

CPI's North America Column Presents:

# A Bargaining Model v. Reality in *FTC v. Qualcomm*.

## A Reply to Kattan & Muris

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## Introduction

In a recent article<sup>2</sup> Joe Kattan and Tim Muris (K&M) criticize our article<sup>3</sup> on the predictive power of bargaining models in antitrust, in which we used two recent applications to explore implications for uses of bargaining models in courts and antitrust agencies moving forward. Like other theoretical models used to predict competitive effects, complex bargaining models require courts and agencies rigorously to test their predictions against data from the real world markets and institutions to which they are being applied. Where the “real-world evidence,” as Judge Leon described such data in *AT&T/Time Warner*, is inconsistent with the predictions of a complex bargaining model, then the tribunal should reject the model in favor of the reality.

K&M, who represent Intel Corporation in connection with the *FTC v. Qualcomm* case now pending in the Northern District of California,<sup>4</sup> focus exclusively upon, and take particular issue with, one aspect of our prior article: We argued that, as in *AT&T/Time Warner*, the market realities at issue in *FTC v. Qualcomm* are inconsistent with the use of Dr. Carl Shapiro’s bargaining model to predict competitive effects in the relevant market. K&M—no doubt confident in their superior knowledge of the underlying facts due to their representation in the matter—criticize our analysis for our purported failure to get our hands sufficiently dirty with the facts. They criticize our broader analysis of bargaining models and their application for our failure to discuss specific pieces of evidence presented at trial, and offer up several quotations from Qualcomm’s customers as support for Shapiro’s economic analysis. K&M concede that, as we argue, the antitrust laws should not condemn a business practice in the absence of robust economic evidence of actual or likely harm to competition;<sup>5</sup> yet, they do not see any conflict between that concession and their position that the FTC need not, through its expert, quantify the royalty surcharge imposed by Qualcomm because the “exact size of the overcharge was not relevant to the issue of Qualcomm’s liability.”<sup>6</sup>

Though our prior article was a broad one, not limited to *FTC v. Qualcomm* or intended to cover record evidence in detail, we welcome K&M’s critique and are happy to accept their invitation to engage further on the facts of that particular case. We agree that accounting for market realities is very important when complex economic models are at play. Unfortunately, K&M’s position that the evidence “supports Shapiro’s testimony overwhelmingly” ignores the sound empirical evidence employed by Dr. Aviv Nevo during trial and has not aged well in light of the internal Apple documents made public in Qualcomm’s Opening Statement following the companies’ decision to settle the case, which Apple had initiated in January 2017.

Qualcomm’s Opening Statement in the Apple litigation revealed a number of new facts that are problematic, to say the least, for K&M’s position and, even more troublesome for Shapiro’s model and the FTC’s case. Of course, as counsel to an interested party in the FTC case, it is entirely possible that K&M were aware of the internal Apple documents cited in Qualcomm’s Opening Statement (or similar documents) and simply disagree about their significance. On the other hand, it is quite clear the Department of Justice Antitrust Division found them to be

significantly damaging; it took the rare step of filing a *Statement of Interest of the United States* with the district court citing the documents and imploring the court to call for additional briefing and hold a hearing on issues related to a remedy in the event that it finds Qualcomm liable on any of the FTC's claims.<sup>7</sup> The internal Apple documents cited in Qualcomm's Opening Statement leave no doubt as to several critical market realities that call into question the FTC's theory of harm and Shapiro's attempts to substantiate it:

First, the documents laying out Apple's litigation strategy clearly establish that it has a high regard for Qualcomm's technology and patent portfolio and that Apple strategized for several years about how to reduce its net royalties and to hurt Qualcomm financially.

Second, the documents undermine Apple's public complaints about Qualcomm and call into question the validity of the underlying theory of harm in the FTC's case. In particular, the documents plainly debunk Apple's claims that Qualcomm's patents weakened over time as a result of a decline in the quality of the technology and that Qualcomm devised an anticompetitive strategy in order to extract value from a weakening portfolio. The documents illustrate that in fact, Apple adopted a deliberate strategy of trying to manipulate the value of Qualcomm's portfolio. The company planned to "creat[e] evidence" by leveraging its purchasing power to methodically license less expensive patents in hope of making Qualcomm's royalties appear artificially inflated.<sup>8</sup> In other words, if Apple's made-for-litigation position were correct, then it would be only because of Apple's attempt to manipulate and devalue Qualcomm's patent portfolio, not because there had been any real change in its value.

Third, the documents directly refute some of the arguments K&M put forth in their critique of our prior article, in which we invoked Dr. Nevo's empirical analysis of royalty rates over time as important evidence of historical facts that contradict Dr. Shapiro's model. For example, K&M attempt to discredit Nevo's analysis by claiming he did not control for changes in the strength of Qualcomm's patent portfolio which, they claim, had weakened over time.<sup>9</sup> According to internal Apple documents, however, "Qualcomm holds a stronger position in . . . [audio/video SEPs], and particularly with respect to cellular and Wi-Fi SEPs" than do Huawei, Nokia, Ericsson, IDCC, and Apple.<sup>10</sup> Another document states that "Qualcomm is widely considered the owner of the strongest patent portfolio for essential and relevant patents for wireless standards."<sup>11</sup> Indeed, Apple's documents show that Apple sought artificially to "devalue SEPs" in the industry by "build[ing] favorable, arms-length 'comp' licenses" in an attempt to reduce what FRAND means.<sup>12</sup> The ultimate goal of this pursuit was stated frankly by Apple: To "reduce Apple's net royalty to Qualcomm," despite conceding that Qualcomm's chips, "engineering wise . . . have been the best."<sup>13</sup>

As new facts relevant to the FTC's case and contrary to its theory of harm come to light, it is important to re-emphasize the fundamental point of our prior article: Model predictions that are inconsistent with actual market evidence should give fact finders serious pause before

they accept the results as reliable. This advice is particularly salient in a case like *FTC v. Qualcomm*, where intellectual property and innovation are critical components of the industry and its competitiveness, because condemning behavior that is not truly anticompetitive may have serious, unintended consequences.<sup>14</sup>

The serious consequences of a false positive, that is, the erroneous condemnation of a procompetitive or competitively neutral business practice, is undoubtedly what caused the Antitrust Division to file its *Statement of Interest* in the FTC's case against Qualcomm. That *Statement* correctly highlights the Apple documents as support for the Government's concern that "an overly broad remedy in this case could reduce competition and innovation in markets for 5G technology and downstream applications that rely on that technology."<sup>15</sup>

In this reply, we closely examine the market realities that with and hence undermine both Dr. Shapiro's bargaining model and the FTC's theory of harm in its case against Qualcomm. We believe the "large body of evidence" offered by K&M supporting Shapiro's theoretical analysis is insufficient to sustain his conclusions under standard antitrust analysis, including the requirement that a plaintiff alleging monopolization or attempted monopolization provide evidence of actual or likely anticompetitive effects. We will also discuss the implications of the newly-public internal Apple documents for the FTC's case, which remains pending at the time of this writing, and for future government investigations involving allegedly anticompetitive licensing of intellectual property.

### **Kattan and Muris Rely Upon Inconsequential Testimony and Mischaracterize Dr. Nevo's Empirical Analysis**

K&M march through a series of statements from Qualcomm's customers asserting that the threat of Qualcomm discontinuing the supply of modem chips forced them to agree to unreasonable licensing demands. This testimony, however, is reminiscent of Dr. Shapiro's testimony in *AT&T/Time Warner* concerning the threat of a long-term blackout of CNN and other Turner channels: Qualcomm has never cut off any customer's supply of chips. The assertion that companies negotiating with Qualcomm either had to "agree to the license or basically go out of business" ignores the reality that even if Qualcomm discontinued supplying chips to a customer, the customer could obtain chips from one of four rival sources. This was not a theoretical possibility. Indeed, Apple has been sourcing chips from Intel since 2016 and made the decision to switch to Intel specifically in order to, in its own words, exert "commercial pressure against Qualcomm."<sup>16</sup>

Further, as Dr. Nevo pointed out at trial, SEP license agreements are typically long term (e.g., 10 or 15 year agreements) and are negotiated far less frequently than chip prices, which are typically negotiated annually. In other words, Qualcomm's royalty rate is set prior to and independent of chip sale negotiations.

K&M raise a number of theoretical objections to Nevo’s empirical analysis. For example, K&M accuse Nevo of “cherry picking” the licenses he included in his empirical analysis to show that royalty rates remained constant over time, stating that he “excluded from consideration any license that had non-standard terms.”<sup>17</sup> They mischaracterize Nevo’s testimony on this point. Nevo excluded from his analysis agreements that, according to the FTC’s own theory of harm, would be unaffected (e.g., agreements that were signed subject to government supervision or agreements that have substantially different risk splitting provisions). In any event, Nevo testified that modifying his analysis to account for Shapiro’s criticism regarding the excluded agreements would have no material effect on his conclusions. To our knowledge, Nevo’s testimony is the only record evidence providing any empirical analysis of the effects of Qualcomm’s licensing agreements.

As previously mentioned, K&M also claim that Dr. Nevo’s analysis failed to account for the alleged weakening of Qualcomm’s patent portfolio over time. Apple’s internal documents, however, are fatal to that claim.. K&M also pinpoint failure to control for differences among customers and changes in the composition of handsets over time as critical errors in Nevo’s analysis. Their assertion that Nevo should have controlled for differences among customers is puzzling. They do not elaborate upon that criticism, but they seem to believe different customers are entitled to different FRAND rates for the same license. But Qualcomm’s standard practice—due to the enormous size of its patent portfolio—is, and has always been, to charge all licensees the same rate for the entire portfolio.

As to changes in the composition of handsets over time, there is no doubt that a smartphone today has many more features than a first-generation handset that only made and received calls; those new features, however, would be meaningless without Qualcomm’s SEPs, which are implemented by mobile chips that enable cellular communication. One must wonder why Qualcomm should have reduced the royalty rate on licenses for patents that are just as fundamental to the functioning of mobile phones today as they were to the functioning of a first-generation handset. K&M ignore the fundamental importance of Qualcomm’s SEPs in claiming that royalty rates should have declined along with the quality-adjusted declining prices of mobile phones. They also, conveniently, ignore the evidence that the industry has been characterized by increasing output and quality—increases which can certainly be attributed at least in part to Qualcomm’s chips being “engineering wise . . . the best.”

### **Apple’s Internal Documents Eviscerate the FTC’s Theory of Harm**

The FTC’s theory of harm is premised upon Qualcomm’s allegedly charging a supra-FRAND rate for its SEPs (the “royalty surcharge”), which squeezes the margins of OEMs and consequently prevents rival chipset suppliers from obtaining a sufficient return when negotiating with those OEMs.<sup>18</sup> To predict the effects of Qualcomm’s allegedly anticompetitive conduct, Dr. Shapiro compared the gains from trade OEMs receive when they

purchase a chip from Qualcomm and pay Qualcomm a FRAND royalty to license its SEPs with the gains from trade OEMs receive when they purchase a chip from a rival manufacturer and pay a “royalty surcharge” to Qualcomm to license its SEPs. Shapiro testified that he had “reason to believe that the royalty surcharge was substantial” and had “inevitable consequences,” for competition and for consumers, though his bargaining model did not quantify the effects of Qualcomm’s practice.

The premise of the FTC theory requires a belief about FRAND as a meaningful, objective competitive benchmark that Qualcomm was able to evade as a result of its market power in chipsets. But Apple manipulated negotiations as a tactic to reshape FRAND itself. The closer look at the facts invited by K&M does nothing to improve one’s view of the FTC’s claims. The Apple documents exposed at trial make it clear that Apple deliberately manipulated negotiations with other suppliers in order to make it appear to courts and antitrust agencies that something other than the quality of Qualcomm’s technology was driving royalty rates. For example, Apple’s own documents show it sought artificially to “devalue SEPs” by “build[ing] favorable, arms-length ‘comp’ licenses” in an attempt to reshape what FRAND means in this industry.<sup>19</sup> Simply put, Apple’s strategy was to negotiate cheap, supposedly “comparable” licenses with other chipset suppliers as part of a plan to reduce its net royalties to Qualcomm.

As part of the same strategy, Apple spent years arguing to regulators and courts that Qualcomm’s patents were no better than those of its competitors. But their internal documents tell a very different story:

- “Nokia’s patent portfolio is significantly weaker than Qualcomm’s.”<sup>20</sup>
- “[InterDigital] makes minimal contributions to [the 4G/LTE] standard”<sup>21</sup>
- “Compared to [Huawei, Nokia, Ericsson, IDCC, and Apple], Qualcomm holds a stronger position in [audio/video SEPs], and particularly with respect to cellular and Wi-Fi SEPs.”<sup>22</sup>
- “Compared to other licensors, Qualcomm has more significant holdings in key areas such as media processing, non-cellular communications and hardware. Likewise, using patent citation analysis as a measure of thorough prosecution within the US PTO, Qualcomm patents (SEPs and non-SEPs both) on average score higher compared to the other, largely non-US based licensors.”<sup>23</sup>

One internal document that is particularly troubling states that Apple’s plan was to “create leverage by building pressure” in order to (i) hurt Qualcomm financially and (ii) put Qualcomm’s licensing model at risk.<sup>24</sup> What better way to harm Qualcomm financially and put its licensing model at risk than to complain to regulators that the business model is anticompetitive and tie the company up in multiple costly litigations? That businesses make strategic plans to harm one another is no surprise. But it underscores the importance of

antitrust institutions – with their procedural and evidentiary requirements – to separate meritorious claims from fabricated ones. They failed to do so here.

## Lessons Learned

So what should we make of evidence suggesting one of the FTC’s key informants during its investigation of Qualcomm didn’t believe the arguments it was selling? The exposure of Apple’s internal documents is a sobering reminder that the FTC is not immune from the risk of being hoodwinked by rent-seeking antitrust plaintiffs. That a firm might try to persuade antitrust agencies to investigate and sue its rivals is nothing new,<sup>25</sup> but it is a particularly high-stakes game in modern technology markets.

Lesson number one: Requiring proof of actual anticompetitive effects rather than relying upon a model that is not robust to market realities is an important safeguard to ensure that Section 2 protects competition and not merely an individual competitor. Yet the agencies’ staked their cases on bargaining models in *AT&T/Time Warner* and *FTC v. Qualcomm* that fell short of proving anticompetitive effects. An agency convinced by one firm or firms to pursue an action against a rival for conduct that does not actually harm competition could have a significant and lasting anticompetitive effect on the market. Modern antitrust analysis requires plaintiffs to substantiate their claims with more than just theory or scant evidence that rivals have been harmed. That safeguard is particularly important when an agency is pursuing an enforcement action against a company in a market where the risks of regulatory capture and false positives are high. With calls to move away from the consumer welfare standard—which would exacerbate both the risks and consequences of false positives—it is imperative to embrace, rather than reject, the requirement of proof in monopolization cases.<sup>26</sup> The DOJ’s *Statement of Interest* is a reminder of this basic tenet.

Lesson number two: Antitrust should have a limited role in adjudicating disputes arising between sophisticated parties in bilateral negotiations of patent licenses. Overzealous claims of harm from patent holdup and anticompetitive licensing can deter the lawful exercise of patent rights, good faith modifications of existing contracts, and more generally interfere with the outcome of arms-length negotiations.<sup>27</sup> It is also a difficult task for an antitrust regulator or court to identify and distinguish anticompetitive patent licenses from neutral or welfare-increasing behavior. An antitrust agency’s willingness to cast the shadow of antitrust remedies over one side of the bargaining table inevitably places the agency in the position of encouraging further rent-seeking by licensees seeking similar intervention on their behalf.

Finally, antitrust agencies intervening in patent holdup and licensing disputes on behalf of one party to a patent licensing agreement risks transforming the agency into a price regulator. Apple’s fundamental complaint in its own litigation, and the core of the similar FTC allegation against Qualcomm, is that royalty rates are too high. The risks to competition and consumers

of antitrust courts and agencies playing the role of central planner for the innovation economy are well known, and are at the peak when the antitrust enterprise is used to set prices, mandate a particular organizational structure for the firm, or to intervene in garden variety contract and patent disputes in high-tech markets.

The current Commission did not vote out the Complaint now being litigated in the Northern District of California. That case was initiated by an entirely different set of Commissioners. It is difficult to imagine the new Commissioners having no reaction to the Apple documents, and in particular to the perception they create that Apple was successful in manipulating the agency in its strategy to bolster its negotiating position against Qualcomm. A thorough reevaluation of the evidence here might well lead the current Commission to reconsider the merits of the agency's position in the litigation, and whether continuation is in the public interest. The Apple documents, should they enter the record, may affect significantly the Ninth Circuit's or Supreme Court's understanding of the FTC's theory of harm.



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- <sup>2</sup> Joseph Kattan & Timothy J. Muris, *The Alignment of Evidence and Economic Theory in FTC v. Qualcomm: A Response to Ginsburg & Wright*, CPI N. AM. COLUMN 2 (Apr. 2019).
- <sup>3</sup> Douglas H. Ginsburg & Joshua D. Wright, *Use and abuse of bargaining models in antitrust: AT&T/Time-Warner and FTC v. Qualcomm*, Truth on the Market (Mar. 14, 2019), [https://truthonthemarket.com/2019/03/14/use-and-abuse-of-bargaining-models-in-antitrust/?utm\\_source=CPI+Subscribers&utm\\_campaign=Oce29b7554-EMAIL\\_CAMPAIGN\\_2019\\_03\\_29\\_04\\_25&utm\\_medium=email&utm\\_term=0\\_Oea61134a5-Oce29b7554-234864229](https://truthonthemarket.com/2019/03/14/use-and-abuse-of-bargaining-models-in-antitrust/?utm_source=CPI+Subscribers&utm_campaign=Oce29b7554-EMAIL_CAMPAIGN_2019_03_29_04_25&utm_medium=email&utm_term=0_Oea61134a5-Oce29b7554-234864229).
- <sup>4</sup> No. 5:17-cv- 00220-LHK (N.D. Cal., 2017).
- <sup>5</sup> Kattan & Muris, *supra* note 1, at 2.
- <sup>6</sup> *Id.* Kattan and Muris miss the point that within the context of economic modeling, the failure to identify the magnitude of an effect with any certainty when data are available, including whether the effect is statistically different than zero, calls into question the model's robustness more generally.
- <sup>7</sup> U.S. Dep't of Justice, Statement of Interest of the United States, *FTC v. Qualcomm Inc.*, *supra* note 3 (May 2, 2019).
- <sup>8</sup> Qualcomm Inc., Opening Statement at 8, *Apple Inc. v. Qualcomm Inc.*, No. 3:17-cv-0108-GPC-MDD (S.D. Cal., Apr. 16, 2019).
- <sup>9</sup> Kattan & Muris, *supra* note 1, at 4-5.
- <sup>10</sup> Qualcomm Inc., Opening Statement at 11, *Apple Inc. v. Qualcomm Inc.*, No. 3:17-cv-0108-GPC-MDD (S.D. Cal., Apr. 16, 2019).
- <sup>11</sup> *Id.* at 21.
- <sup>12</sup> *Id.* at 7.
- <sup>13</sup> *Id.* at 6, 25.
- <sup>14</sup> See Douglas H. Ginsburg & Joshua D. Wright, *Dynamic Analysis and the Limits of Antitrust Institutions*, 78 ANTITRUST L.J. 1 (2012); Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. COMPETITION L. & ECON. 153 (2010).
- <sup>15</sup> U.S. Dep't of Justice, Statement of Interest of the United States at 5, *FTC v. Qualcomm Inc.*, No. 5:17-cv-00220-LHK (N.D. Cal., May 2, 2019).
- <sup>16</sup> Qualcomm Inc., Opening Statement at 15, *Apple Inc. v. Qualcomm Inc.*, No. 3:17-cv-0108-GPC-MDD (S.D. Cal., Apr. 16, 2019).
- <sup>17</sup> Kattan & Muris, *supra* note 1, at 4.
- <sup>18</sup> Others have criticized the FTC's theory of harm on these and related grounds. See, e.g., Luke Froeb, Michael Doane & Mikhael Shor, Calling Into Question the FTC's Theory of the Case in *FTC v. Qualcomm*, Truth on the Market (Mar. 5, 2019), <https://truthonthemarket.com/2019/03/05/calling-into-question-the-ftcs-theory-of-the-case-in-ftc-v-qualcomm/>.
- <sup>19</sup> Qualcomm Inc., Opening Statement at 7, *Apple Inc. v. Qualcomm Inc.*, No. 3:17-cv-0108-GPC-MDD (S.D. Cal., Apr. 16, 2019).
- <sup>20</sup> *Id.* at 9.
- <sup>21</sup> *Id.* at 10.
- <sup>22</sup> *Id.* at 11.
- <sup>23</sup> *Id.*
- <sup>24</sup> *Id.* at 12.
- <sup>25</sup> William J. Baumol & Janusz A. Ordover, *Use of Antitrust to Subvert Competition*, 28 J.L. & ECON. 247 (1985).
- <sup>26</sup> See Elyse Dorsey, Jan Rybnicek & Joshua D. Wright, *Hipster Antitrust Meets Public Choice Economics: The Consumer Welfare Standard, Rule of Law, and Rent-Seeking*, CPI ANTITRUST CHRON. (Apr. 2018); see also Joshua D. Wright et al., *Requiem For a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 Ariz. St. L.J. 293 (2019).
- <sup>27</sup> See Bruce H. Kobayashi & Joshua D. Wright, *The Limits of Antitrust and Patent Holdup: A Reply To Cary et al.*, 78 ANTITRUST L.J. 701 (2012).