

IP PRIVATEERING IN THE MARKETS FOR DESKTOP AND MOBILE OPERATING SYSTEMS

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ABSTRACT

Utilizing a privateering competitive strategy, firms sponsor the assertion of intellectual property (“IP”) claims by third parties (patent assertion entities and others), with the ultimate objective of raising of rival competitors’ costs. This Article tells the privateering story with respect to both desktop and mobile operating systems competition. It begins with Microsoft’s funding of litigation against Linux—a threat to Microsoft’s desktop operating system monopoly—and continues to an analysis of recent competition in the smartphone space. The Article raises potential competitive concerns and related antitrust and IP enforcement issues.

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I. INTRODUCTION

Businesses in high-technology industries employ a variety of competitive strategies that depend on whether their goals are focused on short-run or long-run profitability, and whether their emphasis is on pricing or innovation. With the continued growth of the high-technology sector, a “new” competitive strategy has come to the fore: IP privateering. Under this privateering strategy, firms sponsor the assertion of IP claims by third parties (the so-called patent assertion entities (“PAEs”)), with the ultimate objective of raising rival competitors’ costs. Often, this privateering behavior is opaque to those being targeted.

How and why has IP privateering developed? When, if ever, is such behavior economically inefficient or anticompetitive? Should the potential for privateering be taken into account by competitive authorities when evaluating mergers and acquisitions (in the United States, under Section 7 of the Clayton Act)? Are there IP remedies that might reduce or eliminate the inefficiencies that flow from privateering? This Article discusses each of these questions in the context of a historical analysis of the two related markets—the markets for desktop and mobile operating systems.¹

The Article is organized as follows. Part II points to an early example of privateering—Microsoft’s funding of litigation against Linux, who represented a threat to Microsoft’s desktop operating system monopoly. Again using Microsoft as an illustration, Part III explains how the use of privateering grew over time as firms began to use third parties as intermediaries for pursuing intellectual property litigation that had the potential to raise rivals’ costs. Part IV brings the story up to the present by explaining how Nokia and a number of other IP entities have been transformed into privateers that are active in the smartphone industry. Part V describes potential competitive concerns that flow from privateering activities. Part VI completes the analysis by raising several antitrust and IP enforcement issues. Part VII offers several brief conclusions.

II. EARLY PRIVATEERING

In the mid-1990s, Microsoft learned what industrial organization economists would only come to appreciate fully some years later: for a dominant technology company, often the greatest risk to its entrenched

1. These markets are linked because the Android open-source operating system evolved in part from the Linux open-source desktop operating system. Steven J. Vaughan-Nichols, *Debunking Four Myths About Android, Google, and Open-Source*, ZDNET (Feb. 18, 2014, 10:54 PM), <http://www.zdnet.com/article/debunking-four-myths-about-android-google-and-open-source/> [https://perma.cc/M83Q-H2YT].

position comes, not from an entrant into its existing business, but from a disruptive technological or business-model change that facilitates the emergence of an entirely new product or way of doing business. As these disruptive products or services develop, they are initially likely to be partial substitutes for the existing product at best. However, over time, they may come to displace much if not most of the demand for that product or service.²

A. THE LINUX THREAT

In Microsoft's case, this disruptive threat initially came from the technological changes enabled by the rise of the Internet,³ particularly the development of Netscape's browser. In combination with Java (a cross-platform technology from Sun Microsystems), Netscape Navigator had the potential to reduce the most important entry barrier (the "applications barrier to entry") protecting Microsoft's Windows operating system monopoly.⁴

In early 1998, Netscape announced that it was publicly releasing the source code for its browser, and that future development would be done through the Mozilla Foundation, an open-source community.⁵ Netscape also indicated that Linux, a successful open-source operating system, would be a major operating system platform, thus promoting Linux as a rival to Windows.⁶ Not only did open-source's disruptive new business model make it a potential long-term desktop threat, it also posed a challenge to Microsoft in how best to competitively respond.

Microsoft's competitive response to the threat posed by Netscape and Java included conduct that ultimately led the Department of Justice (DOJ) to bring suit against the company for illegal monopolization in 1998.⁷ In findings

2. See Joseph L. Bower & Clayton M. Christensen, *Disruptive Technologies: Catching the Wave*, HARV. BUS. REV. (Jan.–Feb. 1995), <https://hbr.org/1995/01/disruptive-technologies-catching-the-wave> [<https://perma.cc/UM64-VAMY>].

3. For a discussion of Microsoft's view of the Internet threat, see Franklin M. Fisher & Daniel L. Rubinfeld, *U.S. v. Microsoft: An Economic Analysis*, 46 ANTITRUST BULL. 1, 19–23 (2001). For a recent overview of the legal issues raised in *United States v. Microsoft*, including an update on the state of Internet competition, see ANDREW I. GAVIL & HARRY FIRST, *THE MICROSOFT ANTITRUST CASES: COMPETITION POLICY FOR THE TWENTY-FIRST CENTURY*.

4. Fisher & Rubinfeld, *supra* note 3, at 20–21.

5. Janet Kornblum, *Netscape Sets Source Code Free*, CNET (Mar. 31, 1998, 12:10 PM), www.cnet.com/news/netscape-sets-source-code-free/ [<http://archive.is/5W34h>].

6. David Needle, *Why Intel and Netscape Bought Into Linux*, CNN (Oct. 1, 1998, 1:30 PM), <http://www.cnn.com/TECH/computing/9810/01/whylinux.idg/> [<https://perma.cc/CR8X-WUEN>].

7. Press Release, U.S. Dep't of Justice, Antitrust Div., Justice Department Files Antitrust Suit Against Microsoft For Unlawfully Monopolizing Computer Software Market (May 18, 1998), https://www.justice.gov/archive/atr/public/press_releases/1998/1764.htm [<https://perma.cc/67RD-3Q3P>].

affirmed on appeal, the DOJ showed that Microsoft had engaged in a variety of practices that were motivated by its effort to defend its dominant operating system monopoly.⁸ While the DOJ was successful in court on its core monopolization claims, Microsoft's efforts were no less successful in the marketplace. Indeed, by the early 2000s, Microsoft's browser share exceeded ninety percent,⁹ and Java has never been able to gain meaningful traction as a software application platform on "Desktop PCs."¹⁰

The disruptive threat from browsers and Java was not the last threat to its dominant desktop position that Microsoft faced. Only a few years later, Microsoft confronted a new threat, this time from a new business model: open-source software as evidenced by the Linux operating system. Linux represented a disruptive force because it enabled programmers—including applications programmers—to participate in the development of software through "virtual" communities outside existing firms. At the same time that Microsoft was defending its competitive strategy against Netscape and Java in court, it was becoming increasingly concerned that Linux was gaining traction in enterprise "servers" and might make the jump to the desktop as well.¹¹

It was in response to this new business model threat that Microsoft first began to use IP privateering as a competitive strategy.¹² Unlike most subsequent IP privateering, this involved the assertion of copyright rather than patent claims.¹³ In other respects, however, it involved many of the features that would later typify IP privateering by a variety of firms competing in the smartphone industry: funding the assertion of IP claims by third parties ("privateers"). The IP itself originated with a sponsor; the IP claims were targeted at downstream competitors of the sponsor (or their customers); and the connections between the sponsor and the privateering initiative were designed not to be transparent.¹⁴

8. *United States v. Microsoft Corp.*, 84 F. Supp. 2d 30, 46 (D.D.C. 1999), *aff'd in part*, 253 F.3d 34 (D.C. Cir. 2001).

9. *Id.* at 54; *see also Survey: Netscape Use Shrinks*, SILICON VALLEY BUS. J. (Aug. 28, 2002, 7:58 AM), <http://www.bizjournals.com/sanjose/stories/2002/08/26/daily30.html> [<https://perma.cc/46K3-S63F>] (noting that by 2002, Internet Explorer's global usage share reached ninety-six percent).

10. "Desktop" PCs include PCs that serve as "client" machines in a workplace client-server network.

11. Tom Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors*, 4 HASTINGS SCI. & TECH. L.J. 1, 55–56 (2012).

12. *See, e.g.*, David Balto, *Microsoft Makes an Empty Promise on Patents*, U.S. NEWS (Mar. 29, 2013, 3:25 PM), www.usnews.com/opinion/blogs/economic-intelligence/2013/03/29/time-for-transparency-on-microsofts-patent-troll-privateering [<http://archive.is/vUS05>].

13. *See, e.g.*, *SCO Grp., Inc. v. Novell, Inc.*, 721 F. Supp. 2d 1050 (D. Utah 2010).

14. Ewing, *supra* note 11, at 29 (noting some general characteristics of IP privateering).

In the remainder of this Section, I outline Microsoft's initial privateering effort through its funding of litigation by the SCO Group against Linux customers and distributors. Finally, I summarize some of the likely benefits as well as limitations from this initial privateering effort.

B. THE GENESIS OF IP PRIVATEERING

By 2001, open-source software had gone from a long-term threat for Microsoft to an immediate competitive concern.¹⁵ Also central to Microsoft's response to this competitive threat was promoting the intellectual property risk associated with Linux. Late in 2002, this led to Microsoft using an IP privateering strategy in connection with a copyright lawsuit filed in March 2003 by SCO Group against IBM, a prominent Linux developer and distributor.¹⁶ Unlike later IP privateering efforts, SCO already owned (or claimed to own—its ownership was later disputed) the IP that was the basis of the lawsuit.

In many respects, the *SCO* litigation shared a number of features that would become typical of later IP privateering. First, Microsoft's funding of SCO's activities was not readily apparent. Microsoft began with a sixteen-million-dollar payment in early 2003, far more than any license fees previously paid to SCO, which helped to validate the apparent strength of SCO's IP claim.¹⁷ At the same time, Microsoft secured an additional fifty million dollars for SCO indirectly, through an investment fund named BayStar Capital Management.¹⁸

A second feature of *SCO* that would become typical of later IP privateering was that the IP plaintiff, which had previously been an operating company, was in the process of becoming a litigation company. By having a nonpracticing entity like SCO litigate against IBM, Microsoft was able to effectively avoid the risk of countersuit that it would have faced if it had directly sued an IP-rich defendant like IBM.¹⁹ Notably, even after IBM obtained a declaration in 2006 attesting to Microsoft's funding of the litigation,

15. For a review of the rise of Linux and the open source movement, see generally Joel West & Jason Dedrick, *Open Source Standardization: The Rise of Linux in the Network Era*, 14 KNOWLEDGE TECH. & POL'Y 88 (2001).

16. Stephen Shankland, *SCO Sues Big Blue Over Unix, Linux*, CNET (Mar. 11, 2003, 8:34 AM), www.cnet.com/news/sco-sues-big-blue-over-unix-linux/ [https://perma.cc/ZND9-6J93].

17. Stephen Shankland, *Fact and Fiction in the Microsoft-SCO Relationship*, ZDNET (Nov. 15, 2004, 4:00 AM), <http://www.zdnet.com/article/fact-and-fiction-in-the-microsoft-sco-relationship/> [https://perma.cc/8LTT-4Z3B].

18. *Id.*

19. See Justin R. Orr, *Patent Aggregation: Models, Harms, and the Limited Role of Antitrust*, 28 BERKELEY TECH. L.J. 525, 535 (2013) ("Because NPEs do not practice any technology, they are practically invulnerable to the threat of patent counterclaims . . .").

IBM did not sue Microsoft—highlighting the practical limitations on the ability of a private defendant to take effective countermeasures against an IP privateering sponsor. Moreover, even against SCO, IBM's recourse was limited. IBM conclusively won the case on the merits, and SCO declared bankruptcy in 2007,²⁰ but IBM was still litigating collateral issues arising from the SCO litigation in 2013, *ten years* after the case was first filed.²¹

A third feature that *SCO* served to highlight was that IP privateering could be used to target a rival's potential customers. Creating a sense of direct financial risk on the part of potential Linux customers could be an effective competitive strategy. However, a direct approach creates a risk of backlash since customers could retaliate by switching to other vendors or simply delaying their purchases to punish the supplier. *SCO* demonstrated that IP privateering could be used successfully to solve this problem. In March 2004, a year after launching its litigation against IBM, *SCO* filed suit against two Linux customers: Daimler Chrysler and AutoZone.²² Virtually all of *SCO*'s funding for this litigation came directly or indirectly from Microsoft.²³

Fourth, and finally, *SCO* highlighted that an IP claim does not have to be strong on the merits to achieve its sponsor's competitive objectives. For example, in 2005, two years after the commencement of *SCO*'s suit against IBM, the district court observed that *SCO* had not offered credible evidence that IBM infringed *SCO*'s alleged copyrights through IBM's Linux activities.²⁴ Ultimately the court did not find that *SCO* owned the copyrights at issue, as Novell successfully sued for adjudication that it, not *SCO*, was the actual owner of the copyrights in question.²⁵

Despite these weaknesses in *SCO*'s case, it may nevertheless have been a successful competitive strategy. Indeed, Thomas Ewing has used the *SCO* litigation as an example of the effective use of IP privateering to increase IBM's cost of doing business and thereby slow its rate of adoption of a new business

20. Lee Hutchinson, *It's Back: District Court Judge Revives SCO v IBM*, ARS TECHNICA (June 17, 2013, 8:19 AM), <http://arstechnica.com/tech-policy/2013/06/its-back-district-court-judge-revives-sco-v-ibm/> [<https://perma.cc/VF4F-YTZZ>].

21. *Id.*

22. Stephen Shankland, *SCO Suits Target Two Big Linux Users*, CNET (Mar. 5, 2004, 5:46 AM), <http://www.cnet.com/news/sco-suits-target-two-big-linux-users/> [<https://perma.cc/5XMJ-PB8P>].

23. Shankland, *supra* note 17.

24. See Marius Meland, *Judge Denies Dismissal of SCO Copyright Suit vs. IBM*, LAW360 (Feb. 11, 2005, 12:00 AM), <http://www.law360.com/articles/3005/judge-denies-dismissal-of-sco-copyright-suit-vs-ibm> [<https://perma.cc/4RCA-79X3>]; Peter Fusco, *Wells Grans in Part IBM's Motion to Limit SCO's Claims! In *Large* Part*, GROKLAW (June 28, 2006, 5:52 PM) www.groklaw.net/article.php?story=20060628175203644 [[https://perma.cc/F2R\]-8S8B](https://perma.cc/F2R]-8S8B)].

25. *SCO Grp., Inc. v. Novell, Inc.*, 721 F. Supp. 2d 1050 (D. Utah 2010).

technology, noting that “the success of a privateering operation is the extent to which the sponsor (not the privateer) achieves its objectives.”²⁶

By the time the *SCO* litigation was dismissed, Microsoft had largely turned the corner on the competitive threat posed by Linux. Whether the IP privateering effort was a driving factor or not, to this day, despite Linux’s considerable success on servers and supercomputers,²⁷ its desktop presence remains minimal: as of March 2018, Linux’s desktop operating system market share was approximately 2.3%.²⁸

C. LESSONS FROM *SCO*

What lessons can a competitor draw from the *SCO* experience? First, IP privateering can be an effective competitive tool against a competitive rival. By targeting the rival’s customers, privateering can deter or slow the adoption rate of a new technology or business model.²⁹ In their article on strategic patent acquisitions, Fiona Scott Morton and Carl Shapiro provide an explanation for this outcome:

Younger products or businesses may have customers who are less attached to the product and have more elastic demand. The product may not be critical to the customer, but only desirable. A customer who is sued by a PAE over such a product may simply decide to stop buying the product.³⁰

This phenomenon may be even more pronounced with respect to prospective rather than actual buyers.

Second, the ability to target a rival’s customers through IP privateering can provide a solution to the challenge that arises when there is no single rival against which a company can focus its competitive efforts. IP privateering directed against downstream customers can enable a company to target a perceived weakness that is common to most if not all competitors. With respect to open-source, the perceived vulnerability was IP risk. The success of this tactic even with regard to an IP claim as weak as *SCO*’s (*SCO*’s Daimler Chrysler suit, for example, was summarily dismissed only four months after it

26. Ewing, *supra* note 11, at 57.

27. *About the Linux Foundation*, LINUX FOUND., <http://www.linuxfoundation.org/about/> [https://perma.cc/9S4C-VH6R] (last visited Mar. 10, 2018).

28. *See Desktop Operating System Market Share*, NETMARKETSHARE, www.netmarketshare.com/operating-system-market-share.aspx?qprid=10&qpcustomd=0 [https://perma.cc/D6VK-LKJJ] (last visited Mar. 10, 2018).

29. *See* Fiona M. Scott Morton & Carl Shapiro, *Strategic Patent Acquisitions*, 79 ANTITRUST L.J. 463, 474 (2014).

30. *Id.*

was filed)³¹ highlighted an important competitive vulnerability that could be exploited through funding litigation against open-source customers.

Third, IP privateering appears to carry little antitrust risk. After defending against antitrust suits brought by DOJ with mixed results,³² Microsoft found that IP privateering could serve as a means of taking on emerging technology or business model threats with lower risk. The DOJ likely had some awareness of Microsoft's IP privateering; its inaction can reasonably be inferred to suggest that the privateering strategy was at a minimum less vulnerable than other challenged conduct.

Thus, while *SCO* had shown IP privateering to be a promising and effective new competitive strategy, the case also illustrated shortcomings associated with that strategy. For one thing, claims based in copyright rather than patent are hard to scale. Whereas patents can be readily bundled and sold, in packages of virtually any size, copyright claims cannot be so readily commoditized and marketed.³³ Patents, by comparison (particularly given the proliferation of software patents that had been issued by the PTO),³⁴ provide a far more promising option for engaging in IP privateering on a systematic and strategic basis.³⁵

31. Stephen Shankland, *SCO Flops in DaimlerChrysler Unix Lawsuit*, CNET (July 23, 2004, 4:16 PM), <http://www.cnet.com/news/sco-flops-in-daimlerchrysler-unix-lawsuit/> [https://perma.cc/47DV-8VWG].

32. *See* United States v. Microsoft Corp., 253 F.3d 34, 34 (D.C. Cir. 2001) (noting Microsoft's defense against the DOJ's claim that Microsoft had violated a 1995 antibundling consent decree was successful; however, the DOJ was largely successful in its 1999 monopoly maintenance case).

33. The low originality threshold of copyright law may pose another challenge for copyright claims; it allows putative infringers to relatively easily differentiate their software from copyrighted material. *See* Diana C. Obradovich, Garcia v. Google: *Authorship in Copyright*, 31 BERKELEY TECH. L.J. 785, 789 (2016) (explaining the low threshold imposed by the originality requirement).

34. *See* John R. Allison, Abe Dunn & Ronald J. Mann, *Software Patents, Incumbents, and Entry*, 85 TEX. L. REV. 1579, 1589–90 (2007) (explaining that entry is difficult when facing a patent thicket).

35. Another, probably less significant, difference between patents and copyrights is that patent claims are particularly difficult to resolve prior to extensive discovery and *Markman* hearings. *See, e.g.*, Peggy P. Ni, *Rethinking Finality in the PTAB Age*, 31 BERKELEY TECH. L.J. 557, 564 (2016) (noting that the high cost of patent litigation—even in nuisance suits by patent trolls—motivated Congress to create PTAB); Emily H. Chen, *Making Abusers Pay: Deterring Patent Litigation by Shifting Attorneys' Fees*, 28 BERKELEY TECH. L.J. 351, 357 (2013) (advocating for fee shifting provisions to deter frivolous patent lawsuits given the difficulty in resolving them early). Patents are therefore especially attractive from an IP privateering perspective, where claims only need to be “good enough” to get past Rule 11 and a motion to dismiss. (Indeed, for IP privateering purposes, patents that are “too good” might be relatively less attractive, as they are likely to cost more but provide little additional benefit to a privateering sponsor whose objective is unrelated to the merits of the litigation.)

For another thing, funding an IP privateering strategy through the use of intermediaries is unlikely to be effective without risk of public disclosure. Disclosure brings with it the possibility of countersuits by defendants and reputational harm with customers. Microsoft's use of a traditional investment fund, BayStar, in *SCO* was only moderately successful. BayStar's funding appears to have been based on more traditional investment metrics (such as an expectation of success on the merits), which ultimately led to substantial publicity with regard to Microsoft's role in *SCO*'s funding.³⁶

III. THE GROWTH OF PRIVATEERING

As IP privateering strategy evolved, companies shifted toward the assertion of patent rights over copyrights. Typically, there are three different types of parties involved: the operating company that developed the patents; the sponsoring company that seeks to use the patents for strategic purposes against downstream rivals; and the PAE that will be used to assert the patents against the downstream rivals. In some instances, however, where the operating company no longer has operating assets that can be targeted, the operating company itself can serve as the PAE.³⁷ Indeed, the operating company may also be the same as the sponsoring company, as in the case of Microsoft and Intellectual Ventures.

Just as there are three different types of entities that may be involved in a privateering effort, there are also three different ways in which the sponsoring firm might fund the privateering. In the simplest case, the PAE already controls the patents required for the privateering effort, and the sponsoring firm simply funds the targeting of enforcement efforts aimed at its downstream rivals. In other circumstances, the patents are still in the hands of the company that owns the related operating assets, and the sponsor funds the separation of the patents from the underlying assets in a way that results in the now-segregated patents in the hands of the PAE. On still other occasions, the patents already have been separated from the underlying operating assets, but they exist in a sufficiently large bundle that they can be disaggregated into smaller bundles to facilitate the imposition of higher costs on downstream rivals.

The subsections that follow describe the historical development of the privateering model: the funding of privateering (*SCO*), the creation of a new privateer (Nokia), the transition from a PAE to a privateer (Rockstar), the

36. Shankland, *supra* note 17.

37. In other cases, the parent might have a wholly-owned subsidiary handle any privateering functions. As a general rule, parent corporations are not liable for the acts of their subsidiaries. *See* United States v. Best Foods, 524 U.S. 51, 61 (1998).

transition from an operating company to a privateer (MOSAID), and finally the systemization of privateering (Intellectual Ventures).

A. FUNDING A PRIVATEER: SCO

PAEs' IP specialization and their relative immunity from countersuit put them in a strategic position that enables them to either impose substantial litigation costs or to utilize a threat to enter into profitable licensing arrangements.³⁸ The range of possible tactics include threatening the target company's entire business (for example, through threats of injunction or suits against customers); evading contractual or other commitments (such as the use of secrecy to evade existing licenses, or the refusal to abide by FRAND commitments³⁹); and imposing excessive damage awards (such as creating new PAEs so as to create royalty stacking, or making unreasonable royalty claims).⁴⁰ Where PAEs succeed in obtaining payments in excess of reasonable royalties, competition is harmed, both by causing downstream firms potentially to raise prices (thereby harming consumers), and by discouraging innovation if market participants are not being competitively compensated for their own research and development efforts.⁴¹

"Hybrid PAEs"—PAEs that have entered into a contractual relationship with a *downstream* firm to assert patents against that firm's rivals—pose an even greater competition risk. "Hybrid PAEs" are, in other words, privateers—PAEs that have been retained by a sponsor to target its downstream rivals with patent litigation and royalty claims. In addition to the usual effects of the strategy pursued by PAEs, there is an additional effect:

To the extent that the hybrid PAE successfully charges higher royalties for the patents it controls, it will raise the costs of the downstream firm's rivals. Facing rivals with higher costs, the downstream firm will benefit from incremental demand for its products. Additionally, outsized threats such as injunctions or customer lawsuits become less costly to carry out in this structure because they also drive demand away from rival products to the

38. Morton and Shapiro have observed that "devising outsized threats" of the pain to be inflicted on target companies from patent litigation "is a core competency of PAEs," and "[i]f the threat is large enough, and credible enough, the target firm will pay more than a reasonable royalty." Morton & Shapiro, *supra* note 29, at 472.

39. FRAND commitments are contractual commitments by standard-setting organizations to offer licenses at Fair, Reasonable, and Non-Discriminatory terms. See Benjamin C. Li, *The Global Convergence of FRAND Licensing Practices: Towards "Interoperable" Legal Standards*, 31 BERKELEY TECH. L.J. 429, 431–33 (2016) (describing FRAND agreements).

40. See Morton & Shapiro, *supra* note 29, at 472–78.

41. *Id.* at 483.

downstream firm's product where the downstream firm earns a margin.⁴²

Microsoft's arrangement with SCO appears to closely conform to a "hybrid PAE" model in which a PAE would approach a downstream firm with a proposal to "joint venture" against the downstream firm's rivals. In this example Microsoft is the sponsoring company to the patent assertion entity, SCO. It is plausible that SCO identified some of Microsoft's downstream rivals as possible litigation targets and then sought out Microsoft as a potential funding source for the litigation. Many of the tactics pursued by SCO, including the demand for outsized royalties, suits brought against customers, and secrecy surrounding Microsoft's sponsorship, are consistent with rational profit-maximizing economic behavior.

The competitive harm at the core of the "hybrid PAE" model—the combination of excessive royalties and rivals' increased costs likely to result from the combined efforts of a PAE and its downstream sponsor—can be found in subsequent privateering efforts by Microsoft. These subsequent efforts, however, are distinguishable from *SCO* in certain important respects. One is that, although the adverse *economic* consequences of the SCO arrangement may be discernible, as a *legal* matter the SCO-type arrangement may prove a significant challenge to antitrust litigation. Given that the patents are in the hands of the PAE at the time it approaches the downstream sponsor, the *Noerr-Pennington* doctrine may afford the downstream sponsor immunity from suit.⁴³

Furthermore, a "hybrid" PAE is likely to act opportunistically in finding sponsors interested in targeting particular downstream markets. A sponsoring firm committed to the use of privateering, by contrast, is likely to act systematically and with far greater cumulative impact on competition in the downstream market.

B. CREATING A PRIVATEER: NOKIA

Integral to the PAE business model is that the PAE does not operate in the downstream product market that is targeted by its patent enforcement efforts. By not participating in that market, the PAE can engage in the tactics that make outsized threats feasible, such as unreasonable demands, suits against customers, and disregard of implied or express contractual terms or reputational norms, while the PAE is protected by its functional invulnerability to countersuits or other tactics. In some instances, such as *SCO*, the company

42. *Id.* at 489–90.

43. Jeff McGoff, *Exploring the Boundary of the Noerr-Pennington Doctrine in the Adjudicative Process*, 34 U. MEM. L. REV. 429, 429–30 (2004) ("In the context of federal antitrust law, the Noerr-Pennington doctrine protects petition to the government . . . from antitrust liability.").

that owns the patents may have already exited (or begun to exit) the downstream market, and thus have turned itself into a PAE that can be used as a privateer.

Microsoft's arrangement with Nokia was different, in that Microsoft purchased the company's mobile operating assets, but left Nokia in possession of the related patent portfolio.⁴⁴ This raises the question: how should competition authorities analyze a transaction that *creates* the PAE privateer? Unlike SCO, Nokia still operated in the downstream market at the time of the transaction. Another part of the arrangement, therefore, involved Microsoft's purchase of Nokia's operating assets to enable it to operate as a PAE. This raises a further question: how should competition authorities analyze an acquisition in which ownership of the operating assets and related patents are segregated? Given the prevalence of excessive patents and the advantages that PAEs possess in terms of patent monetization, it is not difficult to envision that, in the future, it might be the case that the selling firm would find that its patent portfolio has greater value to a PAE (whether a third party or the selling firm as a new *de facto* PAE) than the patents do to the acquirer of its operational assets. Where the patents can be used to target rivals of the purchaser of the operational assets, it is likely to be even more profitable for the patents to be retained by the PAE, with the additional gains resulting from the patents' use in privateering divided between the PAE and the asset purchaser.

For purposes of analysis under the Clayton Act, although the segregated sale of the operational and patent assets might maximize the seller's return, it is not at all clear that competition authorities should view this outcome as reflecting a welfare-enhancing allocation of resources. This concern would exist even in the absence of privateering. It remains the case that a PAE's superior ability to monetize is more likely to reflect a tax on downstream firms that harms consumers in the short-run and innovation in the long-run, than an efficiency-enhancing arrangement. Of even greater concern, however, should be the segregation of ownership of the operational assets and patents where, as may often be the case, the patents can be targeted at competitors in the market in which the asset purchaser competes, and rivals of the asset purchaser do not have licenses to the patent portfolio.

Under those circumstances, it seems likely that a patent privateering arrangement is embedded in the sales transaction. Ironically, competition would probably be less adversely impacted if the asset purchaser also acquired

44. Dan Levine, *Why Nokia Didn't Sell Its Patents to Microsoft*, REUTERS (Sept. 3, 2013, 12:46 PM), www.reuters.com/article/us-nokia-microsoft-patents-idUSBRE9820ZZ20130903 [<https://perma.cc/9TLE-QFAS>].

the associated patents. Suppose, for example, that Microsoft had acquired not just Nokia's mobile assets but also its mobile patents. This would lessen the potential concerns of the competition authorities. The reason is that if the patents were in Microsoft's hands, downstream rivals or their customers would have had many counterstrategies available, for all the reasons downstream firms find it harder to monetize than PAEs: the possibility that the patents would fall within existing licenses, greater reputational harm from suing customers, greater vulnerability to countersuits, and so on. By "selling" the patents to Nokia in its new role as PAE, Microsoft could raise its rivals' costs much more effectively than if it had acquired the patents itself.

C. TRANSFER FROM PAE TO PRIVATEER: ROCKSTAR

The Nortel patents provided bidding entities with an opportunity to acquire a substantial patent portfolio disassociated from the underlying related operational assets. After the announcement of the Microsoft/Nokia strategic partnership, Nortel Networks, a telecommunications operating company with a substantial patent portfolio, put up for auction more than 4,000 patents related to wireless and Internet technologies.⁴⁵ Nortel had filed for bankruptcy in 2009, and the patents were amongst the final assets remaining to be sold in the bankruptcy court.

The \$4.5 billion winning bid in the Nortel auction—an amount several times larger than the patents had been expected to sell for before the auction commenced—was submitted by a consortium consisting of Microsoft and five other companies, through an entity named Rockstar Bidco (later renamed the Rockstar Consortium, Inc.).⁴⁶ Two of the other Rockstar participants—Apple and EMC—previously had joined Microsoft in another consortium (CPTN).⁴⁷

By the time it sold its patents in the bankruptcy auction, Nortel had disposed of its operational assets,⁴⁸ and therefore the company conceivably could have chosen to monetize its patent portfolio as a "pure" PAE. Nortel's

45. Alastair Sharp & Nadia Damouni, *Final Bids Due for Nortel Patents*, REUTERS (Dec. 9, 2010, 1:33 PM), <http://www.reuters.com/article/us-nortel-idUSTRE6B84FO20101209> [<https://perma.cc/9TLE-QFAS>].

46. See Dylan Bushell-Embling, *Courts Clear Rockstar JV to Buy Nortel Patents*, TELECOM ASIA (July 12, 2011), <http://www.telecomasia.net/content/courts-clear-rockstar-jv-buy-nortel-patents> [<https://perma.cc/PVS6-NYM6>].

47. See Press Release, U.S. Dep't of Justice, CPTN Holdings LLC and Novell Inc. Change Deal in Order to Address Department of Justice's Open Source Concerns (Apr. 20, 2011), <https://www.justice.gov/opa/pr/cptn-holdings-llc-and-novell-inc-change-deal-order-address-department-justices-open-source> [<https://perma.cc/R7DR-G5QR>].

48. Sean Michael Kerner, *Nortel's Last Gasp*, ENTERPRISE NETWORKING PLANET (Aug. 10, 2012), <http://www.enterprisenetworkingplanet.com/netsysm/nortels-last-gasp.html> [<https://perma.cc/FVR5-K85K>].

finding that it was more profitable to sell to Rockstar, a PAE organized by Android's downstream rivals and an obvious privateer, reflects the fact that it is likely to be more profitable to use patents for privateering than solely for generating royalties (even outsized ones, as a pure PAE might be expected to earn).⁴⁹

It is notable to compare the Rockstar transaction to an earlier sale of Novell patents to a consortium consisting of Apple, Oracle, EMC, and Microsoft. In the earlier Novell transaction, the patents were to be divided among these four downstream operating companies.⁵⁰ The Department of Justice appears to have challenged (with the threat of a lawsuit) Microsoft's acquisition of this portion of the Novell portfolio on vertical foreclosure grounds—namely, that the patents might have been an essential input for downstream Linux providers, and Microsoft would have had an incentive to withhold access to this input to these downstream rivals. Through an agreement with DOJ, Microsoft was forced to sell the patents back to the seller, and was only permitted only to retain a license to the patents.⁵¹

It is possible that the DOJ viewed Novell's patents as potentially blocking in a way that Nortel's were not, but the differential in the price of the two patent portfolios makes that seem unlikely: the Novell patents sold for \$450 million, while the Nortel patents sold for ten times that amount—\$4.5 billion. The final remaining difference is that the Novell transaction involved Microsoft's outright acquisition of the patents, while the Nortel patents were transferred to a PAE in which Microsoft was a part owner.

As discussed in Part II, the transfer of the patents to a privateering PAE can create a competition problem. While the direct acquisition of the Novell patents might seem problematic, downstream rivals had potential defenses they could bring to bear if Microsoft were to sue on these patents: the patents might have been covered by existing licenses or cross-licenses; Microsoft might have had a more difficult time suing customers who were also its own commercial customers or partners; Microsoft would have suffered substantial reputational damage from renegeing on the open-source commitments that Novell had made; and so on. Rockstar, by comparison, could engage in all of the tactics used by PAEs (threats of injunction, unreasonable royalty demands, and the like) to raise the costs of its owners' rivals, all the while enabling its

49. To be fair, one might view the payments for the Nortel patents, at last in part, as appropriate compensation for past technological contributions. For a more positive view of the role of patent trolls, see generally Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 458 (2012).

50. Press Release, *supra* note 47.

51. *Id.*

owners to avoid the reputational and other costs that they might otherwise suffer.

D. TRANSFER FROM OPERATING COMPANY TO PRIVATEER: MOSAID

As a policy matter, the aggregation of patent rights can be more of a problem than the disaggregation of those rights, especially when those rights are sold to others. Disaggregation makes sense for “pure” PAEs because damage awards are likely to be increased if patent assertions are made by a variety of different firms. According to Lemley and Melamed:

Because patent damages are likely to include more than the incremental value of the patented technology itself, i.e., to include some product value not properly attributed to the asserted patent, the patent holder is more likely to be able to ‘double dip’ into that excess value by multiple assertions than if it asserts all its patents in a single case.⁵²

Nokia, spinning off thousands of patents to MOSAID, an intellectual property company that focuses on the licensing and development of semiconductor and communications technologies, provides one example. Lemley and Melamed note that, even where the operating company does not directly control the PAE, it is likely that it “is able as a practical matter to control or constrain the incentives of the troll. It might do so by contract or by selling patents that are already licensed to all but a few users of the patented technologies and thus directing the troll’s attention to the seller’s targets.”⁵³

While Nokia’s transfer of patents to MOSAID is representative of the potential problem raised by operating companies spinning off their patents to PAEs, the Nokia transaction did not simply involve an operating company unilaterally deciding to spin off some part of its assets to a PAE. This is significant inasmuch as there could be circumstances where an operating company decides to spin off some parts of its patent portfolios for reasons unrelated to privateering. For example, if part of an operating company’s portfolio reads on downstream markets other than the one in which it competes, it might determine that the patents can better be monetized by a PAE than by the operating company itself. Although this monetization effort might not be optimal for purposes of maximizing consumer welfare, it is not any more problematic from a competition perspective than any other entity (say, a university) spinning off its patents for monetization by a “pure” PAE.

52. Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2159 (2013).

53. *Id.* at 2161.

The funding of MOSAID had the effect of raising the costs for downstream rivals. Moreover, whereas an operating company spinning off its own patents faces limits with respect to how many bundles its portfolio can be divided into (to create a stacking problem, each PAE must receive a sub-portfolio large enough and strong enough to credibly threaten to take a case to court),⁵⁴ there are effectively no natural limits on how frequently a company could fund the spinoff of some of another firm's patents for privateering use by a PAE.

It is undoubtedly the case that many firms in the information technology industry do not want to assert their patents, and other firms may fund privateering at one point in time but opt to avoid privateering at other times. However, there is little doubt that funding MOSAID-like transfers has the potential to be a "win-win-win" for the firms involved: a win for the operating company, by monetizing a part of its portfolio without having to litigate (which could jeopardize its business reputation or relationships); a win for PAE, by getting a portion of the returns it can earn from outsized demands; and a win for the privateering sponsor, by raising its rivals' costs while potentially even earning some returns from the PAE's efforts.

E. SYSTEMATIZING PRIVATEERING: INTELLECTUAL VENTURES

Intellectual Ventures ("IV") was founded in 2000 by two senior Microsoft executives, Nathan Myhrvold (the company's chief technology officer) and Edward Jung (its chief architect).⁵⁵ Since IV was founded, Microsoft heavily invested in IV. Some part of this investment was in the form of financial backing: in 2006, for example, in the middle of the *SCO* litigation, Microsoft acknowledged a \$76 million investment in IV and an option for an additional \$40 million subsequent investment.⁵⁶ At its initial stage, IV was estimated to have 3,000 to 5,000 patents.⁵⁷

This systematic accumulation of patents by former Microsoft executives on behalf of IV would seem to raise substantial corporate opportunity questions if Microsoft were not benefiting substantially from IV's activities. The question then becomes what form this benefit might take. One possible

54. Morton & Shapiro, *supra* note 29, at 478.

55. See Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 3 (2012).

56. Nicholas Varchaver, *Who's Afraid of Nathan Myhrvold?*, FORTUNE (June 26, 2006), http://archive.fortune.com/magazines/fortune/fortune_archive/2006/07/10/8380798/index.htm [<https://perma.cc/K4CE-JVYD>].

57. *Id.*

benefit to Microsoft would be if IV could serve as a reliable intermediary for the company in funding and managing privateering operations.

IV's highly secretive organizational structure and novel business model have been well suited with respect to privateering. It is notable that authors Robin Feldman and Thomas Ewing, with great difficulty, "pieced together 1276 shell companies associated with Intellectual Ventures," and, even then, admitted that "[w]e do not believe that we have identified all of the Intellectual Ventures shell companies"⁵⁸ As a result of this opaque structure, IV often was able to bring patent cases through intermediaries:

Until recently, Intellectual Ventures used third parties to carry out much of its litigation activities. . . . While we do not know the deal terms, we did, however, find many examples of Intellectual Ventures using third-party proxies to litigate infringement claims against companies who appear to be likely licensing targets for large portions of Intellectual Ventures' portfolio. In particular, many of the patents sold by Intellectual Ventures have ended up in litigations brought by their new acquirers.⁵⁹

IV was not only better suited to serve as a privateering intermediary than a conventional investment firm, but it was also better able to operate at the scale potentially required to make privateering successful. Prior to IV, PAEs consisted of individuals or small firms that typically owned fewer than 100 patents, and largely funded their acquisition and litigation activities through contingency legal arrangements. IV, by contrast, was able to begin to acquire patents by the thousands.⁶⁰ Scale not only creates efficiencies, it has a strategic competitive advantage. With scale, patent aggregators such as IV are relatively immune from patent-specific defenses; it is simply too costly to litigate the patent quality of thousands of patents.⁶¹

IV. PRIVATEERING IN THE SMARTPHONE OPERATING SYSTEM MARKET

Privateering has continued to be a useful competitive strategy as technology has moved us from a desktop-computing world to the world of smartphones, iPads, Kindles, and related devices. This Part begins with a characterization of the worldwide competition between the Apple and

58. Ewing & Feldman, *supra* note 55, at 4.

59. *Id.* at 13.

60. *Id.* at 5, 7–9.

61. Indeed, a survey by the American Intellectual Property Law Association found that, in 2013, the median litigation cost for a patent valued between \$1 and \$25 million was \$2.6 million. Patents valued over \$25 million had a median litigation cost of \$5.5 million. AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 2013 at 34 (2013).

Android smartphone operating systems. The Sections that follow point out how the Nokia acquisition and the Rockstar and MOSAID transactions have, at times, been utilized for privateering purposes.

A. THE EMERGENCE OF SMART MOBILE DEVICES: IOS AND ANDROID

A revolution in modern telephony emerged from the opposite direction than the Linux threat in the early 2000s: instead of coming from operating systems optimized for more powerful devices (servers) located mostly in the enterprise, this time the modern telephony evolution came from operating systems optimized for less powerful devices (mobile phones) located mostly in the consumer space. Prior to 2007, mobile phones had extremely limited browser and other functionalities.⁶² Apple's mid-2007 introduction of the iPhone, however, followed the next year by the introduction of the first device based on the Android operating system (a Linux-based operating system Google had acquired in 2005), marked the beginning of a fundamental change in the capabilities of these devices.⁶³

When first introduced, Apple's smartphone was, as one reviewer summarized at the time, "the first smart phone we've tested with a real, computer-grade Web browser, a version of Apple's Safari. It displays entire Web pages, in their real layouts, and allows you to zoom in quickly by either tapping or pinching with your finger."⁶⁴ Prior to the iPhone, web browsers on mobile devices on smartphones had extremely limited capability, and therefore were used principally for dedicated applications such as email. Apple's smart phone, by contrast, enabled users to access the wide array of information available on the Internet. As one reviewer summarized, it represented "the evolution of the humble cellphone into a true handheld computer, a device able to replicate many of the key functions of a laptop."⁶⁵

User adoption of this new functionality was immediate and dramatic: six months after the iPhone's introduction, a news article reported that Google "said it has seen 50 times more search requests coming from Apple iPhones than any other mobile handset—a revelation so astonishing that the company

62. See Fred Vogelstein, *The Day Google Had to "Start Over" on Android*, ATLANTIC (Dec. 18, 2013), <http://www.theatlantic.com/technology/archive/2013/12/the-day-google-had-to-start-over-on-android/282479/> [<https://perma.cc/FR4X-RE8D>].

63. See *id.*

64. *The iPhone is a Breakthrough Handheld Computer*, ALL THINGS DIGITAL (June 26, 2007, 6:15 PM), <http://allthingsd.com/20070626/the-iphone-is-breakthrough-handheld-computer> [<https://perma.cc/BG59-U9J6>].

65. *Id.*

originally suspected it had made an error culling its own data.”⁶⁶ The article continued, “should other companies follow in Apple’s footsteps by making web access commonplace on their mobile handsets, [Google executive Vic] Gundotra believes the number of mobile searches could outpace fixed internet search ‘within the next several years.’”⁶⁷

Despite the iPhone’s breakthrough features, one crucial feature was notably missing from the iPhone: the Application Programming Interfaces (APIs), software tools that allowed programmers to enable the iOS to serve as a platform for software applications. As one reviewer noted at the time the iPhone was first released, “the only add-on software Apple is allowing will be Web-based programs that must be accessed through the on-board Web browser.”⁶⁸ Apple “says these can be made to look just like built-in programs, but the few we tried weren’t impressive.”⁶⁹

Apple’s initial reluctance to turn iOS into an application platform was not surprising, given its existing line of higher-end (and more profitable) Mac devices. Apple’s business strategy presumably was to expand into a new line of business without cannibalizing its existing one. However, Apple soon had little choice but to release APIs for iOS, after Google and other Android supporters announced that they would be releasing an open API standard for mobile devices based on Android.⁷⁰ In response, Apple announced that it, too, would release a “Software Development Kit” for application program developers that included APIs for the support of iOS software applications, including the iPhone and the iPod.⁷¹

With the release of APIs for iOS, Android, and Microsoft’s smartphone operating system, Windows CE, these mobile operating systems became applications (or “apps”) platforms. In theory, just as the browser might have evolved into a rival application platform, so too these mobile operating

66. Slash Lane, *Google iPhone Usage Shocks Search Giant*, APPLE INSIDER (Feb. 14, 2008, 12:00 PM), https://appleinsider.com/articles/08/02/14/google_iphone_usage_shocks_search_giant [<https://perma.cc/YP8C-NNRK>].

67. *Id.*

68. ALL THINGS DIGITAL, *supra* note 64.

69. *Id.*

70. *Industry Leaders Announce Open Platform for Mobile Devices*, OPEN HANDSET ALL. (Nov. 5, 2007), www.openhandsetalliance.com/press_110507.html [<https://perma.cc/VHD4-WUW3>]. The first commercial Android device was released by HTC on October 22, 2008; the first beta of the Android software development kit (“SDK”), itself the product of years of development, was released almost a year earlier, in November 2007.

71. Press Release, Apple, *Apple Announces iPhone 2.0 Software Beta* (Mar. 6, 2008), <http://www.apple.com/pr/library/2008/03/06Apple-Announces-iPhone-2-0-Software-Beta.html> [<https://perma.cc/TS9M-632J>].

systems could evolve into platforms that could support robust desktop applications that could threaten Microsoft's applications barrier to entry.

At first, the significant hardware limitations of these devices made this potential platform threat highly theoretical. In 2010, however, with the release of the iPad and the first Android tablets, iOS and Android—followed closely by Windows CE—smartphones were able to support applications and functionality that could serve as partial substitutes for a much broader array of tasks historically performed only on PCs.⁷² Although still more suited for consumption rather than content creation, and hence not direct substitutes for core desktop tasks (such as the creation and manipulation of spreadsheets or lengthy written documents), tablet sales initially skyrocketed and PC sales declined.⁷³ These tablet devices made up in portability and ease of use for other functions that previously had only been possible on desktops or laptops, but that did not require the full functionality of these devices to perform.

Both Apple and Microsoft reacted to the emerging threat posed by Android. While Google was and is a threat, Apple has generally acted on the belief that it could defend itself against IP suits by others and has chosen not to give up the substantial royalties that it can and does earn from its own licensing arrangements. The one exception was the sale of some Apple patents in 2011 to Digtude Innovations. Digtude then sued Nokia, RIM, Motorola, HTC, LG, Samsung, Sony, and Amazon for patent infringement using two Apple patents.⁷⁴

Microsoft appears to have ceded the high-end niche to Apple. Because Apple, like Microsoft, had its own existing operating system for laptops and desktops, Microsoft could expect that Apple would not continue to extend iOS to compete more directly with Windows as a desktop application platform. Although the popularity of iOS devices might enable Apple to gain some increased share for its Mac devices, Apple would not want to push iOS devices

72. David Goldman, *The End of the Desktop PC (Seriously)*, CNN (July 20, 2010, 12:55 PM), http://money.cnn.com/2010/07/20/technology/desktop_PC_death/ [https://perma.cc/YT9J-JJTH].

73. Mark Rogowsky, *The Death of the PC Has Not Been Exaggerated*, FORBES (Apr. 11, 2013, 11:30 AM), <http://www.forbes.com/sites/markrogowsky/2013/04/11/the-death-of-the-pc-has-not-been-exaggerated/> [http://archive.is/2j1vI].

74. Alex Gasser, *Digtude Files New 337 Complaint Regarding Certain Portable Communication Devices*, ITC 337 L. BLOG (Dec. 8, 2011), www.itcblog.com/20111208/digtude-files-new-337-complaint-regarding-certain-portable-communication-devices/ [https://perma.cc/ZA4J-MGU6]. A search on the USPTO's website reveals that Patents 6,208,879 and 6,456,841 were assigned to Cliff Island, LLC on August 2, 2011. They were then assigned to Digtude Innovations on Nov. 22, 2011. See Jason Kincaid, *Apple Made a Deal with the Devil (No, Worse: A Patent Troll)*, TECHCRUNCH (Dec. 9, 2011), <https://techcrunch.com/2011/12/09/apple-made-a-deal-with-the-devil-no-worse-a-patent-troll/> [https://perma.cc/WW3A-B5YL].

in a direction that would risk cannibalizing Mac device sales. The logical direction for Apple to push with its iOS devices was to position them for the consumption of content, with iPads giving way to MacBook Airs for workplace applications.

From Microsoft's perspective, Apple's pioneering of the iPhone and iPad had expanded the range of device types across which they competed, without necessarily creating a direct risk to Microsoft's desktop operating system. Rather, Microsoft could aim over time to expand its share in mainstream-priced tablets and smartphones. Absent Android, in other words, Microsoft and Apple would simply continue to compete over what were now four product categories (smartphones, tablets, laptops, desktops)—the duopolistic competition which they have maintained over the more than three decades.⁷⁵

To complete the picture, Google's strategy is particularly noteworthy. Google appears to have pursued an IP counterstrategy when in 2011 it acquired Motorola Mobility, the owner of substantial number of smartphone patents and handset technologies.⁷⁶ Google eventually (in 2014) sold the Motorola handset business to Lenovo, while maintaining the majority of the patents for defensive purposes.⁷⁷ Given Google's Android open-source driven, advertising-based business strategy, it made more sense for Google to utilize its IP portfolio for defensive purposes rather than to engage in IP privateering.

The smartphone industry has been highly dynamic. It is not surprising, therefore, that Apple's strategy has shifted from the one initially perceived by Microsoft. Apple has essentially merged iOS with Mac OS so that a consumer can transition seamlessly from device to device. Moreover, Apple is building bigger phones, bigger iPads, and smaller laptops. Also, Apple is giving away its productivity suite on all devices. Consequently, Apple is now and is likely to continue to be a threat to Microsoft as well as to Google.

75. Interestingly, PC sales have stabilized and begun to grow again, and the rate of growth of tablets has begun to decline. Apple, meanwhile, has continued to innovate in ways that take iOS devices towards consumer rather than workplace uses (most recently with the development of the Apple Watch), and hence away from Microsoft's core strength. Through mid-2014, four years after the release of the iPad, Microsoft's desktop operating system market share remains at approximately 90%, with about 8.5% for Mac and 2.3% for Linux. *See* NETMARKETSHARE, *supra* note 28.

76. Brian Womack, *Google Agrees to Acquire Motorola Mobility for \$12.5 Billion*, BLOOMBERG BUS. (Aug. 15, 2011, 1:58 PM), www.bloomberg.com/news/articles/2011-08-15/google-agrees-to-acquisition-of-motorola-mobility-for-about-12-5-billion [https://perma.cc/4KH5-XQBF].

77. Matthew Panzarino, *Google Keeps 'Vast Majority' of Motorola Mobility Patents in Sale to Lenovo*, TECHCRUNCH (Jan. 29, 2014), <http://techcrunch.com/2014/01/29/google-keeps-vast-majority-of-motorola-mobility-patents-in-sale-to-lenovo/> [https://perma.cc/F6HU-J87G].

Nevertheless, Microsoft's focus appears to have been on the Android threat. An initial challenge for Microsoft with Android is that Google, Android's principal corporate sponsor, does not have a substantial existing share in laptops and desktops (its Chrome operating system has only a small market share).⁷⁸ Google, therefore, could have a greater incentive to push Android in a direction that would bring it into head-to-head competition with Windows laptops and desktops. Google's workplace applications have also emerged as direct competitors to Microsoft's Office suite,⁷⁹ thereby reducing further the applications barrier to entry if Google chose to expand Android towards use on laptops and desktops.

IP privateering offered a potentially powerful tool in the highly competitive battle against Android. In the section that follows, I explore the use of that tool in the smartphone industry. First, an important warning note: just as wars can and did become heated, wars can be reduced to skirmishes, be intermittent, and they can, at least in theory, be brought to a close. In 2015 and into 2016, events began to suggest that the smartphone industry had entered a closing phase. A number of prominent patent suits had been settled and all three major smartphone OS competitors had chosen not to pursue injunctions with respect to litigation involving standards-essential patents.⁸⁰ Furthermore, Microsoft entered into a partnership agreement with Red Hat, a Linux provider, to allow customers to run enterprise versions of Linux on Microsoft's cloud-based Azure operating system.⁸¹ Most recently, Microsoft withdrew its funding of FairSearch, a third-party lobbying group which had been aggressively attacking certain travel-related aspects of Google's search algorithm.⁸²

78. Alistair Barr, *Alphabet's Google to Fold Chrome Operating System into Android*, WALL ST. J. (Oct. 29, 2015, 8:28 PM), <http://www.wsj.com/articles/alphabets-google-to-fold-chrome-operating-system-into-android-1446151134> [https://perma.cc/F5UT-KQ37].

79. Tony Bradley, *Google Offers Aggressive Incentives to Win Microsoft Office Customers*, FORBES (Oct. 19, 2015, 10:14 PM), <http://www.forbes.com/sites/tonybradley/2015/10/19/google-offers-aggressive-incentives-to-win-microsoft-office-customers/> [http://archive.is/CjIgh].

80. See, e.g., *Google Agrees to Forego Seeking Injunctive Relief for SEP Infringement as Part of FTC Settlement*, ESSENTIAL PATENT BLOG (Jan. 3, 2013), <http://www.essentialpatentblog.com/2013/01/breaking-google-agrees-to-forego-seeking-injunctive-relief-for-sep-infringement-as-part-of-ftc-settlement/> [https://perma.cc/MS9K-H5XZ].

81. See Frederic Lardinois, *Microsoft Brings Red Hat Enterprise Linux to Azure*, TECHCRUNCH (Feb. 17, 2016), <http://techcrunch.com/2016/02/17/microsoft-brings-red-hat-enterprise-linux-to-azure> [https://perma.cc/GZ7J-4K4N]; see also Janakiram MSV, *A Closer Look at Microsoft and Red Hat Partnership*, FORBES (Nov. 11, 2015, 3:06 PM), <http://www.forbes.com/sites/janakirammsv/2015/11/11/a-closer-look-at-microsoft-and-red-hat-partnership> [http://archive.is/Ppk4d].

82. Mark Bergen, *Microsoft Quietly Retreats from FairSearch, Watchdog Behind Google Antitrust Case*, RECODE (Jan. 22, 2016, 10:34 AM), <http://recode.net/2016/01/22/microsoft-quietly->

It is quite possible that the recent toning down of the strategic competitive acts described in this Article may simply be a pause and the smartphone wars will once again heat up. In either case, it is likely that this marks a milestone in the move away from competition for the desktop, with Microsoft reducing its efforts to defend its desktop OS monopoly. Either way, this raises a difficult antitrust question: how should acts of privateering be evaluated, given that the practices can change rapidly in response to changes in leadership or in industry-related technology? It is worth keeping these difficult questions in mind when reviewing the extensive history of IP privateering in light of the competitive attacks made against the open-source Android OS.

In the remainder of this Section, I complete the review of IP privateering by pointing to the role of privateering in the smartphone industry. Specifically, I discuss Microsoft's effort to consummate an outright purchase of a substantial patent portfolio—an effort that the Department of Justice blocked. Second, I describe how Microsoft, in the MOSAID, Rockstar, and Nokia transactions, expanded its privateering model. Finally, I offer some comments on Microsoft's involvement in the creation and development of Intellectual Ventures.

B. EXTENSIONS OF THE *SCO* MODEL

1. *Funding Third-Party IP Transfers: MOSAID*

Throughout the 2000s, Nokia was one of the most prominent corporate sponsors of open-source software. At one time, Nokia's Symbian operating system had been the most widely distributed open-source operating system in the world,⁸³ and Nokia, like Novell, had a substantial patent portfolio that it had pledged to use to defend open-source customers against patent claims.⁸⁴

Nokia's patent portfolio was therefore an attractive potential privateering opportunity for Microsoft. In addition to agreeing to use Windows as its primary mobile operating system, Nokia's CEO confirmed that "it is the case . . . Microsoft plus Nokia has a remarkably strong IP portfolio, and we will use

retreats-from-fairsearch-watchdog-behind-google-antitrust-cases/ [https://perma.cc/P9K6-TBS3].

83. Dena Cassella, *Symbian OS Set Free, Now Open Source*, DIGITAL TRENDS (Feb. 3, 2010, 5:21 PM), <http://www.digitaltrends.com/mobile/symbian-os-set-free-now-open-source/> [https://perma.cc/8FF2-LQER].

84. In early 2010, for example, Nokia had combined with Intel to launch the MeeGo Linux-based mobile operating system, and simultaneously pledged to protect Linux adopters against patent claims such as those that Microsoft had recently leveled against HTC and other Android OEMs. Gavin Clarke, *Nokia and Intel Defensive on MeeGo Linux Patents*, REGISTER (May 4, 2010, 9:15 PM), http://www.theregister.co.uk/2010/05/04/meego_linux_mobile_android_microsoft/ [https://perma.cc/M3DA-H74R].

that appropriately with the context of our ecosystem.”⁸⁵ As one analyst summarized, in Nokia’s “new role as Microsoft vassal . . . there’s a clear likelihood that Nokia’s many patents will be turned against Android”⁸⁶

One aspect of this agreement became apparent in September 2011 when Nokia transferred patents to MOSAID (now Conversant),⁸⁷ which had just launched a lawsuit against Linux distributors such as IBM and Red Hat.⁸⁸ Nokia later acknowledged that Microsoft, not MOSAID, had paid for the transfer.⁸⁹ Nokia received only nominal consideration from MOSAID itself (less than \$20,000).⁹⁰ Instead, MOSAID committed “to monetize the Assigned Patents and to maximize the Royalty,” and Nokia and Microsoft together would receive two-thirds of the royalties that MOSAID collected from enforcing the patents.⁹¹

Other features of the MOSAID arrangement were noted by Mark Popofsky and Michael Laufert⁹²:

- MOSAID agreed to a detailed set of confidential royalty protection provisions and milestone payments calculated to maximize the revenue MOSAID obtained from enforcement of these patents;

85. Tamlin Magee, *Swingin’ Stephen Elop Confirms Nokia-MS Deal Is About Patent Protection*, TECHEYE (Feb. 14, 2011), <http://www.techeye.net/business/swingin-stephen-elop-confirms-nokia-ms-deal-is-about-patent-protection> [https://perma.cc/42J5-YVDR].

86. Glyn Moody, *Nokiasoft: Who Are the Open Source Winners and Losers?*, COMPUTERWORLD UK (Feb. 16, 2011), www.computerworlduk.com/it-business/nokiasoft-who-are-the-open-source-winners-and-losers-3569040/ [https://perma.cc/3SFU-YK4L].

87. Ben Dummett, *Nokia Sells 2,000 Patents*, WALL ST. J. (Sept. 2, 2011), <https://www.wsj.com/articles/SB10001424053111904716604576544441441198816> [https://perma.cc/5YNK-82BQ].

88. Megan Leonhardt, *Adobe, IBM, Others Sued Over Networking Patents*, LAW360 (Aug. 11, 2011, 5:51 PM), <http://www.law360.com/articles/264173/adobe-ibm-others-sued-over-networking-patents> [https://perma.cc/4NZY-6V57].

89. Subsequent to its strategic agreement with Microsoft, Nokia engaged in at least two other patent transfers to PAEs: it transferred over 450 patents to the PAE Sisvel and more than 100 patents to the PAE Vringo. Vringo used the Nokia patents to bring two suits against Android OEM ZTE. *See Sisvel Acquires over 450 Nokia Patents, Including over 350 Patents Essential to Wireless Standards*, SISVEL (Jan. 12, 2012), <http://www.sisvel.it/news-events/news/sisvel-acquires-over-450-nokia-patents-including-over-350-patents-essential-to-wireless-standards> [https://perma.cc/84QS-9J9T]; Vringo, Inc., Current Report (Form 8-K) (Aug. 10, 2012), http://sec.gov/Archives/edgar/data/1410428/000114420412045768/v321254_8k.htm [https://perma.cc/74HR-WM4A].

90. Mark S. Popofsky & Michael D. Laufert, *Patent Assertion Entities and Antitrust: Operating Company Patent Transfers*, ANTITRUST SOURCE, Apr. 2013, at 7, http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/apr13_full_source.authcheckdam.pdf [https://perma.cc/4ZBR-LZDN].

91. *Id.* at 7–8.

92. *Id.*

- If MOSAID failed to meet its royalty obligations, Microsoft and Nokia could compel MOSAID to transfer the patents to another party for only \$10,000; and
- Microsoft retained a license that prevented MOSAID from asserting certain patents against third parties implementing certain Microsoft software in their mobile devices.

The MOSAID transaction marks an important evolution in privateering strategy. Unlike the SCO transaction described previously, in *MOSAID* Microsoft paid another company (Nokia) to transfer its IP to a third party (MOSAID). Moreover, unlike *SCO*, there was no indication that Nokia independently had been intending to use its patents to target Microsoft's downstream rivals. Finally, in *MOSAID* Microsoft was actively involved in determining the conditions under which MOSAID would receive and retain the patents, including its need to actively seek royalties (or risk forfeiting the patents) and which entities it could and should pursue. In *MOSAID*, in other words, Microsoft moved from funding third party litigation, to almost sponsoring firm's "rental" of another firm's IP for use by its agent in targeting downstream rivals.

There are three important benefits to an IP privateer with respect to a *MOSAID*-type arrangement compared to an outright acquisition. First, Microsoft had cross-license agreements in place with the majority of the Android OEMs.⁹³ By funding use of the patents without acquiring them, Microsoft ensured that the Nokia patents could be used to impose additional royalties or injunctions without falling within the scope of the Microsoft license. Second, the *MOSAID* arrangement was likely less expensive than an outright purchase. Third, MOSAID could more aggressively assert its claims than could Microsoft, especially as the intended targets of MOSAID were Microsoft customers or development partners.

2. *Organizing Privateering Consortia: Rockstar*

As noted previously, the Rockstar Consortium submitted the winning bid in the Nortel bankruptcy auction. It is notable that in Rockstar, with respect to at least one of the downstream smartphone market segments potentially covered by patents in the portfolio—mobile smartphones—the Rockstar owners comprised three of the four major downstream players in the market (Microsoft, Apple, and RIM). Their joint participation in the venture raised the

93. Press Release, U.S. Dep't of Justice, Statement of the Department of Justice's Antitrust Division on Its Decision to Close Its Investigations of Google Inc.'s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd. (Feb. 13, 2012), http://www.justice.gov/atr/public/press_releases/2012/280190.htm [<https://perma.cc/MNX6-S6WF>].

prospect of horizontal downstream competitors collaborating in the assertion of intellectual property through a PAE against another downstream competitor.

With Rockstar, Microsoft had an incentive to raise the costs of its downstream Linux rivals. Moreover, unlike the Novell patents, Microsoft already had a license to the Nortel patents.⁹⁴ The Rockstar transaction was, from that perspective, more problematic than the Novell acquisition. It was also more problematic in that it was not just Microsoft that competed in the downstream market in Rockstar. Apple, RIM, and Microsoft, all co-owners of Rockstar, comprised virtually the entire market apart from Android and at the time of the acquisition were also competing.⁹⁵ These rivals collectively had a greater incentive to raise Android's costs than any one of them operating alone, and their joint management and operation of Rockstar was of greater concern.

Finally, Microsoft did not have any defensive use for the acquired patents, since dating from around 2006, Microsoft and Nortel had formed a strategic alliance which included, among other things, a perpetual worldwide cross-license for all intellectual property, including patents.⁹⁶ Indeed, the agreement with Nortel covered all Microsoft products and services, even when ownership of the patents changed hands.⁹⁷

Thus, whereas Microsoft had arguably benefited from obtaining at least a license to the Novell patents (a license which the Department of Justice authorized Microsoft to retain), the value of the Rockstar patents, apart from the ability to obtain royalties, was to either raise the costs of downstream rivals or to defend against unforeseen attacks by other patent holders. It was not surprising when, on October 31, 2013, Rockstar filed patent infringement lawsuits against Android OEMs Samsung, Huawei, ZTE, LG, HTC, Pantech, and ASUSTeK, as well as against Google search.⁹⁸

94. Press Release, Microsoft Corp., Microsoft Corporation, Nortel and Microsoft Form Strategic Alliance to Accelerate Transformation of Business Communications (July 18, 2006), <https://news.microsoft.com/2006/07/18/nortel-and-microsoft-form-strategic-alliance-to-accelerate-transformation-of-business-communications/> [<https://perma.cc/QN67-9D8B>].

95. Altogether, one advisory company estimated that Apple, RIM, Microsoft, and Android accounted for 85.4% of smartphone sales in the fourth quarter of 2011. Press Release, Gartner, Inc., Gartner Says Worldwide Smartphone Sales Soared in Fourth Quarter of 2011 with 47 Percent Growth (Feb. 15, 2012), <http://www.gartner.com/newsroom/id/1924314> [<https://perma.cc/N8HP-56Q4>].

96. Press Release, *supra* note 94.

97. *Id.*

98. See Joe Mullin, *Patent War Goes Nuclear: Microsoft, Apple-owned "Rockstar" Sues Google*, ARS TECHNICA (Oct. 31, 2013, 8:10 PM), <https://arstechnica.com/tech-policy/2013/10/patent-war-goes-nuclear-microsoft-apple-owned-rockstar-sues-google/> [<https://perma.cc/4X7M-EPZZ>]. Rockstar dismissed its claims against Huawei after an undisclosed agreement;

3. *Creating the Next SCO: Nokia*

A third extension of the privateering model arose in connection with Microsoft's September 2013 acquisition of Nokia's mobile devices business. Microsoft acquired Nokia's mobile device operating assets, but Nokia retained the patents related to that business.⁹⁹ By leaving the mobile IP with Nokia, Microsoft effectively put Nokia in the same position that SCO had been relative to potential downstream targets.

In addition to converting Nokia into a PAE with respect to its mobile business, Microsoft structured a substantial part of its payment to Nokia as a "license," just as Microsoft had with SCO. Thus, Microsoft and Nokia attributed 1.65 billion euros of the purchase price to Microsoft's license to Nokia's patents¹⁰⁰—an amount that was more than three times the amount paid by Apple in 2011 for its license to Nokia's portfolio,¹⁰¹ and which greatly exceeded Nokia's reported licensing revenues over the previous several years combined.

A common feature of all of the privateering arrangements described thus far has been the separation of the IP to be asserted from the operational assets associated with it—either, as in the case of SCO and Nortel, because the operational businesses are being wound down; or, as in the case of Novell and Nokia, the asset sale is deliberately structured to separate the operational and IP assets. In Nokia, Microsoft funded the transaction without acquiring an ownership interest. Moreover, unlike both MOSAID and Rockstar, in which Microsoft maintained an oversight role, Microsoft does not appear to have attempted to maintain oversight over how Nokia would license or enforce its IP, beyond whatever terms were included in the parties' agreement and licensing arrangement.

it settled with Samsung and Google on February 2, 2015. See Aaron Vehling, *Rockets Settles with Samsung Over Search-Engine Patent*, LAW360 (Feb. 2, 2015, 2:04 PM), <https://www.law360.com/articles/617243/rockstar-settles-with-samsung-over-search-engine-patent> [<https://perma.cc/Z4AD-YHLQ>].

99. Levine, *supra* note 44.

100. *Id.*

101. Larry Dignan, *Nokia Likely Netted \$600 Million Plus in Apple Patent Settlement*, ZDNET (June 14, 2011, 8:06 PM), <http://www.zdnet.com/article/nokia-likely-netted-600-million-plus-in-apple-patent-settlement/> [<https://perma.cc/SWH2-MTSE>] (noting that although the exact payment was not disclosed to the public, a widely reported research note by Deutsche Bank analyst Kai Korschelt estimated that Nokia was likely to receive around \$608 million—at that time, a little more than 420 million euros—for the deal).

C. PRIVATEERING THROUGH INTERMEDIARIES: A ROLE FOR IV?

While Intellectual Ventures had the potential to serve as an intermediary in its privateering efforts against Android (and Apple), what is less clear is the extent to which it actually has done so. What is publicly known is that IV began to demand and obtain licensing fees from Android OEMs, including Samsung¹⁰² (the largest Android OEM) and HTC¹⁰³ in 2010 (followed by LG in 2011¹⁰⁴), around the same time that Microsoft began its own high-publicity licensing campaign against Android OEMs.¹⁰⁵

In 2011, a year after Microsoft funded the transfer of patents to MOSAID, IV brought suit against Motorola, an Android OEM (one of the first lawsuits filed by IV in its own name).¹⁰⁶ Of the six patents asserted by IV against Motorola, one notably was asserted against Apple and Microsoft before the suit was dropped and the patent purchased by a possible IV shell company.

In 2013, while its first suit against Motorola was still pending, IV brought another suit against Motorola in a different district, this time asserting seven patents.¹⁰⁷ Two of these patents were originally owned by Nokia, which transferred them in 2011 (after Nokia and Microsoft entered into their strategic partnership arrangement) to Spyder Navigations, reputedly an IV entity.¹⁰⁸

IV's pioneering role as a "patent aggregator" helped create the demand for a steady supply of patents, on one side, and PAEs to monetize them, on the other. Moreover, as the entity buying up patents from many operating

102. Ewing & Feldman, *supra* note 55, at 13, 18.

103. Press Release, Intellectual Ventures, HTC and Intellectual Ventures Announce Licensing Agreement and Strategic Alliance (Nov. 23, 2010), <http://www.intellectualventures.com/news/press-releases/htc-and-intellectual-ventures-announce-licensing-agreement-and-strategic-al/> [<https://perma.cc/333J-DA75>].

104. Nancy Gohring, *LG Signs Patent Licensing Deal with Intellectual Ventures*, COMPUTERWORLD UK (Nov. 9, 2011) <https://www.computerworlduk.com/it-vendors/lg-signs-patent-licensing-deal-with-intellectual-ventures-3317137/> [<https://perma.cc/PZR7-ZUR2>].

105. Florian Mueller, *Microsoft Announces Its 21st Android Patent Licensee, 26th known Android Patent Deal in Total*, FOSS PATENTS (Feb. 14, 2014), <http://www.fosspatents.com/2014/02/microsoft-announces-its-21st-android.html> [<https://perma.cc/DV9S-8SVR>].

106. *Intellectual Ventures I, LLC v. Motorola Mobility LLC*, 81 F. Supp. 3d 356 (D. Del. 2015).

107. *Intellectual Ventures Sues Motorola Mobility Over Patents Relating to WiFi, Cellular Standards (and Others)*, ESSENTIAL PAT. BLOG (June 19, 2013), <http://www.essentialpatentblog.com/2013/06/intellectual-ventures-sues-motorola-mobility/> [<https://perma.cc/2K9C-CK5L>].

108. Patents 6,170,073 and 7,564,784 were previously owned by Nokia. See Mike Masnick, *Intellectual Ventures Sues Google/Motorola Mobility Yet Again, Using Highly Questionable Nokia Patents*, TECHDIRT (June 20, 2013, 3:32 PM), <https://www.techdirt.com/articles/20130619/15575723536/intellectual-ventures-sues-googlemotorola-mobility-yet-again-using-highly-questionable-nokia-patents.shtml> [<https://perma.cc/T3EX-AXGV>].

companies and universities,¹⁰⁹ and packaging them for distribution to many PAEs,¹¹⁰ IV could have acted as a stand-in for Microsoft where the patents presented the opportunity for use in downstream privateering. It appears, however, that IV has not done so.

To sum up, privateering activity can raise competition questions. Indeed, it seems reasonable for Federal Trade Commission or Department of Justice reviews of acquisitions involving PAEs with substantial IP under Section 7 of the Clayton Act to include a detailed analysis of the potential implications of privateering behavior. The appropriate economic analysis of these privateering arrangements will be discussed in the sections that follow.

V. PRIVATEERING CAN RAISE RIVALS' COSTS

Although Microsoft was a pioneer in privateering, its efforts are no longer unique. In recent years, a variety of companies (the “sponsors”) have encouraged third parties to pursue intellectual property claims for the purpose of raising rivals’ costs and injuring downstream competition.¹¹¹ This IP privateering strategy has typically been accomplished by transferring patent rights to PAEs with an agreement to share royalties and other benefits flowing from patent assertion rights.¹¹²

PAEs are specialists that are often able to take advantage of their scale and experience to cut costs and to add extra value to the intellectual property that they own or control.¹¹³ Nevertheless, the rent-seeking activities that flow from the unique position of PAEs raise significant antitrust issues, the foremost of which flows from the PAEs’ ability to raise rivals’ costs. The law and economics literature make it clear that a raising rivals’ costs strategy can be an

109. Ewing & Feldman, *supra* note 55, at 7.

110. *See id.* at 7–8.

111. This will typically be accomplished when sponsors buy a financial interest in the privateering company.

112. For example, Microsoft’s agreement with MOSAID and its ownership stake in Rockstar provide it with compensation from these PAEs’ enforcement activities. *See also* Ewing & Feldman, *supra* note 55, at 13 (detailing IV’s early privateering strategy that follows the one outlined above).

113. *See* Daryl Lim, *Standard Essential Patents, Trolls and the Smartphone Wars: Triangulating the End Game*, 119 PENN. ST. L. REV. 1, 18 (2014) (noting that some PAEs connect innovators and implementing licenses, lowering transactions costs); *see also* Erica S. Mintzer & Suzanne Munck, *The Joint U.S. Department of Justice and Federal Trade Commission Workshop on Patent Assertion Entity Activities—“Follow the Money”*, 79 ANTITRUST L.J. 423, 426–427 (2014) (explaining that PAEs make settlement economical and have removed obstacles to bringing infringement suits); Joshua D. Wright & Douglas H. Ginsburg, *Patent Assertion Entities and Antitrust: A Competition Cure for a Litigation Disease?*, 79 ANTITRUST L.J. 501, 516 (2014) (characterizing the role of PAEs as redistributing economic rents along the production chain).

effective means to foreclose one or more competitors.¹¹⁴ Thus, a competitor might use such a strategy to deprive competitors of access to certain inputs or distribution channels.¹¹⁵ This could be accomplished by restricting access to valuable intellectual property or alternatively, by threatening to litigate against alleged patent infringement.¹¹⁶ A rule of reason approach is typically used to evaluate the costs and the benefits of such strategies; however, a number of commentators point to the difficulty of finding a workable balancing test.¹¹⁷

There are several notable differences between the classic analysis of raising rivals' costs and the analysis of privateering. First, the cost of engaging in a privateering strategy may be relatively low.¹¹⁸ Second, while the benefits from foreclosure may be substantial, they may not be readily apparent given the opaque nature of many privateering activities and the long-term effects of privateering.¹¹⁹ Third, the potential effectiveness of privateering by PAEs flows from information and cost asymmetries that are prevalent in technology industries. The information asymmetries arise in part because the driving force behind an IP lawsuit may not be readily apparent to the target, and even when apparent, there may be little or no reputational harm to the privateer. It may take some time for the target to ascertain the driving force behind the IP lawsuit, and even more time and effort for an enforcement theory to sort this out. A lack of substantial transparency to the costs of defending against IP-

114. See, e.g., Dennis W. Carlton, *A General Analysis of Exclusionary Conduct and Refusal to Deal—Why Aspen and Kodak Are Misguided*, 68 ANTITRUST L.J. 659, 683 (2001) (spelling out conditions under which a strategy focused on raising rivals' costs can be used to profitably extend a firm's market power in one market into a related market).

115. See, e.g., Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 U. CHI. L. REV. 147, 153–54, 160 (2005) (describing exclusionary conduct to be conduct that excludes an equally efficient rival).

116. For an example of the former, see the FTC's decision, describing a consent decree, in *In re Nielsen Holdings*. Decision and Order, *In re Nielsen Holdings N.V. & Arbitron Inc.*, FTC File No. 131-0058, Docket No. C-4439 (Feb. 28, 2014). For an example of the latter, see generally Daniel L. Rubinfeld & Robert Maness, *The Strategic Use of Patents: Implications for Antitrust*, in ANTITRUST, PATENTS AND COPYRIGHT: EU AND US PERSPECTIVES 85 (François Lévêque & Howard Shelanski eds., 2005).

117. See, e.g., Alan J. Meese, *Exclusive Dealing, the Theory of the Firm, and Raising Rivals' Costs: Toward a New Synthesis*, 50 ANTITRUST BULL. 371, 420 (2005) (explaining that a balancing analysis is outmoded and seriously flawed).

118. See Ewing, *supra* note 11, at 6. (“Outsourcing patent litigation, one branch of privateering, allows companies to shape their competitive environments and in some instances monetize their IP rights at extremely low cost.”). *But see* Matthew Sipe, *Patent Privateers and Antitrust Fears*, 22 MICH. TELECOMM. & TECH. L. REV. 191, 221 (2016) (pointing out that privateers take on substantial risk and face potential sanctions for frivolous litigation).

119. *Id.* at 203.

driven attacks is likely to deter innovative activity.¹²⁰ It also takes time and effort to sort through the potential implications of privateering-driven strategies. These costs are not only especially high when the privateering activity is secret, but they are also substantial when privateering activity are not transparent. The cost asymmetries arise to the extent that the privateer is able to expend relatively little in the way of resources while imposing substantial litigation-related costs on its competitors.¹²¹ The costs may be imposed by the threat of an injunction, by the threat of a substantial damage award, and/or by the cost of switching technologies so as to avoid patent liability in the first place.¹²²

A. PATENT HOLD UPS

Activities by PAEs are likely to involve more than rent seeking. The threat that a PAE may be successful in obtaining an injunction can force the target company to pay a relatively high royalty that would not be obtained in a hypothetical negotiation among two companies with relatively similar bargaining strengths.¹²³ As Lemley and Shapiro show, the threat of patent holdup—through the imposition of an injunction—has the potential to not only generate excessive royalties, but also to impede innovation.¹²⁴

120. See Michelle D. Miller & Janusz A. Ordoover, *Intellectual Ventures v. Capital One: Can Antitrust Law and Economics Get Us Past the Trolls?*, CPI ANTITRUST CHRON., Jan. 2015, at 3, <https://www.competitionpolicyinternational.com/assets/Uploads/MillerJanuszJAN-152.pdf> [<https://perma.cc/W239-GJEL>] (“PAE[s] can diminish incentives to design-around individual technologies within [a] portfolio, thereby reducing the viability of competing technologies . . .”).

121. PAEs are in the business of monetizing IPR through litigation, and they often file several identical infringement lawsuits against different companies at the same time, which reduces their overall costs relative to the total costs of the defendants involved. Fabio Marino & Teri Nguyen, *Are Patent Trolls Now Zeroed in on Start-Ups?*, FORBES (Jan. 17, 2013, 6:24 PM), <http://www.forbes.com/sites/ciocentral/2013/01/17/are-patent-trolls-now-zeroed-in-on-start-ups/> [<http://archive.is/aPUpQ>]. For example, Rockstar filed seven identical complaints against seven different Android OEMs in the same court on the same day, which enabled them to essentially litigate a single case, while each of the defendants incur separate costs to defend the lawsuits. See Florian Mueller, *Failed \$4.4 Billion Bid for Nortel Patents Comes Back to Haunt Google and Friends on Halloween*, FOSS PATENTS (Nov. 1, 2013), www.fosspatents.com/2013/11/failed-44-billion-bid-for-nortel.html [<https://perma.cc/MV8S-2KVU>].

122. For an illustration of such an IP-driven strategy, see Rubinfeld & Maness, *supra* note 116, at 92–98, explaining how a demand for a package license for personal watercraft patents can be used to raise rivals’ costs.

123. Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1999–2009 (2007) (using an economic model to show that the threat of injunction provides the patent holder with significant leverage to bargain for more than a reasonable royalty).

124. *Id.* at 2010, 2012 (explaining that patent holdup can discourage innovation).

To illustrate, in late 2011, IV filed the first in a series of patent infringement lawsuits against Motorola Mobility relating to its use of the Android operating system.¹²⁵ Several years later, Rockstar filed a series of patent infringement lawsuits against seven different Android OEMs and requested injunctive relief in each of the lawsuits.¹²⁶ At least one of the Android OEMs (Huawei) has entered into a settlement with Rockstar, choosing to pay Rockstar an undisclosed sum for a license to its patents rather than incur the costs associated with a protracted litigation.¹²⁷

B. ROYALTY STACKING

The potential economic harms flowing from PAE activities increase when royalty stacking becomes an issue, as in the case of mobile telephony. With royalty stacking, the target faces the prospect of paying royalties on multiple claims, with any profit from selling the product being obtained only after paying all of the relevant royalties and covering other production and distribution costs. At a minimum, royalty stacking is likely to lead to increased product prices as some or all of the costs are passed on to customers.¹²⁸ With a vast number of patents at issue in a product such as a mobile phone, it is quite possible that royalty stacking will lead to more than a 100 percent increase in the downstream price of the product.¹²⁹

The higher product prices are likely to be economically inefficient for two distinct reasons. First, if the product contains multiple inputs and the input owners separately price their inputs, as is the case with smart mobile devices, there will be a “Cournot complements” problem.¹³⁰ The problem arises when

125. *Intellectual Ventures I, LLC v. Motorola Mobility LLC*, 81 F. Supp. 3d 356 (D. Del. 2015).

126. Mullin, *supra* note 98.

127. Florian Mueller, *Huawei Settles with Rockstar Consortium, Will Pay for Android's Infringement of Ex-Nortel Patents*, FOSS PATENTS (Jan. 23, 2014), <http://www.fosspatents.com/2014/01/huawei-settles-with-rockstar-consortium.html> [<https://perma.cc/LA3Z-2ZE8>].

128. See Lemley & Shapiro, *supra* note 123, at 2013 (“[H]igher running royalties will raise the downstream firm’s marginal cost, which will raise its price and thus reduce its level of output.”).

129. See Ewing & Feldman, *supra* note 55, at 12 (asserting it is theoretically possible that patent holders could extract 100% of revenue from licensee); see also Ann Armstrong, Joseph J. Mueller & Timothy D. Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones 2* (May 29, 2014) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2443848 [<https://perma.cc/B6CA-QXYA>] (estimating that current royalty stacking could account for over a quarter of a phone’s price).

130. The Cournot complements problem is well known in industrial organization. For a derivation, see Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 119–23 (Adam B. Jaffe et al. eds., 2001).

individual input owners do not account for the negative externality that they impose on other suppliers because the input owners' higher price tends to reduce the output of the final product. When this effect is aggregated over all inputs, the result is an inefficiently low output.¹³¹ The Cournot complements problem is particularly acute when there is a royalty stacking problem.¹³²

Second, if the patents that must be licensed to make the product are individually owned, there will likely be a "double marginalization" problem, whereby each of the royalties paid on individual patents are marked up. The result is that the final price of the product will reflect multiple markups rather than the single markup that would be imposed if all patents were owned by a single entity.¹³³ This double markup would be avoided if the two firms merged to become a single vertically-integrated company.¹³⁴ By increasing any double marginalization problem, disaggregation can increase benefits of pursuing an IP privateering strategy.

While disaggregation makes sense as a business strategy for pure PAEs, the benefits of disaggregation increase further where a downstream firm is able to use the patents to privateer against a rival. According to Lemley and Melamed:

The highest bidders for at least portions of a dispersed portfolio, and therefore the likely buyers, might be practicing entities that want to use the patents to raise the costs of their rivals and are willing to pay more for the patents for their strategic value than other potential buyers that are interested solely in generating royalties. . . . Disaggregation can therefore both exacerbate the double marginalization problem and facilitate the use of patents for anticompetitive strategic purposes.¹³⁵

In Microsoft's case, the company has either distributed patents to or funded several different PAEs in its effort to target Android. These PAEs then separately seek to extract royalties from the Android OEMs. Moreover, any royalties paid by the Android OEMs to these PAEs are likely additional to the royalties Microsoft itself has already extracted from them under its Android licensing program. According to one analyst, Microsoft extracts between five

131. Lemley & Shapiro, *supra* note 123, at 2013–16 (explaining that stacking combines inefficiencies from the double marginalization problem and the Cournot-complements effect).

132. *Id.*

133. *See, e.g.,* DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 415 (4th ed. 2004) (explaining how double marginalization is likely to lead to higher downstream product prices).

134. *See* Andy C. M. Chen & Keith N. Hylton, *Procompetitive Theories of Vertical Control*, 50 HASTINGS L.J. 573, 595–99 (1999) (analyzing the "successive monopoly problem").

135. Lemley & Melamed, *supra* note 52, at 2160.

and fifteen dollars from OEMs per Android device, covering seventy percent of all Android devices sold.¹³⁶

Higher prices are not the only indicator of economic inefficiency. Inefficiency also arises when an asymmetrically situated target makes strategic choices that it would not otherwise make if the threat of holdup was not credible. This inefficiency is likely exaggerated with royalty stacking when courts evaluating individual patent suits on one or more components of a product do not adequately account for the external effects of the related lawsuits on other components of the same product.¹³⁷ The inefficiency is also likely to be exacerbated to the extent that royalties are imposed on the value of the product as a whole rather than the value of the individual components.¹³⁸ Here, infringement lawsuits targeting Android OEMs necessarily seek to extract royalties based on the total value of an OEM's product (e.g., smart mobile device) because the cost of the targeted component (i.e., Android) is zero.

C. PAES AS PRIVATEERS

Privateering exacerbates the harms that are created by PAEs by transforming the PAEs into agents of third parties. Third parties, in turn, benefit when the PAEs target downstream competitors, often in a secretive

136. See Liam Tung, *Microsoft Is Making \$2bn a Year on Android Licensing – Five Times More than Windows Phone*, ZDNET (Nov. 7, 2013, 12:36 PM), <http://www.zdnet.com/article/microsoft-is-making-2bn-a-year-on-android-licensing-five-times-more-than-windows-phone/> [<http://archive.is/JwIP8>] (noting that in 2013, these Android payments totaled approximately two billion dollars).

137. Note that there is a tension between the views of the Federal Circuit and the views expressed here, which come from a competition perspective. The Federal Circuit has suggested that the effects just described are “not inappropriate” since they are the product of the monopoly right of the patent owner to exclude. See *MercExchange, LLC v. eBay, Inc.*, 401 F.3d 1323, 1339 (Fed. Cir. 2005), *vacated and remanded sub nom.* *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

138. To illustrate, Qualcomm charges royalties as a percentage of the price of a handset even though the vast majority of its patents read on the chipset component, and chipsets are sold separately in the marketplace. Qualcomm Inc., Annual Report (Form 10-K), at 6 (Nov. 6, 2013). Qualcomm's royalty arrangements have led both the U.S. FTC and the Korean FTC to sue Qualcomm in 2017. The FTC suit was filed in the District Court for the Northern District of California, San Jose Division, on January 17, 2017. *In re Qualcomm Antitrust Litig.*, No. 17-MD-02773-LHK, 2017 WL 5235649 (N.D. Cal. Nov. 10, 2017). On December 27, 2016 the Korean FTC announced that it was fining Qualcomm approximately \$863 million for violation of the Korean competition law. Jungah Lee & Ian King, *Qualcomm Fined \$853 Million by South Korean Antitrust Agency*, BLOOMBERG (Dec. 27, 2016, 10:38 PM), <http://www.bloomberg.com/news/articles/2016-12-28/qualcomm-fined-853-million-by-south-korea-s-antitrust-agency-ix8csvth> [<https://perma.cc/7ZHF-5FNY>].

manner.¹³⁹ Of course, the principal-agent relationship between the sponsor and the PAE is not perfect, especially when the sponsor has no financial interest in the PAE. However, the technological world in which the sponsors and PAEs operate has important elements of a repeated game. Given the potential to acquire future IP from the sponsor, the PAE has a long-term interest to operate with the welfare of the sponsor in mind. Conversely, the sponsor will benefit if the PAE becomes, through learning, more and more efficient in asserting patents that will advantage the sponsor.

While the results of privateering are similar in character to the results flowing from the actions of PAEs as implementing licensees, important differences exist. First, the secrecy as to which company is driving the PAEs' actions against downstream competitors increases the likelihood that targeting a particular competitor will be successful. The benefits to the firm that is sponsoring such a PAE arise from the change in the downstream competitive environment. Second, the time and effort involved in tracking the entity behind the lawsuit will raise the costs of responding to the lawsuit, delay countermeasures, and ultimately will discourage possible settlements that will remove impediments to innovation. A route to prompt settlement should be preferred not only because it eliminates the cost of time-consuming litigation, but also because it would move closer to the traditional world in which a licensing arrangement between two willing parties is negotiated.

In essence, privateering benefits the PAEs, which collect funds through patent settlements, damage awards, and royalties. Moreover, privateering benefits the sponsor of the activity whose competitive position has been improved. As a result, the encouragement of PAEs as agents by a sponsoring principal has the potential to be a highly effectively means of exclusion.¹⁴⁰ The cost to the company that is putting into effect such a strategy may be modest, and can be substantially less than the competitive harm that can be inflicted upon rivals. The costs imposed downstream that flow from the use of

139. When acting as agents in principal-agent relationship, PAEs are sometimes described as “hybrid PAEs.” To our knowledge, the term was coined by Carl Shapiro at a joint workshop hosted by the Federal Trade Commission and the Antitrust Division of the U.S. Department of Justice. See Carl Shapiro, Patent Assertion Entities: Effective Monetizers, Tax on Innovation, or *Both?*, Presentation at the U.S. Department of Justice Antitrust Division 4 (Dec. 10, 2012), <https://www.justice.gov/sites/default/files/atr/legacy/2013/07/14/290074.pdf> [<https://perma.cc/Z55Y-Q7YR>]. For a brief discussion of the competition issues, see Ewing & Feldman, *supra* note 55, at 26–28. See also Morton & Shapiro, *supra* note 29, at 489–91.

140. This possibility was recognized by Lemley and Melamed in their groundbreaking “Forest for the Trolls” article. Lemley & Melamed, *supra* note 52, at 2145. According to the authors, “[t]heir objective is to impose royalty costs on competitors that will reduce demand for the competitor’s products and thereby increase demand for their own products. . . . In effect the[y] . . . are willing, for strategic reasons, to charge supramonopoly prices . . .” *Id.*

privateering as an exclusionary device are likely to be especially high in the mobile telephony industry. Mobile devices have an array of components and features that read on a vast number of patents and which depend on multiple standard-setting organizations to achieve interoperability.¹⁴¹ The need for interoperability is likely to increase the number of complementary inputs and consequently to increase the costs flowing from the Cournot complements problem.¹⁴²

D. AN INNOVATION TAX

Privateering lawsuits brought by PAEs will in some cases represent a battle over economic rents between two symmetrically-situated entities. Even in this case, however, these lawsuits can generate substantial economic inefficiencies. Not only is the proliferation of lawsuits socially costly, but the suits act as a tax on innovation, and any reduction in innovation will reduce social welfare.¹⁴³ Indeed, the potential dynamic cost of lost economic growth has the potential to greatly exceed any static costs of litigation.¹⁴⁴

To understand the implications of this “innovation tax,” it is useful to view patent infringement suits that are directed against the Android operating system as imposing a cost on competitors that is more or less independent of the value of the handset that incorporates the OS. In essence, privateering-driven patent infringement suits impose a specific tax on competitors’ products. A portion of the cost of the tax will be borne by the competitors and a portion will be passed on to downstream customers.¹⁴⁵ Moreover, competitors bear the greatest burden when demand is relatively elastic. As a result, it is the OEMs that offer products at the low end of the handset spectrum that will bear the greatest burden. (Customers at the low end are the most price sensitive and have the most elastic demand for handsets.) In the smart mobile devices market, OEMs that manufacture devices at the low end of the handset spectrum are predominantly producers of Android devices.

141. See Lim, *supra* note 113, at 20 (2014); Mark A. Lemley, *Ten Things To Do About Patent Holdup of Standards (and One Not To)*, 48 B.C. L. REV. 149, 150 (2007).

142. For a detailed discussion of these implications in a world of “thick” patents, see Robert G. Harris, *Patent Assertion Entities & Privateers: Economic Harms to Innovation and Competition*, 59 ANTITRUST BULL. 281, 285–93 (2014).

143. See Ewing & Feldman, *Giants*, *supra* note 55, at 25.

144. See Shapiro, *supra* note 139 (pointing to the importance of innovation in driving economic growth). For evidence of harm to innovation, see Catherine Tucker, *Patent Trolls and Technology Diffusion: The Case of Medical Imaging* (Apr. 14, 2014) (unpublished manuscript), <http://ssrn.com/abstract=1976593> [<https://perma.cc/V6HY-73U9>].

145. See ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 355 (9th ed. 2017).

In general, the imposition of a specific tax leads to a reduction in the quantity supplied by the taxed entities and a reduction in the aggregate quantity sold in the market as a whole.¹⁴⁶ Hence, the obvious exclusionary impact of privateering practices is that it raises rivals' costs. However, there is a more significant effect—the strategy serves as a pure tax on innovation. To see why, consider the investment decision of a risk-averse venture capitalist seeking to invest in technology. The “privateering tax” reduces the return on an investment in a company that offers a competitive OS or a partial substitute to the Microsoft OS. All things equal, the lower return will encourage the venture capitalist to look elsewhere. Moreover, given that the magnitude and the targets of the tax are likely uncertain, the tax will increase risk. Moreover, this risk is effectively nondiversifiable, since the only way in which competitors can reduce or eliminate the risk is by not making the OS investment in the first place.¹⁴⁷

I agree with Scott Morton and Shapiro that privateering is likely to deter innovation and harm consumers. The biggest concerns are (1) the reduction in the downstream firm's investment in its own products due to payments to the PAE; (2) the loss of consumer benefits resulting from the reduction in the downstream firm's investments in its own products; and (3) the share of the cost the PAE imposes on the downstream firm that goes to cover legal fees and other transaction costs.

To sum up, the evaluation of competitive issues relating to innovation is inherently difficult, given that investments in research and development vary widely from company to company and from industry to industry.¹⁴⁸ While some (e.g., Schumpeter) have emphasized innovation by firms with substantial

146. *See id.*

147. For a basic introduction to risk and investment, see *id.* at 583–86. For an analysis of how one enforcement agency has accounted for innovation issues in its evaluation of merger and non-merger activity, see generally Daniel L. Rubinfeld & John Hoven, *Innovation and Antitrust Enforcement*, in DYNAMIC COMPETITION AND PUBLIC POLICY: TECHNOLOGY, INNOVATION, AND ANTITRUST ISSUES 65 (Jerry Ellig ed., 2001).

148. For a thorough discussion of these issues, see Herbert Hovenkamp, *Antitrust and Innovation: Where We Are and Where We Should Be Going*, 77 ANTITRUST L.J. 749 (2011). According to Hovenkamp, “just as innovation promises greater growth than market movements toward competition, so too can *restraints* on innovation do more harm.” *Id.* at 751.

market power,¹⁴⁹ others (e.g., Arrow) have pointed to the innovation-related benefits that flow from competition.¹⁵⁰

Regardless of one's view about the relationship between market structure and innovation, there can be no doubt that the long-term adverse effects of an innovation tax are likely to dwarf any purely short-term exclusionary effects. Assume for example, that the real (quality-adjusted) output in the mobile telephony industry is expected to grow at eight percent per year. At this rate, handset output will double in eight years. However, if the "privateering tax" adversely affects innovation so as to reduce the growth rate to seven percent, it will take over nine years for handset output to double. For this reason, a number of commentators have stressed the importance of dealing with anticompetitive restraints on innovation.¹⁵¹

VI. ANTITRUST IMPLICATIONS OF PRIVATEERING

Although Microsoft has been a systematic user, privateering is a practice that has been used by Nokia, Apple, and a number of other technology-driven companies. For example in 2013, Ericsson sold 2,185 phone-related patents and applications to Unwired Planet, Inc., a licensing company.¹⁵² About the same time, BT Group and Alcatel-Lucent transferred patent rights to several patent-licensing entities.¹⁵³

149. Thomas A. Piraino, Jr., *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 N.Y.U. L. REV. 809, 817 (2000) ("Schumpeter believed that the potential for superior returns gives firms an incentive to develop new products in their quest for monopoly power; furthermore, the fear of losing such power guarantees . . . innovation even after they have achieved a monopoly.").

150. Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation*, 74 ANTITRUST L.J. 575, 578 (2007) ("[A] monopolist might innovate less than competitive firms because a monopolist has less to gain.").

151. See, e.g., Herbert Hovenkamp, *Restraints on Innovation*, 29 CARDOZO L. REV. 247, 253–54 (2007) (explaining that restraints on innovation very likely produce greater economic harm than restraints on competition).

152. Ingrid Lunden, *Unwired Planet Has Bought 2,400+ Wireless Patents from Ericsson to Beef Up Its Patent Fights Against Google, Apple and RIM*, TECHCRUNCH (Jan. 10, 2013), <http://techcrunch.com/2013/01/10/unwired-planet-has-bought-2400-wireless-patents-from-ericsson-to-beef-up-its-patent-fights-against-google-apple-and-rim/> [https://perma.cc/YY76-C8M3].

153. See Susan Decker, *Patent Privateers Sail the Legal Waters Against Apple, Google*, BLOOMBERG (Jan. 10, 2013, 9:00 PM), <http://www.bloomberg.com/news/articles/2013-01-11/patent-privateers-sail-the-legal-waters-against-apple-google> [https://perma.cc/7VYF-AAYD]; see also Joff Wild, *Alcatel Agrees Privateering Hook-Up with Vringo; Expect More Such Deals to Follow*, IAM BLOG (Dec. 2, 2013), www.iam-media.com/blog/detail.aspx?g=ada129d1-6957-46ed-8bf4-3c068cb5690d [https://perma.cc/7EYF-CZ4D].

The competitive concerns associated with privateering could become a pervasive problem in connection with the antitrust agencies' review of patent acquisitions because, as noted in Section V.B, practicing entities have a strong incentive to use privateering to raise rivals' costs, such that they may be willing to outbid other parties "that are interested solely in generating royalties."¹⁵⁴

It would therefore be a substantial policy concern if IP privateering were deemed to fall within the interstices of effective antitrust enforcement. Enforcement could come from the Sherman Act, which under Section 1 prohibits contracts and combinations in restraint of trade and under Section 2 treats as unlawful the monopolization or attempt to monopolize a relevant market.¹⁵⁵ Alternatively, it could come from Section 7 of the Clayton Act, which constrains merger, acquisitions, and joint ventures that substantially lessen combination.¹⁵⁶ There are three characteristics of IP privateering that might raise evidentiary or legal hurdles: (1) the use of IP litigation as part of the anticompetitive scheme; (2) the attribution of the PAE's conduct to the sponsor; and (3) the ability to show the requisite anticompetitive effects. In most instances, however, these characteristics do not pose insurmountable barriers to effective enforcement, for the reasons set out below.

A. NOERR-PENNINGTON CONCERNS

The *Noerr-Pennington* doctrine poses some obstacles to effective enforcement, which can be overcome by the line of argument described below. One of the steps in the implementation of any IP privateering scheme is either the initiation of IP litigation or licensing activity that takes place in the shadow of potential litigation. Under the *Noerr-Pennington* doctrine, a genuine effort to obtain governmental action, where that action would have an anticompetitive effect, is deemed to fall outside the scope of actionable conduct under the Sherman Act.¹⁵⁷ As the FTC stated in a staff report on the *Noerr-Pennington* doctrine in 2006, "although the Court has not provided a consistent source for the doctrine, it appears to be rooted in a construction of the Sherman Act to avoid conflict with the constitutional right to petition the government for

154. Lemley & Melamed, *supra* note 52, at 2160

155. See Zachary C. Flood, *Antitrust Enforcement in the Developing E-Book Market: Apple, Amazon and the Future of the Publishing Industry*, 31 BERKELEY TECH. L.J. 879, 895–96 (2016).

156. See Cassandra E. Havens, *Saving Patent Law from Competition Policy and Economic Theories: Kimble v. Marvel Entertainment*, 31 BERKELEY TECH. L.J. 371, 376 (2016).

157. FED. TRADE COMM'N, ENFORCEMENT PERSPECTIVES ON THE NOERR-PENNINGTON DOCTRINE 6 (2006), <https://www.ftc.gov/sites/default/files/documents/reports/ftc-staff-report-concerning-enforcement-perspectives-noerr-pennington-doctrine/p013518enfperspectnoerr-penningtondoctrine.pdf> [<https://perma.cc/QP95-S4W3>].

redress of grievances and the principle of effective government decision-making.”¹⁵⁸

In *California Motor Transport Co. v. Trucking Unlimited*, the Court held that access to the courts and administrative agencies is an aspect of the right to petition, and hence *Noerr*’s protection generally extends to administrative and judicial proceedings, as well as to efforts to influence legislative and executive action.¹⁵⁹ The Court also found, however, that the specific conduct of the complaint fell under the “sham” exception to *Noerr*.¹⁶⁰ In its later decision in *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.* (“*PRE*”), the Court held that, when applied to a single lawsuit, a case does not constitute a “sham” unless it satisfies a two-part test: (1) the lawsuit must be “objectively baseless” in the sense that no reasonable litigant could realistically expect success on the merits; and (2) the suit must reflect a subjective intent to use the governmental process—as opposed to the outcome of that process—as an anticompetitive weapon.¹⁶¹

IP privateering appears to meet the second part of *PRE*’s two-part test: it is designed to raise the costs of the privateering sponsor’s rival, not to achieve success on the merits. The inherent ambiguity of intellectual property claims, however, could make it difficult to meet the first part of the *PRE* test. Where there has only been a single case with no transfer of IP assets or other property—as, for example, in the *SCO* case that Microsoft funded against Linux customers—the *Noerr-Pennington* doctrine could prove to be a hurdle to a Sherman Act claim.¹⁶²

Most IP privateering appears to involve both the transfer of assets and more than a single case. Consider, for example, a simple fact pattern where an IP privateering sponsor breaks up its patent portfolio into three complementary bundles and transfers two of the bundles to PAEs for the purpose of asserting them (or seeking to license them) to the sponsor’s rival. As Lemley and Melamed note, “agreements to sell or disperse patents that

158. *Id.*

159. *Cal. Motor Transp. Co. v. Trucking Unlimited*, 404 U.S. 508, 510–11 (1972).

160. *Id.* at 516.

161. *Prof'l Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60–61 (1993).

162. The same would be true of non-IP based lobbying efforts, as for example, Foundem’s 2010 campaign against Google, supported by the Microsoft-backed Initiative for a Competitive Online Marketplace. See Danny Hakim, *Microsoft, Once an Antitrust Target, Is Now Google’s Regulatory Scold*, N.Y. TIMES (Apr. 15, 2015), www.nytimes.com/2015/04/16/technology/microsoft-once-an-antitrust-target-is-now-googles-regulatory-scold.html [<https://perma.cc/S46R-JYZB>] (identifying Microsoft as the founder of the lobbying group, Initiative for a Competitive Online Marketplace). For a view that *Noerr-Pennington* “almost certainly immunizes privateering activity,” see Sipe, *supra* note 118, at 203.

seem likely to create or exacerbate a double marginalization problem could be challenged under both Sections 1 and 2 of the Sherman Act and Section 7 of the Clayton Act,” especially “if one or more of the entities involved is likely to have strategic incentives to impose costs on rivals.”¹⁶³ They explain:

An antitrust violation might be established . . . if the disaggregation is likely to increase costs to rivals of one or both of the parties to the transaction or their customers and thereby to injure competition in a downstream market in which the technologies claimed by the affected patents are used¹⁶⁴

In this analysis, it is the *asset transfer*, not the subsequent assertion of the patents in litigation, that is competitively problematic and could be found unlawful under Clayton Act analysis as having an effect that is likely to substantially lessen competition. As the FTC staff concluded:

Viewed in its entirety, the case law provides ample room to conclude that, outside of the political arena, a pattern of repetitive petitions filed without regard to merit and for the sole purpose of using the government process, rather than the outcome of the process, to harm directly marketplace rivals and suppress competition should be subject to antitrust liability In addition, sound policy reasons support treating repetitive use of the government process against rivals differently from single lawsuits.¹⁶⁵

Thus, antitrust law may indeed provide a remedy for the anticompetitive effects of IP privateering.

B. ATTRIBUTING ACTIONS OF PAE AGENTS TO THE PRIVATEERING SPONSOR

A second potential hurdle is an evidentiary one. It is possible that in some instances a privateering sponsor’s transfer of patents to a PAE is a sham and the privateering sponsor really directly controls the PAE. Such instances are “unlikely to be common, however, because such a sham transaction would be too likely to be detected and punished, either by the target or by antitrust law.”¹⁶⁶ Instead, the privateering sponsor is likely to exercise control by constraining the incentives of the PAE, either directly through contract or indirectly by directing the PAE’s activities towards the sponsor’s rival.¹⁶⁷ As an example of the latter, Lemley and Melamed give a hypothetical that appears to

163. Lemley & Melamed, *supra* note 52, at 2179.

164. *Id.* at 2179 n.257.

165. FED. TRADE COMM’N, *supra* note 157, at 35.

166. Lemley & Melamed, *supra* note 52, at 2160–61.

167. *See id.* at 2137–38.

have been inspired by Rockstar: “For instance, if Microsoft were to sell to a troll a smartphone patent that was already licensed to Apple and to users of the Microsoft and Blackberry operating systems, the only significant remaining target for such a patent would be phones using the competing Android operating system.”¹⁶⁸

In instances where the sponsor’s control is short of outright ownership, it raises the question of whether the PAE’s conduct fairly can be attributed to the sponsor. As a matter of principle, Ewing has argued that “in those instances where a sponsor would not have been privileged to use [its] own IPRs against the target on anticompetitive grounds, then the sponsor should not be allowed to privateer against the target using third-party IPRs either.”¹⁶⁹ In arguing for this attribution rule, Ewing notes that “IP privateering adds to the IPRs at the disposal of the sponsor, thus making the sponsor even more anticompetitive than if its own IPRs had been used.”¹⁷⁰

As noted earlier, it is much harder for the target to protect against IP privateering than against an intellectual property claim by the sponsor itself. If Microsoft had kept the Novell patents in the CPTN transaction, it would have been much easier for Android OEMs or Google to defend against Microsoft’s assertion of the patents than it was for them to defend against patents in the hands of MOSAID or Rockstar: they might have already obtained licenses to Microsoft patents or have been able to bring a counterclaim against Microsoft. As a matter of policy, therefore, IP privateering conduct should be more susceptible, not less, to challenge than would the sponsor’s outright acquisition of the intellectual property in question.

Certainly as a matter of Clayton Act enforcement, it should be possible for the agencies to adopt a rule that, when a company helps to fund the transfer of intellectual property to a third party, there will be a rebuttable presumption that it controls that third party. This would raise the cost of litigation for the asserting party and could discourage inefficient litigation. An even greater challenge than Rockstar-like transactions, however, are transfers such as the flow of patents through entities like IV, where the mechanism of control, as between Microsoft and IV, might be extremely difficult to disentangle. A privateering effort should not avoid liability simply on the basis of the difficulty of its discovery. There may be little choice but to disentangle these relationships if anticompetitive privateering is to be adequately evaluated and (when appropriate) deterred.

168. *Id.* at 2161.

169. Ewing, *supra* note 11, at 80.

170. *Id.*

C. SUBSTANTIVE ANTITRUST ISSUES

There is arguably some justification for IP privateering, based on the efficiencies created by the IP-litigation specialists. However, the potential harms are great. IP privateering might enable the privateering sponsor, by making multiple patent assertions through different entities, to claim patent damages beyond what the sponsor reasonably could expect if the patents were held and asserted by a single entity. It could also be a means by which the privateering sponsor avoids FRAND obligations; or it could enable the privateering sponsor to raise costs to the sponsor's rival or its customers.¹⁷¹

None of these purposes should be encouraged. Where there is evidence of anticompetitive effect—that is, evidence that the sponsor's purpose in engaging in this privateering is to raise its rivals' costs, and evidence that such increased costs are the likely outcome of the sponsor's conduct—such evidence should be viewed in light of the broad scope of the Clayton and Sherman Acts. For example, in 2012 Intellectual Ventures brought a lawsuit against Motorola Mobility (a Google, Inc. division), claiming that Google's Motorola smartphone software patents infringed a number of IV's patents. A successful case would have advantaged the Microsoft and Apple smartphone operating systems. That case was settled after the jury failed to reach an agreement.¹⁷²

Because patent transactions often raise the question whether the patents involved are “blocking” patents (patents that are essential to make a particular technology or device workable), it could be easy to mistake the absence of blocking patents in an IP privateering transfer for a lack of likely anticompetitive effects. While it may have foreclosure implications, IP privateering is not a classic foreclosure strategy—it is fundamentally a strategy oriented around raising rivals' costs. Indeed, as noted above, IP privateering is indifferent to the quality of the underlying patents. The goal is to make repeated claims that stack royalties and deter rivals' customers, not to block particular products from the market.

VII. CONCLUSIONS

The legal and evidentiary difficulties inherent in bringing an antitrust action against PAEs and their sponsors should not rule out enforcement, especially

171. See, e.g., Michael Mattioli, *Patent Pool Outsiders*, 33 BERKELEY TECH. L.J. (forthcoming 2018) (describing how Lucent assigned its patents to a trust in order to avoid FRAND obligations arising from its joinder of the MPEG-2 patent pool).

172. Dan Levine, *Google, Intellectual Ventures Case Over Patents Ends in U.S. Mistrial*, REUTERS (Feb. 5, 2014, 4:30 PM), <http://www.reuters.com/article/us-google-iv-mistrial/google-intellectual-ventures-case-over-patents-ends-in-u-s-mistrial-idUSBREA1500Y20140206> [<https://perma.cc/N7ZZ-VYZG>].

when seen in the context of acquisitions falling within the purview of Clayton Section 7. Companies can use IP privateering to foreclose rivals and raise their costs precisely because of the difficulties in detection and prosecution, and antitrust agencies should especially take into account the prospect of such conduct.

While this Article has emphasized antitrust concerns, it is worth asking whether there are remedies within the IP space that might reduce the incentives to engage in inefficient privateering activity. Solely for purposes of discussion, I suggest two avenues for further inquiry. First, part of the problem flowing from privateering arises because many privateering arrangements are opaque. A requirement that new assignees be made public when certain IP is transferred could prove beneficial. To avoid excessive and unnecessary costs, such a requirement would need to be limited either (1) to particular industries, such as telecommunications or pharmaceuticals; or (2) to IP whose value is believed to exceed an appropriate threshold.¹⁷³

Second, when IP transfers are partial, it is relatively difficult to sort out the interests of the parties and to foresee the economic implications of any privateering activity that might ensue. A requirement that partial assignments of IP be made available to the competition agencies under conditions similar to the antitrust enforcement agencies requirements with respect to joint ventures would be desirable.¹⁷⁴ The Patent Trial and Appeal Board (“PTAB”) seems to be taking a similar requirement seriously by declining to institute petitions where the “real parties in interest” are not properly named.¹⁷⁵ Adding clarity to the acts of privateers is likely to increase the likelihood that IP disputes will be settled.¹⁷⁶

173. See Peter S. Menell & Michael J. Meurer, *Notice Failure and Notice Externalities*, 5 J. LEGAL ANALYSIS 1, 42 (2013) (noting the requirement could be enforced by a cap on damages when there is a failure to make the arrangement public).

174. See generally FED. TRADE COMM’N & U.S. DEP’T OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS 25–27 (2000), www.ftc.gov/sites/default/files/documents/public_events/joint-venture-hearings-antitrust-guidelines-collaboration-among-competitors/ftcdojguidelines-2.pdf [<https://perma.cc/VD6J-DEAP>] (referencing the filing requirement of the Horizontal Merger Guidelines, while pointing to a number of safety zones). The publication of the licensees should also be considered.

175. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 312(a)(2), 125 Stat. 284 (2011). The availability of a PTAB review depends heavily on the willingness of district court judges to grant a stay of litigation pending a review.

176. It is well known that disputes are more likely to be settled, other things equal, the closer the parties’ expectations about the likelihood that the plaintiff will succeed on the merits. See, e.g., Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LITERATURE 1067, 1076 (1989).

