Tying and Exclusion in FRAND Licensing:
Evaluating *Qualcomm*

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In May 2019, District Court Judge Lucy Koh ruled that Qualcomm violated the antitrust laws by tying its cellular licensing and modem chip sales and by refusing to license its direct competitors in the chip segment.¹ In her opinion, Judge Koh embraced a view of Qualcomm’s business model that was offered by the Federal Trade Commission, emphasizing what the FTC described as a “no license, no chips” (NLNC) policy.² Under this theory, Qualcomm used its licensing practices to exclude rival chipmakers and simultaneously leveraged its market power in chips to extract royalties that exceeded the “fair, reasonable, and nondiscriminatory” (FRAND) rates that Qualcomm committed to charge for patents required to practice cellular standards.³ The ruling is now on appeal.

In this article, we evaluate three novel features of the Qualcomm decision. First, we describe how the tying relationship between chips and licenses goes primarily in the opposite direction of how most commentators characterize it. Second, we consider how Qualcomm’s FRAND licensing commitments bear on the antitrust analysis. Third, we discuss how FRAND might have been used to better justify finding an antitrust duty-to-deal with competitors.

**Background**

Qualcomm has two primary business units. Its chip (or chipset) division designs cellular modems that allow phones to communicate with cellular networks and markets those modem chips to independent device producers (also referred to as original equipment manufacturers or OEMs). Its licensing division negotiates with the same OEM customers to secure royalty-bearing patent license agreements.

Qualcomm has market power in both lines of business. In particular, its chip division accounts for a very high share of modem sales for certain wireless technologies (CDMA and high-end LTE).⁴ At the same time, its licenses grant rights to standard essential patents (SEPs), which OEMs and rival chipmakers must infringe in order to practice the protocols that allow independently designed networks and devices to communicate. Qualcomm’s market power in licensing is somewhat constrained, however, by its commitments to various standard setting organizations (SSOs) to license its SEPs at FRAND rates.

Judge Koh’s decision focused on a number of Qualcomm’s business practices, including the use of exclusivity clauses and loyalty rebates in its chip supply agreements, which conduct the

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³ Qualcomm, 2019 WL 2206013 at *68.
⁴ Id. at *14–15.
court described as “de facto exclusive dealing.”\footnote{Id. at *85.} While chipset exclusivity is an important aspect of Qualcomm’s conduct, there is also a tying component that is not addressed at length in her decision.\footnote{There is significant overlap between tying and exclusive dealing, namely where the availability of one good is conditioned on exclusivity in another. In these cases, it may be appropriate for the complainant to allege either tying or exclusive dealing. In Qualcomm, the FTC chose the latter characterization and Judge Koh followed suit.} In particular, Qualcomm effectively tied its chipsets to its SEP licenses. Because there are few viable alternatives to Qualcomm’s chipsets, the threat of cutting off a customer’s chip supply gives Qualcomm a large stick in licensing negotiations. Judge Koh devoted a considerable part of her ruling to evidence that Qualcomm wielded this threat shrewdly, and to explaining how it enabled Qualcomm to capture unusually high royalty rates relative to those charged by other SEP licensors.\footnote{Qualcomm, 2019 WL 2206013 at *27–68.}

Qualcomm did offer its customers some relief on the royalty rate, but only in exchange for de facto exclusivity in the chipset market. In particular, Qualcomm offered various types of rebates and “incentives”—effectively partial reimbursements of royalty payments—for customers that agreed to purchase chipsets nearly exclusively from Qualcomm. Charging higher royalties to licensees that chose to use rival-made chips worked to forestall would-be competitors from gaining a foothold in the chipset market. The exclusivity agreements with Apple in particular were alleged to deprive rivals of the scale and know-how required to compete in cutting-edge cellular modem markets. In effect, Qualcomm imposed a tax—in the form of a forgone rebate—on purchases of rival-made chips, leaving such rivals unable to match the “all-in” (chip plus license) price that Qualcomm offered in exchange for exclusivity.

Understanding Qualcomm’s Tying Strategy

In a tying arrangement, the sale of one product is conditioned on the buyer’s agreement to take a second good as well. In such cases, the antitrust plaintiff usually identifies one product as the “tying good” and the other as the “tied good.” In a typical case, the defendant already possesses a monopoly in the market for the tying product, whereas many consumers would have bought the tied good from another provider but for the tie. The alleged exclusion therefore occurs in the tied market.

It is tempting to posit that Qualcomm’s chips are the tying good, while SEP licenses are the tied good.\footnote{See, e.g., Koren W. Wong-Ervin et al., A Comparative and Economic Analysis of the U.S. FTC’s Complaint and the Korea FTC’s Decision Against Qualcomm, CPI: ANTITRUST CHRON. at 4 (Apr. 2017) (characterizing Qualcomm’s SEP licenses as the tied good).} After all, its NLNC policy suggests that its chips are providing the relevant bargaining leverage, and in a qualified sense (discussed below) this is correct. However, on closer inspection, it becomes clear that Qualcomm’s SEP licenses are the tying good. It is worth evaluating why this is so, because the explanation highlights the two primary factors that distinguish this case from conventional tying cases: first, Qualcomm’s FRAND commitments constrain its ability to “act like a monopolist” when selling the tying good (licenses). Second, Qualcomm presently has monopoly power over both goods in its tie, although its dominant position in the tied market (chipsets) is more vulnerable to potential erosion by competitive entry.

Qualcomm’s FRAND commitments imply that it cannot refuse to license its SEPs.\footnote{This is due in part to the likelihood that Qualcomm would be unable to enjoin infringers in light of its FRAND commitments.} To illustrate the relevance of this constraint, consider a counterfactual world in which Qualcomm is not bound...
by any FRAND commitments and can rapidly enjoin any unlicensed implementer. The threat of withholding a license would be at least as troubling to downstream implementers as a threat to cut off the chip supply. After all, implementers need both chips and licenses, but in the chipset market there is at least a prospect of competition on the horizon. In the absence of FRAND commitments, however, Qualcomm could forestall the entry of potential chip competitors through tying. Specifically, it could threaten to withhold licenses from any implementer that declines to buy its chips.

This is precisely the opposite of how Qualcomm’s actual conduct has been described. Indeed, in this counterfactual case, we could aptly describe Qualcomm as implementing a “no chips, no license” policy. It would then be clear that chips are the tied product.

When we add FRAND back into the mix, the underlying motivation for the tie—exclusion of actual or potential competitors in chipsets—does not change. Therefore, our designation of chipsets as the tied good should not change either. Rather, what changes as a result of FRAND is the manner in which Qualcomm can implement the tie.\(^\text{10}\) Evaluating these constraints on implementation is critical to understanding Qualcomm’s conduct as a whole.

Thus, a threat to withhold chips can provide considerable bargaining leverage in license negotiations, especially if the threat could be implemented before customers would be able to obtain a FRAND judgment in court. With FRAND in place, Qualcomm cannot implement a tie by threatening to cut off the flow of SEP licenses to any downstream implementers that buy rival-made chips. In the antitrust case law, the closest analogue to this predicament arises in cases where the tying good is an essential utility that must be made available at a regulated rate to all comers.\(^\text{11}\) In such cases, the impetus for tying is typically to circumvent the regulatory price control—by shifting the monopoly overcharge to an unregulated good—rather than to exclude rivals in the tied market, though in principle a tie could accomplish both objectives.\(^\text{12}\)

How could Qualcomm hope to implement an exclusionary tie in light of its FRAND commitment? If the chipset market were already competitive, it couldn’t: implementers could just buy chips from rivals and then go to court to secure a license at a FRAND rate.\(^\text{13}\) However, as Judge Koh found, Qualcomm has monopoly power in the chipset market.\(^\text{14}\) That is, Qualcomm currently has monopoly power in both the tying and tied markets, although its power over chipsets is vulnerable to competitive entry. The threat of entry in chipsets has little bite in the short run, however, during which time implementers depend on Qualcomm for both licenses and chips. Thus, a threat to withhold chips can provide considerable bargaining leverage in license negotiations, especially if the threat could be implemented before customers would be able to obtain a FRAND judgment in court. Qualcomm can use this short-run bargaining leverage to demand that implementers agree to its preferred licensing terms. As noted earlier, these terms involve an unusually high royalty rate that applies upfront, but which can be reduced ex post through rebates that are conditioned on continued exclusivity in chipsets.


\(^{11}\) Id. at 102–05 (discussing the similarities with tying by regulated utilities). For an example of a case involving a regulated tying good, see, e.g., Int’l Tel. & Tel. Corp. v. Gen. Tel. & Elec. Corp., 449 F. Supp. 1158 (D. Haw. 1978).


\(^{13}\) Here we are assuming that the FRAND commitment can actually be enforced. If it is unenforceable for some reason, then it would not prevent the kind of tying discussed above (wherein SEP rights are withheld from implementers who buy rival-made chips). However, the fact that Qualcomm’s tie did not take that form suggests that it anticipated its FRAND commitments being enforceable.

\(^{14}\) Qualcomm, 2019 WL 2206013 at *16.
All of this accomplishes two important things for Qualcomm. First, it achieves exclusion in the chipset market by securing de facto exclusivity commitments from downstream implementers. This can deprive prospective chipset rivals of the scale they would need to enter the market successfully. Second, the arrangement establishes a high benchmark royalty rate (i.e., the pre-rebate royalty that applies upfront), which Qualcomm can point to as its established FRAND royalty in future negotiations or litigation, including with third parties.  

Evaluating Qualcomm’s Licensing Practices

Qualcomm’s FRAND commitments motivate its tying strategy by constraining its ability to directly exercise the market power it obtains from holding SEPs. That is, the tying strategy is a way of at least partially evading the FRAND commitments. But where do these FRAND commitments come from, and what is the precise nature of the constraints that they impose? Answering these questions sheds additional light on Qualcomm’s SEP licensing practices, as well as the antitrust issues discussed above.

FRAND commitments are a promise to license patents incorporated into industry standards broadly and at reasonable rates. These voluntary commitments are usually made to SSOs in accordance with the rules and procedures described in individual SSOs’ intellectual property policies. U.S. courts have generally treated FRAND commitments as a binding contract between the patent owner and the SSO, with all implementers of the relevant standard as third-party beneficiaries. This contractual approach does not, however, imply that antitrust law is irrelevant. SSOs inherently involve collective action by competing firms, and numerous cases have considered the antitrust implications of how firms acquire and exercise market power through SEPs.

At first, it may seem puzzling that patent holders would voluntary limit their rights to withhold a license. In practice, however, they are often willing to make FRAND commitments because incorporating their patented technology into a standard guarantees access to a large market of prospective licensees and because widespread implementation of a standard can increase demand for proprietary complements, such as chipsets. When a patent owner refuses to make a FRAND commitment, the other members of an SSO may be required to search for non-infringing substitute technologies so that exclusivity and licensing disputes do not threaten widespread adoption of the standard. Thus, although FRAND commitments place meaningful constraints on patent access and pricing, refusing to offer a FRAND commitment can produce a sharp drop in demand for the patented technology, and is a relatively rare event.

The FRAND commitment has two prongs: the agreement to license on “fair and reasonable” terms, and the commitment to ensure that such licenses are “non-discriminatory.” We consider them in turn.

15 Courts often rely on “comparable licenses” as a basis for computing reasonable royalties, meaning they look at the royalty rates assigned in private agreements involving the same or similar patents. For discussion of how this relates to the Qualcomm case, see Hovenkamp, supra note 10, at 110–12.

16 Three cellular SSOs that play an important role in the Qualcomm litigation are the European Telecommunications Standards Institute (ETSI), the Telecommunications Industry Association (TIA) and the Alliance for Telecommunications Industry Solutions (ATIS).

17 See, e.g., Microsoft Corp. v. Motorola, Inc. (Microsoft III), 696 F.3d 872, 884–85 (9th Cir. 2012); Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061, 1083–84 (W.D. Wis. 2012); Microsoft Corp. v. Motorola, Inc. (Microsoft II), 864 F. Supp. 2d 1023, 1031–33 (W.D. Wash. 2012).

18 For an overview, see Allan Shampine and Tim Simcoe, Economics of Patents and Standardization: Network Effects, Hold-up, Hold-out, Stacking, in 1 THE CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW 100–24 (Jorge L. Contreras ed., 2018).

Reasonable Royalties: The consensus economic view is that “reasonable” royalties in the FRAND licensing context should not reflect any market power created by excluding feasible substitute technologies from the standard. For this reason, many economists endorse an ex ante incremental value standard that caps royalties at the difference between the value of a SEP and the value of the next best alternative that was available when the standard was introduced. The Federal Circuit has espoused a similar principle whereby “[a SEP] royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology.” Moreover, because FRAND commitments indicate a SEP owner’s willingness to license its patents, it is generally very difficult for patent holders to establish the “irreparable harm” required under the eBay factors for a grant of injunctive relief.

All of this brings us to the question of whether Qualcomm’s royalties are FRAND, given the lack of a precise and detailed legal definition. It is generally understood that Qualcomm’s royalties exceed those of other major cellular SEP licensors, both in absolute terms and when normalized by various measures of Qualcomm’s contribution to relevant standards. Although Judge Koh cited this evidence regarding Qualcomm’s relative royalty rates, her analysis placed more weight on Qualcomm’s licensing conduct, and specifically its willingness to withhold chipsets from handset producers that refused its licensing terms.

The logic behind Judge Koh’s approach can be understood by analogy to injunctive relief. If a SEP holder can prevent an implementer from practicing the standard, negotiated royalties will reflect demand for the standard (or indeed, the entire device) and not just the value of the patented feature. A handset manufacturer unable to obtain a sufficient supply of chips finds itself in much the same position as one facing a patent injunction—it is unable to sell its device for lack of an essential input. By emphasizing Qualcomm’s practice of threatening to withhold chip supply when negotiating its SEP licenses, Judge Koh is highlighting how Qualcomm’s market power in chips when combined with its “no license, no chips” bargaining strategy creates a de facto injunction that can be used to extract unreasonably high royalties.

Qualcomm’s appeal argues that Judge Koh erred by not considering its many license agreements as evidence of an “established” rate that would be considered reasonable under the Georgia Pacific factors typically applied to determine reasonable royalty patent damages. Although other courts have used evidence from comparable licenses in FRAND disputes, this objection is misplaced for several reasons. First, it ignores the question of whether Qualcomm’s conduct influenced the terms of these prior agreements, either directly (through threats of with-
holding chips and offering rebates for chip exclusivity) or indirectly (because negotiations take place in the shadow of Qualcomm’s “established” rates). Second, many of Qualcomm’s early license agreements covered different patents and devices, calling their comparability into question even if they applied to the same standards. And third, the standard Georgia-Pacific notion of reasonableness (under which many of Qualcomm’s license agreements were negotiated) does distinguish between the value of a patented technology and the value created by coordinating on a common standard.

Non-Discrimination: For SEP owners to fulfill their FRAND commitments, it is necessary but not sufficient to charge reasonable royalties: their licensing practices must also be nondiscriminatory. Although legal and economic scholars have paid relatively less attention to the nondiscriminatory (ND) prong of FRAND, courts have indicated that, at a minimum, it requires SEP holders to offer similar terms and conditions to similarly situated (i.e., competing) licensees.

Qualcomm’s licensing practices involved two types of discrimination: between handset producers that did or did not purchase Qualcomm chipsets, and between Qualcomm’s in-house chip division and its rivals. We consider them in that order.

As described above, Qualcomm’s tying strategy involved discounts and incentives for handset producers that agreed to purchase chipsets primarily or exclusively from Qualcomm. While the most notable example was a set of contracts with Apple that provided large royalty rebates conditioned on exclusivity, Judge Koh’s decision also noted that similar terms were offered to Blackberry, LG Electronics, Samsung, and Motorola. In the economics literature, this mixed bundling strategy is widely recognized as a form of price discrimination because it produces different effective royalties based upon the implementer’s decision to purchase Qualcomm’s chips or not.

In its appeal, Qualcomm argues that its incentives and discounts were unrelated to its SEP licensing, and therefore nondiscriminatory, because volume discounts and other types of incentives are permissible in the market for chipsets. Judge Koh’s ruling provides evidence that Qualcomm actually viewed these provisions as royalty rebates. But even if one accepts Qualcomm’s argument that these are chipset discounts, it would be wrong to ignore the fact that under its “no license, no chips” policy, every chip purchase is bundled with a SEP license, making chip discounts equivalent to royalty reductions. A simple numerical example can help illustrate these links between the all-in price, discriminatory licensing, and exclusion.

28 In Ericsson v. D-Link, 773 F.3d 1201, 1230, 1232 (Fed. Cir. 2014), the Federal Circuit opined that “in cases involving RAND-encumbered patents, many of the Georgia-Pacific factors simply are not relevant,” and indicated that when considering damages for SEPs, “the patentee’s royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology.”
30 Qualcomm, 2019 WL 2206013 at *153–54.
31 Although the economics literature has generally treated price discrimination as a benign explanation for tying, as compared to monopoly leverage, the two need not be mutually exclusive. See, e.g., David S. Evans & Michael Salinger, Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law, 22 YALE J. ON REG. 37 (2005).
32 Opening Brief for Appellant Qualcomm Inc. at 16, 105, FTC v. Qualcomm, Inc., No. 19-16122 (9th Cir. Aug. 27, 2019).
Suppose the monopoly price for chipsets is $10, and that a vertically integrated monopoly supplier of chips and SEPs is facing an entrant that can market its chips for $6. If it were unconstrained by ND, the vertically integrated licensor might offer to license its own chip customers at $2 per unit, and its rivals’ chip customers at $7 per unit. This type of price discrimination yields an all-in price of $12 for the incumbent’s chip-SEP bundle, compared to $13 for a mixed bundle containing the entrant’s chip. In this simple example, no one would purchase from the entrant because the total price of doing so would be higher than purchasing from the incumbent.

Now suppose that FRAND commitments prohibit price discrimination in SEP licensing. The vertically integrated incumbent might try reducing its chip price by $5 and increasing the SEP royalty charged to its own chip customers by the same amount. This leaves the all-in price for each bundle unchanged, so the rival is still excluded. It also creates the appearance of nondiscriminatory SEP pricing. But the effects of this price structure remain discriminatory: when Qualcomm increases SEP prices to subsidize chip rebates, the customers of a (potential) chip rival pay that cost and receive nothing in return.

Note that this example does not contain royalty rebates or any of the other incentives that Qualcomm offered certain licensees in return for chipset exclusivity. In the absence of a credible threat to its royalty rates, Qualcomm would have no need for such discounts. In practice, these provisions seem to have been used with a select set of customers, such as Apple, that might be able to support a nascent chip rival or mount a FRAND challenge.

The second type of discrimination considered in Qualcomm was its refusal to license rival chip producers. In particular, the court ruled at summary judgment that the intellectual property policies of two cellular SSOs—ATIS and TIA—required Qualcomm to license any firm that wished to implement the standards, and that a refusal to license one class of prospective implementers (chipmakers) is inherently discriminatory.\(^{34}\) Although it was grounded in a contractual interpretation of the ATIS and TIA intellectual property policies, this ruling is consistent with a historical record showing that FRAND commitments emerged from a set of remedial access rules that required patent holders to grant licenses to “all applicants” upon request.\(^{35}\)

In its appeal, Qualcomm admits that its refusal to license competitors is meant to increase licensing revenue. But it denies that this practice is discriminatory, since rival chipmakers are treated equally and do not pay to use its SEPs. This argument overlooks the exclusionary impact of leveraging market power in chips to raise SEP prices, which, as we saw above, can increase the all-in price of a mixed bundle (Qualcomm SEPs and rival chips) relative to using Qualcomm chipsets.

Qualcomm’s refusal to license at the component level of the supply chain does, however, raise two questions about its overall licensing strategy. First, why doesn’t Qualcomm simply avoid the issue by offering to license chip producers at OEM rates? And second, why haven’t chipset manufacturers sued for a FRAND license?

With respect to the first question, Qualcomm appears to believe that courts would not force chip makers to pay its OEM royalties because those rates represent a substantial fraction of the entire chipset price.\(^{36}\) As a matter of economics, however, there is no reason to think that chip-

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34 Qualcomm, 2019 WL 2206013 at *126 (noting that TIA’s policy specifically identifies “a willingness to license all applicants except for competitors of the licensor” as discriminatory conduct).


36 Qualcomm, 2019 WL 2206013 at *129.
makers could not pass on the increased costs of a license. An alternative explanation for Qualcomm’s refusal to license at the chip level is that rival chipmakers have no need for its chipsets, which eliminates the bargaining leverage created by threats to withhold chip supply. Thus, chip-level licensing could reduce royalties not because of courts’ reluctance to increase chipmakers’ costs, but rather because the threat point in SEP licensing negotiations would shift from a de facto injunction to a court-ordered FRAND rate.

This line of argument begs the second question posed above: why don’t chip producers sue for a FRAND license? Although this question was not taken up in Judge Koh’s decision, one explanation is that although the costs of a lawsuit would fall upon an individual chipmaker, the benefits of a victory would be widely shared. In particular, nondiscrimination implies that rival chip producers would be entitled to the same FRAND rates, and robust competition might cause much of the resulting savings to be captured by customers. Another explanation is that Qualcomm’s rivals do have an incentive to sue and then, given that both parties want to keep the outcome private, settle. This is one way to interpret the outcome of the litigation between Qualcomm and Ericsson that preceded the adoption of 3G cellular standards.

The Antitrust Duty to Deal

The tying and exclusive dealing issues form the basis of one of two separate antitrust decisions in the Qualcomm opinion. The second was Judge Koh’s conclusion that Qualcomm had an antitrust duty to deal with rivals—namely a duty to sell SEP licenses to prospective rivals in the chipset market. Significantly, this is separate from the court’s conclusion (on summary judgment) that Qualcomm’s FRAND commitments created a contractual duty to license rivals.

The duty-to-deal analysis is the most controversial aspect of Judge Koh’s decision, and is probably the most vulnerable to reversal on appeal. In her opinion, Judge Koh found such a duty based on the Supreme Court’s 1985 decision in Aspen. However, the antitrust duty to deal is extremely narrow in scope; courts almost never find such a duty in practice.

Under Aspen, a court may find an antitrust violation where a dominant firm refuses to deal with a rival, despite an established history of such dealings, if the refusal seems to be motivated by the prospect of exclusion. To establish a history of prior dealings, Judge Koh pointed to the fact that Qualcomm licensed rivals about 20 years ago. One may question whether agreements

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37 This is an application of the general principle of litigation externalities in patent litigation. See, e.g., Joseph Farrell & Carl Shapiro, How Strong Are Weak Patents?, 98 Am. Econ. Rev. 1347 (2008). Moreover, chip producers may recognize that ND provisions can function like most-favored customer clauses, which dramatically raise the stakes for Qualcomm, giving them incentives to expend considerable resources in the event of a challenge.


39 Qualcomm, 2019 WL 2206013 at *81–85.


41 Remarkably, a current FTC Commissioner, Christine Wilson, penned an op-ed that sharply criticized this aspect of the decision, which she dubbed “antitrust overreach.” Christine Wilson, A Court’s Dangerous Antitrust Overreach, WALL ST. J. (May 28, 2019), www.wsj.com/articles/a-courts-dangerous-antitrust-overreach-11559085055?mod.


43 Qualcomm, 2019 WL 2206013 at *83.
formed so long ago (and involving different patents) are sufficient to establish a duty under *Aspen*, given how much has changed in the cellular technology space since that time.  

Alternatively, one could argue that this was simply not the most effective way to apply *Aspen* to Qualcomm’s refusals, and that a better application would have hinged instead on Qualcomm’s FRAND commitments. The reason that *Aspen* relies in part on a history of dealings with rivals is that this helps to support an inference that subsequent refusals were motivated by the prospect of exclusion. That Qualcomm entered into FRAND agreements suggests that it contemplated monetizing its patents largely through licensing—and perhaps that it contemplated licensing all comers. This is probably a better signal of Qualcomm’s willingness to deal with rivals (absent the prospect of exclusion) than any licensing deals from the turn of the century.

Moreover, Qualcomm’s FRAND commitments may allay the primary concern that has led courts to impose tight limits on the antitrust duty to deal. The principal economic rationale for not imposing a widespread duty to deal with rivals—which can almost always be expected to enhance static competition—is ostensibly that this is necessary to protect dynamic incentives for investment. A firm’s investment decision may have been predicated on an expectation of exclusive use of the fruits of its investment. Such decisions would be undermined by imposing a duty to deal ex post. However, Qualcomm’s willingness to make a FRAND commitment signals that it anticipated earning a satisfactory return even (or perhaps especially) when it is required to license all comers. Indeed, it may have anticipated making such commitment when it originally invested in developing the technologies embodied in its SEPs. In that case, imposing a duty to deal would not undermine Qualcomm’s prior investment decisions.

**Conclusion**

The district court found that Qualcomm violated antitrust law through a set of contracting practices that amounted to “de facto exclusive dealing” and through its refusal to license its SEPs to competing chipmakers. In this article, we offer a novel perspective on both findings. First, by examining the exclusionary contracting practices through the lens of tying, we explain how many commentators who see chipsets as the tying good in the NLNC business practice have things backwards. And second, we argue that Qualcomm’s FRAND commitments may provide a better basis for finding an antitrust duty to deal than Qualcomm’s historical contracts with other chipmakers.

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45 Recall from the discussion above that Judge Koh interpreted Qualcomm’s FRAND commitment to create a contractual duty to license rivals. That is, she found that the creation of such duty was the intent of the parties, including Qualcomm.