No. 08-694

In The
Supreme Court of the United States

FEDERAL TRADE COMMISSION,

Petitioner,

v.

RAMBUS INCORPORATED,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF FOR NANYA TECHNOLOGY CORPORATION AS AMICUS CURIAE IN SUPPORT OF PETITIONER

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QUESTIONS PRESENTED

1. Whether deceptive conduct that significantly contributes to a defendant's acquisition of monopoly power violates Section 2 of the Sherman Act.

2. Whether deceptive conduct that distorts the competitive process in a market, with the effect of avoiding the imposition of pricing constraints that would otherwise exist because of the process, is anticompetitive under Section 2 of the Sherman Act.

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INTEREST OF AMICUS CURIAE[1]

Nanya Technology Corporation ("Nanya") is a manufacturer of Dynamic Random Access Memory ("DRAM"), and a significant developer of DRAM technology. Nanya is one of the defendants in a patent infringement suit brought by Respondent Rambus Inc. In that case and other cases pending in the Northern District of California, Nanya and other DRAM manufacturers have asserted that Rambus engaged in manipulation of the standard-setting process of the organization then known as the Joint Electron Device Engineering Council ("JEDEC"), with the intent to establish an illegal monopoly in certain technology markets. Many of the facts supporting the Federal Trade Commission's findings in this case also support the claims made by Nanya and the other DRAM manufacturers against Rambus under Section 2 of the Sherman Act, 15 U.S.C. § 2, and state law.[2]

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[1] Nanya has received written consent from Petitioner and Respondent to file this brief and the consents have been filed with the Clerk of the Court. Pursuant to Supreme Court Rule 37.6, amicus states that no counsel for any party authored this brief in whole or in part, and that no person or entity, other than amicus and its counsel, contributed monetarily to the preparation or submission of this brief.

[2] *See Rambus Inc. v. Hynix Semiconductor Inc., et al.*, Case No. C 05-0334 RMW (N.D. Cal.). In a trial that concluded in March of this year, a jury accepted the technology market and geographic market definitions proffered by Nanya and the other manufacturers, and concluded that Rambus possessed monopoly power in the relevant markets in question. Having been instructed that the written JEDEC rules did not require

Nanya became embroiled in the *Rambus* patent litigation as a result of Rambus's abuse of the JEDEC process and the "patent trap" it set and sprung after it was satisfied that industry "lock in" was underway. The harm to Nanya (including substantial litigation costs and the threat of tens of millions of dollars in unwarranted damages) has been particularly unjust. Nanya entered the DRAM market in 1995, near the end of Rambus's JEDEC tenure, intending to practice an open industry standard, and without knowledge that Rambus would assert ownership of features adopted by JEDEC over alternative technologies found by the Commission to be acceptable substitutes.

As a participant in the product market disrupted by Rambus's monopolization of the technology markets in issue, and as a current member of

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the disclosure of patent applications, as opposed to issued patents, however, the jury decided that Rambus's failure to disclose its efforts to capture the evolving JEDEC standard by using information about the standard obtained during committee meetings and secretly drafting patent claims intended to cover the features expected to be adopted by JEDEC was not exclusionary. *See id.* Docket Item 1678 at 3 (Motion for New Trial) (JEDEC written rules "were not in and of themselves definite enough to require mandatory disclosure of patent applications or the intent to file such patent applications"); *compare id. with* Pet. App. 23a ("This language speaks fairly clearly of disclosure obligations related to patents and pending patent applications, but says nothing of unfiled work in progress on potential amendments to patent applications.") (*quoting* JEDEC Manual No. 21-I). The jury did not address the causation issue on which the decision of the Court of Appeals in this case was based.

JEDEC and other standard-setting organizations, Nanya is concerned that if the Court of Appeals' decision below is not reversed, other entities will have an incentive similarly to manipulate the processes of standard-setting organizations, secure in the knowledge that the supracompetitive licensing rates they will demand after standards are adopted will be held, as a matter of law, not to constitute or evidence harm to competition.

In addition, although the Commission, through its powers under Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45, has the ability to address deceptive practices such as those in which Rambus engaged without proving a Section 2 violation, the decision of the Court of Appeals will severely impact the ability of Nanya and other private victims of exclusionary conduct in the standard-setting process to obtain relief under Section 2.

SUMMARY OF ARGUMENT

The Court of Appeals' opinion below rests on a single, narrow holding. The Commission found that if Rambus had properly disclosed its claimed intellectual property rights during the JEDEC standard-setting process, JEDEC would have either (i) developed different standards using the alternatives found by the Commission to be acceptable substitutes for the features claimed by Rambus or (ii) required, as a condition to standardization of the features claimed by Rambus, that Rambus license its technology at reasonable and nondiscriminatory ("RAND") rates. Pet. App. 11a. Because the Commission did not determine which of

these possibilities was more likely, *id.* at 13a, the Court of Appeals found that the Commission's ruling could be supported only if each outcome was anticompetitive. *Id.* at 14a. Although the Court assumed that a "but for" outcome resulting in the adoption of alternative technologies would establish competitive harm, it reasoned that the avoidance of a RAND commitment "is not a harm to competition from alternative technologies in the relevant markets." *Id.* at 19a. Thus, the Court concluded, the Commission's finding that Rambus violated Section 2 was not supported.

The Court of Appeals' conclusion is contrary to settled law, and in conflict with the decision of the Court of Appeals for the Third Circuit in *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297 (3d Cir. 2007). The Court of Appeals' conclusion that the avoidance of a RAND commitment "is not a harm to competition from alternative technologies in the relevant market" is also inconsistent with the economics of standard setting and the Commission's factual findings regarding the JEDEC standard-setting process manipulated by Rambus.

Competition in standard setting is such that the avoidance of a RAND commitment through deceptive conduct can eliminate a constraint on pricing that would exist but for the deception. In situations such as that present here, where the Commission found various *ex ante* alternatives to the standardized features claimed by Rambus, the elimination of that constraint directly harms the competitive process. "A standard, by definition, eliminates alternative technologies[,]" *Broadcom*, 501 F.3d at 314, and a

RAND commitment makes the benefits of price competition reflecting the availability of *ex ante* alternatives a possibility. When deception allows the avoidance of a RAND commitment and the consequent availability of *ex ante* negotiation of royalty rates reflecting rivalry among alternatives in a technology market, competition has been harmed in the sense recognized in *Broadcom* and in other antitrust contexts. As the Commission has explained in its petition, the Court of Appeals' failure to recognize the existence and impact of this harm cannot be sustained as a proper application of this Court's opinion in *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128 (1998).

The Court of Appeals also overlooked other important competitive impacts of deception such as that found by the Commission. Competition in the DRAM technology markets includes competition from the DRAM manufacturers who, due to Rambus's deception of JEDEC, face the possibility of exorbitant supra-RAND royalty rates. This substantial deception-induced "tax" will directly reduce DRAM research and development ("R&D") and competition in the market for DRAM technology.

Because the Court of Appeals announced a blanket legal rule that the loss of a RAND commitment is not sufficient to establish harm to competition, the Court's decision, if undisturbed, will provide other patent holders an incentive to deceive standard-setting bodies. Reconstructing the but for world in a monopolization case is complex and imprecise. Patentees who believe they will be able to establish that standardized technology would have

been adopted with "only" a RAND commitment will take comfort that the risk of deception is quite low under the decision of the Court of Appeals. If allowed to stand, the result in this case will interfere with the full and fair consideration of costs and benefits in the standard-setting process, harm competition in numerous technology markets, and discourage participation in the procompetitive process of standard-setting, which is vitally important to the nation's development of new technologies.

ARGUMENT

I. CLARIFICATION OF ANTITRUST RULES REGARDING DISCLOSURE IN THE STANDARD-SETTING PROCESS IS CRITICALLY IMPORTANT TO THE MODERN ECONOMY

Standard-setting organizations are of vital importance to the modern economy, particularly in high-technology industries. "In the end-consumer market, standards that ensure the interoperability of products facilitate the sharing of information among purchasers of products from competing manufacturers, thereby enhancing the utility of all products and enlarging the overall consumer market." *Broadcom,* 501 F.3d at 308.[3] The existence

[3] For example, prior to the adoption of standards, industries such as the cable industry were "trapped into incompatible proprietary solutions" that entailed significant costs. George Winslow, *Band of Insiders; Cablelabs Revolutionized Cable by Creating Industrywide Standards,* MULTICHANNEL NEWS, June 23, 2008, at 26. The adoption of standards in the cable industry

of standards also "permits firms to spread the costs of research and development across a greater number of consumers, resulting in lower per-unit prices." *Id.* at 309. "Standards may facilitate the comparison of competing products, facilitate market entry, lower product development costs, lower marketing costs, and thereby foster competition." ABA Section of Antitrust Law, ANTITRUST LAW DEVELOPMENTS 290 (6th ed. 2007). *See also Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 501 (1988) (noting the procompetitive benefits of private standard setting); *In re Rambus Inc.*, Pet. 31a ("Standard setting occurs in many industries and can be highly beneficial to consumers.").

The standard-setting process also enhances competition by allowing for "objective comparison between competing technologies, patent positions, and licensing terms before an industry becomes locked in to a standard." *Broadcom*, 501 F.3d at 309. While standard setting is thus a "competitive process," *id.* at 309 n.4, it is often an "all or nothing" process. Alternative technologies compete to be adopted as the standard, but the selection of a single technology is a common result. *See id.* at 314 ("A standard, by definition, eliminates alternative technologies."). In many situations, the only relevant competition is therefore the competition by which

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facilitated the development of several new services and technologies – digital video, high-speed data, telephony, video on-demand, and HDTV – which helped boost industry revenue from about $13.4 billion in 1988 to an estimated $81.9 billion in 2008. *See id.* at 26.

firms seek to have technology they control standardized over competing proprietary technologies or technology that is in the public domain. Competition among alternative technologies is therefore "critical." *Id.* at 313.

Standardization does not, however, always result in the selection of a clearly "superior" technology. Standard-setting processes can involve a choice between alternatives that are closely similar in cost and performance. Where, as here, "roughly equivalent alternatives" exist, "the need is to pick one and standardize on it so as to facilitate coordination and avoid fragmentation." David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1936 (2003). In situations such as that found by the Commission to be present in this case, "the chosen alternative may be only slightly superior ex ante to other feasible alternatives, and the SSO could have just as easily chosen another alternative." *Id.* Before the Commission, Rambus tried, but failed, to prove that the standardized technologies over which it claims patent rights were so clearly "superior" that their adoption by JEDEC was "inevitable." *See* Pet. App. 153a-154a ("Alternative technologies were available when JEDEC chose the Rambus technologies, and could have been substituted for the Rambus technologies had Rambus disclosed its patent position. Some of the major firms in the industry found these alternatives viable, and even preferable. JEDEC members – the principal buyers of the relevant technologies – gave these alternatives serious, searching consideration; in fact, the technologies as to which Rambus subsequently

revealed patent claims sometimes were chosen only after prolonged debate.") (footnotes omitted); *id.* 161a *et seq.* (rejection of "Rambus's Inevitability/Superiority Claim"). That comparable alternatives were involved made it especially important to protect what the Commission describes in its petition as "the relevant competitive process," the "*ex ante* competition among technologies for inclusion in the JEDEC standard." Pet. 21.

Deception may alter the competitive process of standard selection in various ways. An unscrupulous patentee can, for example, deceive a standard-setting organization into adopting a standard that, unbeknownst to the organization, requires a license from the deceiver, instead of a comparable, non-royalty bearing technology, or one available at lower cost. Through such deception, a patentee can achieve monopoly power, as a result of the elimination of alternative technologies and the fact that, after the standard is adopted, the industry becomes "locked in" to the chosen technology. *See generally* Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889 (2002).

In other situations, the patentee's deception might not produce a standard that is different than that which would have been adopted had full disclosure been made. When the standard-setting organization would have selected the same technology if the patentee had disclosed its intellectual property rights, deception may still harm competition if it enables the patentee to avoid a commitment to license on RAND terms.

When lock in is present, as the Commission found here, "the patent holder may be able to extract supracompetitive royalties from the industry participants." *Broadcom,* 501 F.3d at 310. The Commission's liability opinion explains how this takes place.

> At the beginning of a standard-setting process, if there are a number of competing technologies, and if any one of them could win the standards battle, then no single technology will command more than a competitive price. Once the standard has been set, however, the dynamic changes. Soon after a standard is adopted, industry participants likely will start designing, testing, and producing goods that conform to the standard. Early in the process of implementing a standard, industry members still might find it relatively easy to abandon one technology in favor of another. But as time passes, and the industry commits greater levels of resources to developing products that comply with the standard, the costs of switching to alternative technologies begin to rise. Industry members may find themselves 'locked in' to the standardized technology once switching costs become prohibitive. Once lock-in occurs, the owner of the standardized technology may be able to 'hold up' the industry and charge supracompetitive rates.

Pet. App. 32a. *See also Broadcom*, 501 F.3d at 310 ("Industry participants who have invested significant resources developing products and technologies that conform to the standard will find it prohibitively expensive to abandon their investment and switch to another standard. They will have become 'locked in' to the standard.")

As David J. Teece, an expert retained by Rambus in the proceedings before the Commission has acknowledged elsewhere, "a royalty rate may be reasonable ex post (in the sense that it could be agreed to in an arm's length negotiation between a willing licensor and a willing, albeit reluctant, licensee) but *not* reasonable ex ante." *Standards Setting and Antitrust*, 87 MINN. L. REV. at 1957. The higher royalty rate achievable *ex post* means that the patentee is "able to extract, not only the gains from using its patented technology vis-à-vis other alternatives, but also a portion of the gains from standardization generally." *Id.* at 1938. Stated differently, while the value of a patent "is limited when alternative technologies exist," the "value becomes significantly enhanced . . . after the patent is incorporated in a standard" as a result of lock in. *Broadcom*, 501 F. 3d at 314.

The Court of Appeals failed to recognize the competitive significance of the loss of a RAND commitment in this case. As the Commission noted when it explained its causation findings, a RAND commitment carries with it "an opportunity for *ex ante* licensing negotiations." Pet. App. 150a. Unlike *ex post* negotiations following lock in, *ex ante* negotiations allow licensees to obtain the benefit of

the existence of competition among alternative technologies, before the value of a standardized technology "becomes significantly enhanced." *Broadcom*, 501 F. 3d at 314. The loss of the benefits of rivalry among competing technologies, none of which "will command more than a competitive price," in favor of "unreasonable" *ex post* pricing reflecting a "significant enhancement" of the value of a technology resulting from deception is a harm caused by the elimination of competition from alternative technologies. It is fully adequate to support the Commission's conclusion that Rambus violated Section 2.

Given the importance of standard-setting organizations to the modern high-technology economy, issues of standard-setting organization deception, lock in, and monopolization have been litigated with increasing frequency in recent years. *See, e.g.*, *Broadcom*, 501 F.3d 297 (finding deception resulting in avoidance of RAND license to be actionable under Sherman Act Section 2); *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081 (Fed. Cir. 2003) (finding evidence did not support state law fraud verdict based on deception of JEDEC); *Townshend v. Rockwell Int'l Corp.*, 55 U.S.P.Q.2d 1011, 1020-21 (N.D. Cal. 2000) (rejecting antitrust claim where patents issued after standard adopted, and no allegation that a different, non-infringing standard could have been chosen); *Ess Tech, Inc. v. PC-TEL, Inc.*, 1999 U.S. Dist. LEXIS 23227 (N.D. Cal. Nov. 2, 1999) (false representation that patent owner willing to license on reasonable terms could support antitrust claim, but plaintiff did not adequately allege antitrust injury; leave to amend

granted); *In the Matter of Union Oil Co. of Cal.*, No. 9305, 2005 WL 2003365 (F.T.C. July 27, 2005) (order prohibiting patent enforcement due to failure to disclose patent rights to standard-setting body); *In the Matter of Dell Computer Corp.*, No. C-3658, 1996 WL 33412055 (F.T.C. May 20, 1996) (same). The importance of these issues, combined with the differing results reached in the cases, strongly militates in favor of review by this Court.

II. THE COURT OF APPEALS ERRED IN FINDING, AS A MATTER OF LAW, THAT ROYALTIES IN EXCESS OF RAND RATES DO NOT EVIDENCE HARM TO COMPETITION

The Court of Appeals set aside the Commission's orders on the narrow basis that had Rambus disclosed its claimed intellectual property, JEDEC (had it not chosen the alternatives found by the Commission to be acceptable) would still have standardized the features claimed by Rambus. That Rambus's failure to disclose its claimed rights would have resulted in the avoidance of a commitment to license on RAND terms was held not to be sufficient to support the Commission's conclusion that Rambus violated Section 2. "[L]oss of such a commitment is not a harm to competition from alternative technologies in the relevant markets." Pet. App. 19a. This ruling is divorced from a consideration of the facts found by the Commission and is erroneous as a matter of law. The Commission's findings show that permitting Rambus to charge royalties above RAND

levels directly impacts competition in the technology markets[4] found by the Commission and the jury in the Northern District of California proceedings, and may have "imposed substantial costs on rivals," and contributed "significantly to the creation of monopoly power." Pet. App. 77a.

A. The Difference Between RAND Rates and Supra-RAND Licensing Rates Found by The Commission Is Substantial

The difference between the premium royalties claimed by Rambus and what it could charge under a RAND commitment is substantial, according to the Commission's findings in connection with its remedy order. The discrepancy in the rates asserted by Rambus as "reasonable" and the RAND rates found by the Commission demonstrates the market impact of Rambus's deception.

The Commission concluded that a reasonable royalty "is or approximates the outcome of an auction-like process appropriately designed to take lawful advantage of the state of competition existing ex ante . . . between and among available IP options." Pet. App. 294a (*quoting* Daniel G. Swanson & William J. Baumol, *Reasonable and*

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[4] The Commission found four separate technology markets (latency technology, burst length technology, data acceleration technology, and clock synchronization technology). Pet. App. 41a-45a. Nanya and the other DRAM manufacturers proved that Rambus obtained monopoly power in these markets and additional markets for precharge technology and write latency technology.

Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power, 73 ANTITRUST L.J. 1, 57 (2005)). The Commission also noted the agreement of the parties on the proposition that the "*ex ante* value of a technology is the amount that the industry participants would have been willing to pay to use a technology over its next best alternative prior to the incorporation of the technology into the standard." *Id.* The Commission cited *ex post* Rambus licenses including royalty rates of 3.5% for DDR SDRAM. Pet. App. 218a n.624. In contrast, the Commission fixed Rambus's RAND royalty at 0.5% for DDR SDRAM for three years and then at zero thereafter. Pet. App. 302a-303a.

According to the Commission's conclusions, Rambus's but for royalty rates would have been a full 3% less for DDR SDRAM than what it obtained in the licenses cited by the Commission. This percentage difference translates into enormous dollar values, and must be seen as direct harm to competition, just as monopoly prices facilitated by other types of exclusionary practices are seen as harm to the competitive process in other Section 2 contexts. The total cost could amount to several billion dollars, with some DRAM manufacturers paying hundreds of millions of dollars each. Pet. App. 153a. Royalties for 2000 to 2005 at Rambus's supra-RAND rates might have totaled more than $8 billion, s*ee id.* n. 409, equivalent to 25% to 50% of some manufacturers' R&D expenditures. *See id.* n.410. "Numbers of this magnitude are not easily overlooked." Pet. App. 153a.

The Commission's findings demonstrate the existence of specific harm to competition of a type long understood to be of central antitrust concern. "Monopoly power under Section 2 traditionally has been defined as 'the power to control prices or exclude competition.'" ABA Section of Antitrust Law, ANTITRUST LAW DEVELOPMENTS (6th ed. 2007) (*quoting United States v. E.I. DuPont de Nemours & Co.*, 351 U.S. 377, 391 (1956)). It is not essential "that prices are raised and that competition actually is excluded, but that power exists to raise prices or to exclude competition when it is desired to do so." *American Tobacco Co. v. United States*, 328 U.S. 781, 811 (1946). The "power to control prices" was achieved by Rambus as a result of its deceptive conduct, even if JEDEC's response to the disclosure of Rambus's claimed patent rights would have been a requirement that Rambus accept the price constraints of a RAND commitment and the consequent "opportunity for *ex ante* licensing negotiations." Pet. App. 150a. Had it been subject to a RAND commitment, Rambus would not have had the power to control prices, but would instead have been able to charge only a competitive price reflecting the availability of the *ex ante* alternatives found by the Commission. The avoidance of this constraint therefore resulted in the acquisition of monopoly power, regardless of the but for outcome of the JEDEC process. The Commission's additional finding that Rambus exercised the "power to control prices" by obtaining supracompetitive royalty agreements provides additional support for a finding of competitive harm that cannot be dismissed on the basis of the fact that increased prices achieved by a lawful monopolist's fraudulent scheme were held not

to support a monopolization finding under completely different circumstances in *NYNEX*.

B. Supra-RAND Rates Depress Competition in DRAM Technology Markets

DRAM is, generally speaking, a commodity product manufactured in a highly competitive industry with relatively low long-run profit margins.[5] The billions of dollars in additional royalty payments that could result from Rambus's deception of JEDEC would threaten DRAM manufacturers' R&D expenditures, and potentially limit competition from them in the markets for DRAM technology.

DRAM manufacturers would not make up for the additional billions of dollars of royalty payments by passing through all of the additional costs to their customers. As the Commission found, in the short run, DRAM manufacturers face high fixed costs and so attempt to maximize the output of their facilities regardless of royalty levels, but in the long run, higher royalty costs will lead to reduced DRAM production capacity, because the demand for DRAM will decrease as DRAM prices increase. Pet. App. 217a n.622. The decrease in revenues from decreased output will more than offset any gain to

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[5]For the period 1997-2008, the net profit margin for the top four Taiwanese DRAM manufacturers (including 2008 estimated numbers) was -8.17%. *See* Hans Wu and Jessie Shen, *Taiwan DRAM Makers May Have Net Profit Margin of -72% in 2008*, DIGITIMES, Nov. 12, 2008, *available at* http://www.digitimes.com/news/a20081112PD204.html.

the manufacturers from the higher downstream prices. In economic terms, demand in the DRAM industry is relatively elastic[6] (less than -1.0), meaning that a 1% increase in the price of DRAM will lead to more than a 1% decrease in its demand.[7] Thus, DRAM consumers will cut back on consumption more rapidly than they will pay for price increases, precluding DRAM manufacturers from fully passing along the excess royalty in DRAM prices, and threatening their R&D capacity and ability to innovate.

Innovation "clearly at issue in this case . . . is indisputably a matter of critical antitrust interest." Pet. App. 228a (Comm'r Leibowitz, concurring). Unfair licensing practices that injure rivals' innovation efforts or capacity to innovate can be anticompetitive. As the Commission has separately written following extensive hearings on competition and intellectual property law and policy in the knowledge-based economy:

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[6] "Elasticity of demand" is the measure of the percentage change of the quantity demanded of a good in response to a given price change. For example, the price elasticity of demand is 0.5 if a 5% demand decrease results from a 10% price increase. *See* IIB Phillip E. Areeda, Herbert Hovenkamp & John L. Solow, ANTITRUST LAW (3d ed. 2007) ¶ 507a at 129. (Because the variables move in opposite directions, the elasticity is a negative number, but the negative sign is often dropped for simplicity. *See id.* at 130.)

[7] *See, e.g.*, Kenneth Flamm, *Internationalization in Semiconductors, Appendix B, in* THE GLOBAL FACTORY: FOREIGN ASSEMBLY IN INTERNATIONAL TRADE (J. Grunwald and K. Flamm, eds., The Brookings Institution 1985).

> One firm's questionable patent may lead its competitor to forgo R&D in the areas that the patent improperly covers . . . . Such effects deter market entry and follow-on innovation by competitors and increase the potential for the holder of a questionable patent to suppress competition.
>
> If a competitor chooses to pursue R&D in the area improperly covered by the questionable patent without a license to that patent, it risks expensive and time-consuming litigation . . . . *If the competitor chooses to negotiate a license and pay royalties on the questionable patent, the costs of follow-on innovation and commercial development increase due to unjustified royalties.*

Federal Trade Commission, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, Executive Summary 5-6 (Oct. 2003), *available at* http://www.ftc.gov/os/2003/10/innovationrptsummary.pdf (emphasis added). Higher royalties flowing from deception of a standard-setting organization are similarly "unjustified royalties," and they increase innovation costs and harm commercial development just as higher royalties flowing from the licensing of questionable patents do.

C. The Court of Appeals' "Expectation" that Supra-RAND Royalties Would Lead to More Competition Is Erroneous and Unsupported

The Court of Appeals reasoned that if Rambus had been required to license its technology on a RAND basis, "we would expect *less* competition from alternative technologies, not more; high prices and constrained output tend to attract competitors, not to repel them." Pet. App. 19a. This assumption turns a blind eye to the impairment of the "critical" competition relevant to the adoption of a standard, and it suffers from at least two additional problems. First, the Court's expectation is not supported by any facts. The Court of Appeals disregarded the Commission's detailed and factually-intensive conclusions based on a mere expectation about likely competitive effects. Second, the Court's expectation is inconsistent with the facts found by the Commission and the economics of lock in.

The existence of lock in means that "more competition" is not a plausible outcome of Rambus's deception, and the Court of Appeals did not question the Commission's lock in findings. High prices cannot readily lead to greater competition "once switching costs become prohibitive." Pet. App. 32a. *See also Broadcom*, 501 F.3d at 310. The Court of Appeals made no attempt to explain how higher prices would attract new entry in an industry context in which switching is expensive and otherwise difficult, and it did not offer any reason to believe that the effect of lock in and the associated switching

costs would be neutralized by the possible attraction to new entrants of high royalties. The Court's general expectation about the role of high prices to new entrants does not justify disregard of the Commission's lock in findings. *See, e.g.*, Pet. App. 210a ("In view of the record as a whole, the fact that the industry was aware of alternatives, but did not switch to them after the adoption of the standard, supports our finding that JEDEC members decided that expenses and delays rendered switching infeasible.").

Major redesigns of the type needed to accommodate alternative technologies are time-consuming and expensive. *See* Pet. App. 196a-197a (major design projects take at least a year, not counting additional delays in the standard-setting process of up to a year or more); *id.* at 200a (major redesign costs could be hundreds of millions of dollars or more). Cost aside, "there is often a significant coordination problem in getting all interested parties to switch to an alternative," and the "difficulties associated with coordinating the necessary changes may make it impracticable to switch away from the patented standard." *Standards Setting and Antitrust*, 87 MINN. L. REV. at 1937.

Redesigns are also often technically challenging. In the case of DDR SDRAM, for example, the Commission found that redesigning memory controllers to be both backward-compatible with older SDRAM and with any revised version of DDR that avoided a purported Rambus technology would have been very difficult. *See* Pet. App. 209a. The

Commission's findings show that the entry barrier presented by lock in is substantial, making successful new entry unlikely, and the possibility of new entry not a likely constraint on supra-RAND royalty rates. The rule adopted by the Court of Appeals cannot be justified by an expectation that supracompetitive pricing will always or generally result in corrective new entry.

There are other problems that cannot be so easily brushed aside. In high technology industries, there may be thousands, or tens of thousands, of patents whose enforcement could make product development all but impossible. *See Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. at 1946. This situation is sometimes referred to as the "patent thicket."[8] A potential new entrant into the DRAM technology market would have to clear this thicket before competing, something likely to pose special difficulties for entrants that do not manufacture DRAM themselves. These "non-practicing entities" face tremendous uncertainty regarding their ability to recoup R&D investments through royalty payments. Technology developers that are also manufacturers have an incentive to cross-license each other to avoid the thicket (often for *de minimis* or no royalties), *see* Pet. App. 344a

[8] A patent thicket is a "dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology." Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 120 (Adam Jaffe, *et al.* eds., 2001).

(Comm'r Rosch, concurring), but that is not the case for a non-manufacturer.[9]

Although the new non-manufacturing entrant might not itself be subject to counter-attack by patent suit, its potential manufacturing licensees would most likely have to negotiate new cross-licenses with a large group of patent holders. The associated complexities and costs would multiply with every additional new licensee. These costs and complexities will deter adoption of any new entrant's technology. *Cf. Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979) (high transaction costs can render licensing from multiple intellectual-property holders economically infeasible). Some have called transaction costs *the* problem of the patent thicket.[10] The Court of Appeals' simple equation of high prices and new entry cannot be squared with the Commission's findings or the likely results of deceptive conduct.

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[9] A non-manufacturer has little incentive or capacity to avoid the patent thicket through cross-licensing. *See* Federal Trade Commission, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, ch. 2, p. 31 (Oct. 2003), *available at* http://www.ftc.gov/os/2003/10/innovationrpt.pdf.

[10] *See* Federal Trade Commission, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, ch. 2, p. 28 n.195 (Oct. 2003), *available at* http://www.ftc.gov/os/2003/10/innovationrpt.pdf.

III. THE COURT OF APPEALS' DECISION WILL ENCOURAGE DECEPTION, AND PERMIT ANTI-COMPETITIVE EFFECTS, IN NUMEROUS OTHER STANDARD-SETTING CASES

In monopolization cases, it is often difficult to reconstruct the marketplace that would have existed absent the defendant's anticompetitive conduct. *See* Pet. App. 160a, citing *United States v. Microsoft Corp.*, 253 F.3d 34, 79 (D.C. Cir.), *cert. denied*, 534 U.S. 952 (2001). Thus, it is not surprising that the Commission did not definitively determine whether, in the but for world (in which it is assumed Rambus would have disclosed its claimed intellectual property rights), JEDEC would have standardized different technologies or would have demanded and received a RAND licensing commitment from Rambus. Courts and the Commission are likely to face similar factual issues in other cases involving standard setting organizations, and the rule adopted by the Court of Appeals can be expected to lead to further erroneous results in cases in which deception is established, as well as further manipulation of the standard-setting process or limits on participation in this important procompetitive activity. *See* Pet. 29.

The Court of Appeals' opinion will provide those so inclined with an incentive to engage in deception about claimed patent rights to the detriment of competition and consumers. Patent owners who refrain from revealing their intellectual property rights to standard-setting organizations will take comfort in the knowledge that even if their activity is ultimately found to be deceptive, it will likely be held

not to be anticompetitive on the theory that the deception may have resulted in nothing more than higher royalty rates.

CONCLUSION

To resolve the conflict between the decision of the Court of Appeals and the Third Circuit's *Broadcom* opinion, and to clarify the antitrust rules governing an activity central to the modern economy, the Commission's petition for a writ of certiorari should be granted.

Respectfully submitted,

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December 29, 2008