational.com/kabuki-dances-or-rube-goldberg-machines-vertical-analyses-of-media-mergers/

8 The DOJ also alleged the merger would allow (1) AT&T, possibly while coordinating with Comcast, to disadvantage a MVPD that uses IP protocols to deliver programming to consumers or (2) use its control of HBO to prevent competitive MVPD from using access to HBO as a promotional tool when contracting with customers. Both concerns were dismissed by the court after the core bargaining power concern was addressed. *United States v. AT&T Inc. et al.*, *supra* note 3, at 60.

9 *Id.* at 59.

10 *Id.* at 74.

11 *United States v. AT&T Inc. et al.*, *supra* note 5 at 19.

12 Horizontal merger analysis uses natural experiments that predict problematic effects from comparable structural changes as a predictor of an adverse competitive effect. Malcolm B. Coate, *The Use of Natural Experiments in Merger Analysis*, 1 J. Antitrust Enforcement 437 (2013).

13 *United States v. AT&T Inc. et al.*, *supra* note 3 at 70-71 n.23.

14 *Id.* at 115-16, 118-36.

15 *Id.* at 144, 146-48.

Overall, the evidence clearly showed that the bargaining model, which looked so good in theory, failed in practice. Two economic explanations could be related to the factual problems recorded in the court decision. First, the simple bargaining model envisioned in the DOJ case fails, because it is not linked to the institutional realities of the market. Second, the static analysis of the bargaining problem ignores complexities associated with the dynamic nature of the market, complexities that show the merger is efficient and unlikely to adversely affect the short run competitive process.[16] These issues are discussed in the next two subsections.

### *A. The Static Bargaining Model*

The DOJ's bargaining model implied that the price of programming content depended on the threat points of the interacting firms. As the merger enhanced the bargaining position of AT&T/TW, it increased the threat point of the TW product, and higher content prices and the associated potential for consumer injury were predicted. However, the DOJ seemed to base its threat point analysis on a generic model of vertical distribution for differentiated products, not a model customized to facts associated with the cable industry.

To understand how the competitive process could play out, it is necessary to consider the costs and benefits associated with TW rejecting a carriage offer at their threat point. By refusing to sell to a MVPD, TW gives up the per-subscriber payment and the advertising dollars associated with the foregone viewers who are not recovered by other MVPDs. Offsetting these costs is the ability to monetize some of the value of their now more exclusive content by charging a higher price to competitive MVPDs. Given the nature of carriage contracts, this hypothetical revenue can only be recognized as existing contracts expire.[17] However, once Time Warner merges with AT&T, some of the value of this more exclusive content is recovered as soon as customers switch to an AT&T provider to retain valued Time Warner content.

A casual balancing of these costs and benefits suggests that the pre-merger TW threat point was low, as the long run gains seem small in light of the short run losses from foregone distribution. Once the merger is consummated, the TW threat point increases, as additional revenues are recaptured whenever the AT&T MPVD is a rival. As the DOJ analysis implies, the MVPD's threat point does change with the merger, and a simple balancing model based on the two threat points predicts higher post-merger prices.[18]

Further thought would suggest that the bargaining model is more complicated, as Most Favored Nations (MFN) clauses are regularly observed in the market. Because these MFN clauses require content providers to pass discounts on to all protected customers, the content provider would have a higher threat point than indicated in the simple analysis.[19] Thus, the introduction of the MFN would allow programmers to impose a higher price in a balancing-based bargaining model.[20] However, if TW's MFNs promised discounts to AT&T, then the merger would negate the impact of the AT&T MFN on the pricing of TW content to AT&T's rivals, meaning TW's negotiating power would be reduced after the merger. Although this negative effect would be offset to some degree by the enhancement in bargaining power from the AT&T acquisition as alleged by the DOJ, overall effect of the merger on TW's bargaining power is indeterminate.

16 This point was formally recognized in the court opinions. *United States v. AT&T Inc. et al.*, *supra* note 3, at 153-55; *United States v. AT&T Inc. et al.*, *supra* note 5, at 11.

17 The more exclusive nature of TW content makes it more valuable to rival MVPD, because carriage of TW allows the rival entity to pick up subscribers from the MVPD that now lacks TW content.

18 Even if a static negotiation model was appropriate, a number of other bargaining models could be considered. For example, one could start with the current price and focus on the ratings of TW content, the success of the promotions offered by the MVPD to build ratings that then increase ancillary advertising revenue, or the prices paid in recent renegotiations by other MVPD for similar TW content. Threat points may have little relevance, because negotiations may never address prices close to either threat point. Without an ability to justify one model as more realistic than another, empirical evidence seems required.

19 In particular, a discount to one TW customer must be passed on to all other (protected) customers, a situation that implies the opportunity cost of a price cut is higher than otherwise and this opportunity cost would decline after the merger, if ATT is one of the protected customers.

20 However, MFN's are demanded by customers, and thus it seems unlikely that the customers would push for an institutional structure that would raise their long run prices. For a discussion focused on MFNs on cable television, see Erik Hovenkamp & Neel Sukhatme, *Vertical Mergers and the MFN Thicket in Cable Television,* CPI Antitrust Chronicle August (2018), https://www.competitionpolicyinternational.com/wp-content/uploads/2018/08/CPI-Hovenkamp-Sukhatme.pdf.

Moreover, if the bargaining model was valid, why in the world did Time Warner break up in 2009, spinning off the TW's MVPD business. Had vertical integration increased negotiation power in the cable industry, TW would have remained integrated. To explain both the spinoff and the later vertical merger, the analyst needs to consider a more complex model of bargaining. For example, by committing to keep key TW programming in the most popular tier to maintain subscribers, a MVPD could obtain attractive pricing. As subscribers were relatively stable in the past, negotiations could have involved a lump sum payment, although the contract could retain the illusion of marginal pricing as a risk-sharing device. Today, contracting may be more complex, as subscriber counts seem be difficult to predict over time due to the losses from alternative distribution technologies. Thus, a more integrated structure could now be efficient.

### *B. Dynamic Competition*

It is obvious that technical change associated with the Internet has disrupted the video programming supply chain (defined by the marketing of programming through cable networks (such as HBO, ESPN, or TNT) to multi-video program distributors (such as Comcast or AT&T's DirecTV-satellite)). As download speeds and Internet Service Provider ("ISP") bandwidth have increased, it became possible for Internet-based cable distributors (such as SlingTV or DirecTV-Now) to create smaller bundles of cable networks and deliver the content via an Internet connection at a lower price than traditional MVPD services. Once cable programming service is provided via the Internet, the customer can view the content on television, personal computers, tablets, or even cell phones. Cable companies compete by offering immediate access to selected programming at any time and web-based services to provide access to specific programming on other devices.

Potential for even more significant change is related to the concept of subscription video on demand, a product pioneered by firms such as Netflix, Hulu (On-Demand), and Amazon. Such offerings have led some consumers to do without programming networks, effectively going back to the 1960's for "Over the Air" television, supplemented with subscription services. Direct to consumer sales have created an incentive for programmers to offer their content via video on demand (VOD) (dispensing with the programming network).[21] This service could be supplemented with advertiser supported programming networks for time sensitive programming. By establishing a personal relationship with the customer, the programmer/distributor could also offer more efficient advertising services, services that might have include more valuable customer information than the current targeted advertising products provided by duopolists of Google and Facebook.[22]

As TW has the content and AT&T has current customer relationships, cooperation to develop direct-to-consumer services seems to be a profitable undertaking. A merger might be necessary if the firms do not feel they can achieve the efficiencies of vertical integration with a complex contract. As consumers benefit from the entry of new products (both from consuming the innovative product and from the downward pressure on the prices of rival products), such a merger would seem efficient, and without clear evidence of substantial short run harm to competition, such a vertical merger should be allowed.

Dynamic competition issues also offer some insights into the short run. As the combined AT&T/TW business would not know if their innovative distribution techniques would be successful in significantly changing their business model, it would appear necessary for the merged firm to maintain supportive relationships with both other programmers and competitive MVPDs.[23] Cable programmers and MVPDs have a number of potential competitive responses to the new environment. For example, it might be possible to customize advertising to consumers watching a program with the MVPD's "On-Demand" service. Likewise, programmers could be more willing to allow MVPDs to organize additional product tiers to better compete with OTT distributors. Overall, long run considerations imply that programmers and MVPDs may see themselves as partners. Thus, the zero-sum, win-loss structure of the DOJ's static bargaining game may be inapplicable.

As a bottom line, the bargaining process may be exogenously constrained by market realities, with most structural changes in the vertical relationships having minimal, if any, adverse effects on bargaining power under either a more general static or an innovation-based dynamic model. Moreover, the dynamic discussion seems to highlight the desire to compete more aggressively in the future as the strategic reason for the merger. By reorganizing some of the assets competing in the video programming marketplace, the combined AT&T/TW may be able to lower

21 Two developments seem material. First, VOD transforms the programming business from its traditional schedule model to a content model. Second, the demise of the cable bundle may lead to the commoditization of content, cooking the goose that has laid the golden eggs. Time sensitive content, especially sports, may become even unique and end up as a focus of antitrust. For an interesting read, see *United States v. NFL* 116 F Supp. 319 (E. D. Pa. 1953).

22 Advantages of vertical integration in cable are discussed in the District court opinion, *United States v. AT&T Inc. et al.*, *supra* note 3, at 18-28.

23 Current internet cable and subscription TV products benefit from the relatively fixed charge for ISP services. If ISP's change their pricing formula to charge based on material uploaded and downloaded, cable television service might become more attractive.

the costs of future investments and grow into a more aggressive rival.[24] This discussion, coupled with the court's extensive review of the facts, suggests that models highlighting marginal changes in bargaining power are likely to prove very difficult to substantiate in court.

## III. VERTICAL MERGERS IN LIGHT OF THE *AT&T/TIME WARNER* DECISION

As with all Post-Chicago analyses, bargaining models define possibility theories which describe what might happen, not what will happen.[25] Thus, Post-Chicago models require close study to determine if their key assumptions represent the competitive process under review, detailed analysis to parameterize the key equations, and at least some evidence to confirm the predictions of the model, unless clearly substantiated by industry facts. As shown in the *AT&T/TW* case, these are daunting tasks, raising the question of whether vertical enforcement has much of a future.

All of these concerns can be minimized by returning to traditional vertical models focused primarily on how entry conditions enhance monopoly power, using only a few parameters that can be substantiated with available evidence.[26] The most straight-forward vertical analysis starts by identifying preexisting monopoly power and then shows how the merger (or comparable exclusionary tactics) protects or enhances monopoly power.[27] These models have the advantage of simplicity, with the anticompetitive effect defined by the core problematic behavior. As the concepts of monopoly power and barriers to entry are standard antitrust concerns linked to a generalizing monopoly theory, the evidentiary burden is much lower, as proof of monopoly power coupled with evidence on the enhancement of barriers to entry is likely to show injury to the competitive process, unless the effect is negated by substantial efficiency evidence. In these cases, the defendant now has the problem of proving efficiencies to prevail.

To fix the basic idea for the cable industry, consider a hypothetical merger affecting MVPD competition in a large city during the 1990's. Consider two competing local distributors of cable programming, one large franchised MVPD and the other a small over-builder, just entering the market. Assume the community had a single Regional Sports Network (RSN) that sold a premium product, not included in the basic cable tier. The acquisition of the RSN by the large cable distributor would raise vertical concerns associated with the exclusion of the small MVPD from access to the sports network, an action that might entrench (i.e. build barriers to entry and expansion to protect the dominant MVPD).

Of particular interest is the threat to the large MVPD's monopoly power caused by the entrant. If the entrant is marginalized or totally excluded, the incumbent MVPD protects its monopoly power into the future, creating a consumer welfare loss. Even if the success of the excluded entrant would be uncertain, the expected value of the consumer loss may still be substantial, supporting a vertical concern.[28]

Two effects are relevant. First, the merged firm would sacrifice the gross margin (unit profit contribution multiplied by the number of lost customers) for its sports programming business by refusing to sell the service to the small rival. Offsetting that effect is the gross margin associated with fraction of the small rival's customers that divert to the cable firm to retain access to the sports programming.[29] Although more content customers are lost than gained, the margin on new cable sales may substantially exceed the margin lost on the sale of sports programming through the small rival. The exclusion tactic is profitable if the additional profit ( total margin) on cable distribution sales outweighs the lost profit on the (now lower) sports programming sales.[30] Profitable exclusion injures consumers, as both the customers who remain with the fringe firm but loose the sports service (saving the cash that they value less than the lost sports content) and the customers that switch to cable (possibly

24 Netflix's capitalization of around 150 billion dollars for simply distributing content on the web seems to suggest that profitable opportunities exist in the niche.

25 See Franklin M. Fisher, *Games Economists Play: A Noncooperative View*, 20 Rand J. Econ. 113(1989); Sam Peltzman, *The Handbook of Industrial Organization: A Review Article*, 99 J. Polit. Econ. 201 (1991). For a more recent discussion, see Malcolm B. Coate & Jeffrey H. Fischer*, Daubert, Science and Modern Game Theory: Implications for Merger Analysis*, 20 Supreme Court Econ. Rev. 125 (2012).

26 The 1982 Merger Guidelines note a vertical merger is problematic if it enhances entry barriers by requiring two stage entry. Slight generalizations of this concern cover situations in which the vertical merger eliminates a nascent threat that had a chance to overcome existing barriers to entry or enables the extension of monopoly power to another market with stronger barriers to entry. U.S. DOJ, *1982 Merger Guidelines*, 47 Fed. Reg. 28, 493 (1982).

27 Here, monopoly power describes the ability of a single firm to set short run price (or other performance variable) without reference to the strategic behavior of rivals.

28 An expected value analysis would focus on the competitive effects of an enforcement policy, weighting each by its probability of occurrence. If the procompetitive effect of a challenge is large enough, the action could significantly benefit competition even if the probability of occurrence is not large (assuming minimal efficiency effects). This concept seems implicit in a nascent threat analysis and may apply to other situations.

29 As the MVPD's margin covered their entire basic cable portfolio, those earnings could substantially exceed the margin from selling a sports network.

30 To the extent that the double marginalization problem was not contracted around, the benefits from eliminating that effect would also need to be addressed.

paying the same price, but preferring the differentiation implicit in their original MVPD service).[31] This exclusion seems more likely to occur (be more profitable) the larger MVPD margin, the smaller the RSN margin, and the more willing customers are to switch to (or remain with) the dominant cable supplier.

Note in contrast to *AT&T/TW*, the antitrust modeling is now reduced to a simple analysis, based on a relatively few key parameters. These models seem particularly relevant to network markets. By using vertical mergers (or other exclusionary tactics) to either defend its entrenched position or move its monopoly power to a related and more defensible market, the network monopolist can extend its monopoly power over time. This theory, broadly interpreted, seems useful in controlling monopoly power on the web, without the need to impose any new antitrust regulations. A few illustrations are presented below, along with some potential concerns linked to the current competitive conditions on the Internet.

## IV. VERTICAL RELATIONSHIPS AFFECTING PLATFORM MARKETS

Vertical concerns associated with platform markets were recognized in computer-related industries once the markets started to mature and the expected long run competition for the platform failed to materialize due to the evolution of substantial barriers to entry that entrenched incumbent platform owners.[32] This observation suggests that discussion of platform competition must first classify the platform by the type of barrier to facilitate the required vertical analysis. Five classifications are of immediate interest: operating system networks (e.g. Windows, Linux, and Android) with their application barrier; communications networks (e.g. e-mail, chat (messaging), Facebook/Instagram) with their installed customer base barrier; informational networks (e.g. Google, Angie's List) with their scale economy barrier; distribution networks (e.g. Amazon) with their distributional scale barrier; and Market Making (e.g. Uber, Etsy) with their service provider installed base barrier.[33]

Moreover, the analysis must follow the money and understand how the network is monetized. One approach is to sell complementary software (e.g. Windows/Office) another is to charge users for access the platform (e.g. Amazon/third party sellers, Apple's IOS/Aps, and various market makers), a third approach sells advertising (e.g. Google, Facebook, Twitter) and a fourth integrates on one side of the platform to sell direct to consumers (e.g. Amazon, Walmart). Although vertical monopolization concerns focus on strategies employed to enhance monopoly through the promotion of barriers to entry, the details likely depend on the monetization model applied.[34]

In the text below, two examples of vertical concerns that focus on historical concerns of monopoly maintenance (Microsoft's operating system) and monopoly extension (AOL Instant Messenger) are given. This discussion is followed with hypothetical concerns that may link existing network monopoly power (Google's search engine and Amazon's distribution business) to some type of problematic conduct. In light of the limited public information on these latter two concerns, the discussions are for expository purposes only.

A vertical concern sat at the core of the infamous Microsoft case, with the idea that Microsoft crushed (downstream application) Netscape (and to a lesser degree, Java) to prevent those products from developing into middle-ware platforms competitive with the Windows monopoly.[35] Had Microsoft filed to buy Netscape, a vertical merger analysis would almost mirror the merits of the monopolization case. As it is next to impossible to prove efficiencies sufficient to negate a monopoly count (here monopoly maintenance) it simply is not credible to argue the outcome of vertical merger litigation would have allowed Microsoft to close the deal.[36] Given the magnitude of the benefit associated with increased operating system competition, the protection of the nascent threat from Netscape (and Java) proved to be sufficient to justify the monopolization case. In

31 Possibly, a few customers drop all cable programming and are also injured.

32 Numerous early examples of platform replacement were observed, generating an expectation of a continued competition for the platform standard with the existing standard being creatively destroyed by innovation. For example, IBM's leadership position in operating systems was overcome by Microsoft, as Windows crushed OS-2. Application software giants WordPerfect and Lotus also met their demise, displaced by Word and Excel. America OnLine was marginalized by independent Internet Service Providers and Myspace was replaced by Facebook to note the better-known examples. However, as these technology markets matured, platform barriers seemed to protect incumbent standards from competition.

33 It is beyond the scope of this note to list all potential network classifications or address the relationships within these classifications. The goal is just to focus the competitive analysis on the barrier that limits competition once the platform is established.

34 Three vertical entry models appear most relevant (forcing two-stage entry on the market, monopoly maintenance, and monopoly extension).

35 For a more detailed discussion see Malcolm B. Coate, *An Algorithm for Analysis of Vertical Concerns,* CPI Antitrust Chronicle, August (2018), https://www.competitionpolicyinternational.com/an-algorithm-for-analysis-of-vertical-concerns/, along with referenced work.

36 In an interesting irony, Google may be using exclusionary tactics to exclude the Microsoft and Firefox browsers. For an interesting read, see *Did Google Sabotage Firefox and IE? (zdnet.com)*, Slashdot.com, April 21, 2019, https://news.slashdot.org/story/19/04/20/0234249/did-google-sabotage-firefox-and-ie, and the articles cited within.

effect, an expected value analysis implied the monopolization tactic did (and the hypothetical vertical merger would have) substantially reduced competition.

Another vertical theory involves monopoly extension, as an exclusionary tactic that allows a firm to extend its monopoly power from a current market (threatened by future entry), to a related market relatively immune to future entry and adversely affect the dynamic competitive process. The fact situation involves technical exclusion on the part of America Online ("AOL") to prevent competitive instant messaging ("IM") products from communicating with AOL's Instant Messenger software ("AIM").[37] Here, the issue was AOL using existing monopoly power in internet services to establish a future dominant position in IM services, a position that could survive the demise of AOL's core ISP business in the impending broad-band regime shift. If the AIM service could (1) be protected from interoperability (other than with AOL's ICQ web-based product), and (2) develop an extensive base of users, while operating under the protection of the AOL's ISP monopoly power, the IM service may have become a monopoly communication tool. AOL's attempt to protect their IM product from interoperability was eventually blocked by the Federal Communications Commission as a condition for the *Time Warner/AOL* merger.[38] Had Time Warner not launched this ill-fated acquisition, AOL may have been able to continue its policy of updating their IM software to technically exclude all attempts by rival IM providers to achieve inter-operability and control chat given their first mover installed base advantage.[39] Although this analysis may not show the exclusion was relatively likely to succeed, an expected value analysis of the benefit could be used to condemn the actions, due to the potential to create a dominant communication tool, one that could have evolved into a powerful monopoly like Facebook.

Other examples of potentially problematic vertical mergers (or vertical exclusion) can be based on more recent competitive situations. For example, Google bought a leading advertising support firm, Double Click.[40] This merger may have been helpful to the monetization model that entrenched Google as the dominant search engine (due to its pricing success in targeted advertising). If the vertical merger materially facilitated Google's big data strategy to collect and monetize huge amounts of user information, one could claim that the transaction enhanced the barriers to entry into Google's core market by enabling additional economies of scale in targeted advertising.[41] Had the two firms remained independent, Double Click could have developed big data implementation programs that was useful to a much wider audience of content providers. A detailed discussion of this potential concern is beyond the scope of this paper, but Google's behavior and market position seems compatible with the concern.[42] Again, expected value analysis controls, as the unexpected rise of Facebook as a big data competitor seems to have come as a surprise to all.[43]

37 Technical exclusion involves "updating" software to prevent interactions with rival products for the purpose of adversely affecting the competitive process.

38 FCC, *Fact Sheet: FCC's Conditioned Approval of AOL-Time Warner Merger* (2001), https://transition.fcc.gov/Bureaus/Cable/Public_Notices/2001/fcc01011_fact.pdf.

39 Communications products seem particularly prone to maintaining monopoly power, as consumers need to be on the network to communicate. This observation seems to explain the dominant positions of both Facebook and Instagram in what appear to be age related sectors of social media. The often-ridiculed statement "you didn't build this," appears insightful when applied to large Internet communications networks. The firm writes code, but the network of individual users build the business. As for May 5, 2019, Facebook had a market equity of over a half a trillion dollars.

40 For an alternative view, see Dan Bitton, David Pearl, Maurits Dolmans & Henry Mostyn, *Competition in Display Ad Technology: A Retrospective Look at Google/Doubleclick and Google/Admob*, CPI Antitrust Chronicle, April (2019). https://www.competitionpolicyinternational.com/competition-in-display-ad-technology-a-retrospective-look-at-google-doubleclick-and-google-admob/. Although the authors note competitive options remains in the industry, this observation does not address the potential for serious antitrust concerns within relevant markets that cover portions of the advertising industry.

41 In effect, the merger may have transformed the market to require into both search and sophisticated advertising design and placement, an action identified as problematic in the 1982 Merger Guidelines. *1982 Merger Guidelines*, *supra* note 26. To offer another example, Google's acquisition of YouTube could raise a monopoly maintenance concern, as YouTube requires a search engine to review the massive installed base of videos, and if combined with a smaller search rival could have also represented a competitive threat to Google's search business.

42 The exact market share of Google-related big data advertising is difficult to measure from public information. However, together with Facebook, the two firms control over 60 percent of digital advertising. See Felix Richter, *Amazon Challenges Ad Duopoly*, Statista, February 21, 2019, https://www.statista.com/chart/17109/us-digital-advertising-market-share/.

43 Moreover, the duopoly structure of the big data market is hardly competitive and potential entry into the niche from the likes of AT&T/Time Warner and Comcast do not seem sufficient to negate the concerns.

Finally, Amazon's business model contains interesting vertical relationships, but the facts are buried in the specific business-to-business relationships, limiting the usefulness of public information to the discussion.[44] Kahn observes distribution economies of scale that seem to establish Amazon's monopoly power in on-line retailing.[45] Economies of scope have enabled some direct competition from Walmart and a near infinite number of smaller firms.

Amazon benefits from distribution contracts with a very large number of small third-party partners, many of which seem to also sell on their own web sites and possibly through other distributors. Exactly what vertical constraints Amazon imposes on these partners is unclear, as is the interpretation of Amazon's willingness to compete directly against their third party partners, a consideration noted by Khan.[46] To the extent that the retailing contracts coupled with the subtle threat to compete directly with the retailer, precludes aggressive multi-homing competition on the part of small retailers, the arrangement may serve to maintain the economies of scale that protect Amazon's market position. As even a limited examination of Amazon filled an entire law journal article, any detailed exposition of an exclusionary concern is beyond the scope of this paper.[47] However, it is clear that the protection of even a nascent threat to the existing monopoly power held by Amazon is an important antitrust concern.

The key takeaway from this discussion is the importance of vertical merger analysis to focus on discrete anticompetitive conduct associated with creating or expanding barriers to entry.[48] Left unaddressed (until now) is the need to identify monopoly power held by the incumbent platform. For Microsoft and AOL, the monopoly power would be inferred from their share in the operating system and ISP markets, respectively. Google and Amazon also seem susceptible to a share analysis. These types of analysis have no need for the complex bargaining models studied and rejected in *AT&T/TW*.

Of course, evidence on poor performance would be preferable to share-based inference of a competitive concern. For example, Google is alleged to read customer's email and use that information in their targeted advertising,[49] and Facebook's privacy issues are common knowledge.[50] Both considerations suggest that these firms take a monopoly level of information from consumers. Similarly, a surprising number of Internet firms exclude customers for what appear to be political reasons. Such alienation of a customer class seems incompatible with a competitive equilibrium in which firms welcome all (legal) customers as needed to thrive in a competitive environment.[51] Additional evidence on the lack of competition within various platform markets could very well exist within the firm's internal documents.

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44 For an extensive discussion of Amazon's operations, see Lina M. Khan, *Amazon Antitrust Paradox*, 126 Yale L.J. 710 (2017).

45 Kahn observes Amazon's billion-dollar distribution infrastructure, a comment suggestive of impediment to entry. *Id.* at 714 n.13. Critics would suggest on-line retailing competes with bricks and mortar retailing, negating any inference of monopoly power. Although a detailed antitrust review could sustain a broad market, a narrow market is also a potential outcome of a factual analysis.

46 *Id.* at 782-83. Moreover, Khan details a situation in which Amazon cloned the business model of a large third-party seller, marginalized their business, and eventually bought them out. *Id.* at 768-70.

47 *Id.* Interestingly, one point of Kahn's paper was that Chicago-based antitrust could not address the Amazon problem. Although stand-alone predation concerns are difficult to prove, vertical concerns are readily actionable under mainstream antitrust law. See *United States. v. Dentsply Int'l, Inc.*, 399 F. 3d 181 (3rd Cir. 2005). Resource allocation may be a more reasonable explanation for the lack of active enforcement, as substantial resources are required for merger policy to oversee the market for corporate control, protect the efficiency of the stock market and preserve the value of the America's 401-K retirement plans. Until recently, the potential for web-related problems was not well recognized.

48 Another example involves Facebook's acquisition of Instagram. See Coate, *supra* note 35, for a discussion. Going forward, integration of WhatsApp directly into Facebook and Instagram could raise concerns comparable to the AOL/AIM situation discussed above (although no clear threat to the Facebook monopoly power exists today). In reviewing the Facebook/WhatsApp merger, the EU appeared to focus more on WhatsApp's potential to evolve into a social media competitor. More recently, the EU found Facebook's disclosures to be incomplete and imposed a fine. See COMP/M.8228, *Facebook/Whatsapp*, May 17, 2017, http://ec.europa.eu/competition/mergers/cases/decisions/m8228_493_3.pdf.

49 Although the exact details are not clear, Google appears to read customer email and offer that ability to third parties under certain circumstances. See Shannon Liao, *Gmail app developers have been reading your emails*, TheVerge, July 2, 2018, https://www.theverge.com/2018/7/2/17527972/gmail-app-developers-full-email-access.

50 Facebook users seem to face what could be colorfully described as an informational colonoscopy.

51 The concept of X-efficiency introduces another potential cost of monopoly as the relaxation of competition implies firms will not need to aggressively reduce costs and thus X-efficiency may be lower in monopolized production processes. In effect, managers choose an easy life over the hard work of cost minimization. See Harvey Leibenstein, *Allocative Efficiency vs "X-Efficiency,"* 56 Am. Econ. Rev. 392 (1966). Refusing to do business with customers based on their political orientation seems to be a classic example of such behavior, as managers act on their political beliefs and fail to optimize profits for shareholders.

## V. CONCLUSION

The *AT&T/Time Warner* merger litigation illustrates the problems with the application of a game theoretic model. As game theoretic models define what might happen, not what will happen, the analyst should provide extensive evidence to show the model is applicable and then, often, effects evidence to confirm the model's prediction. In contrast, monopoly-based vertical models generally require evidence of monopoly power and a credible theory of how the monopoly power can be exploited to restrict competition over a substantial amount of commerce. Both considerations seem manageable, especially when it is realized that large potential anticompetitive effects are material in an expected value sense, without the need to establish a high probability of concern. Although obtaining the evidence for vertical litigation against Internet monopolies is likely to be hard work, well established vertical theories certainly exist to guide the investigation.[52]

52 If the competitive problems turn out to be impossible to address with antitrust, natural monopoly regulation may be needed. One possible idea is the requirement for basic interoperability within monopoly communication networks. For example, this would allow customers to leave Facebook for services from new entrants, but retain access to material associated with their friends and family who remain with Facebook. In effect, the core of Facebook could be opened up to competitive services, diminishing Facebook's monopoly power.

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