ANTITRUST AND PATENT LICENSE AGREEMENTS: A NEW LOOK AT THE GRANTBACK CLAUSE IN HIGH TECHNOLOGY MARKETS

John M. Murray[*]

"[W]e must take care to guard against two extremes equally prejudicial; the one, that men of ability, who have employed their time for the service of the community, may not be deprived of their just merits, and the reward of their ingenuity and labor; the other, that the world may not be deprived of improvements, nor the progress of the arts be retarded."[1]

INTRODUCTION

Since the early 1990s, high technology has been a significant driver of economic growth in the United States.[2] Businesses are increasingly turning to patented technology and innovation to streamline operations, boost output, or reach new markets.[3] However, few firms develop their own technology for internal use only, and technological development frequently relies on the inventions of others. Rather,

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[*] J.D. Candidate, 2012, Case Western Reserve University School of Law. B.A., University of Colorado at Boulder. The author would like to thank Professor Jacqueline D. Lipton for her suggestions on earlier drafts, and Thomas A. Piraino, Jr. for his invaluable instruction in Antitrust Law and guidance in the drafting of this Note. All mistakes are the author's alone.

[1] Sayre v. Moore, (1785) 102 Eng. Rep. 139, 140 (K.B.) (Lord Mansfield, C.J.).

[2] Thomas A. Piraino, Jr., *A Proposed Antitrust Approach to High Technology Competition*, 44 WM. & MARY L. REV. 65, 67 (2002) [hereinafter *High Technology Competition*]; Jacob M. Schlesinger, *Greenspan Warns on Productivity Gains—Fed Chairman Says Benefits From High Technology Could Soon Reach Limit*, WALL ST. J., June 15, 1999, at A2 (discussing Alan Greenspan's comments on the role that high technology has played in U.S. economic growth in the 1990s: cutting production costs in almost every economic sector, boosting output, and restraining price increases).

[3] *See* Matt Murray & Raju Narisetti, *Bank Mergers' Hidden Engine: Technology*, WALL ST. J., Apr. 23, 1998, at B1 (discussing the impact of high technology on banks' operations).

licensing plays a critical role in facilitating the development and application of technology to various businesses and industries.[4] Innovators in high technology who license their patented innovations rely, in part, on patent protection when implementing, disseminating, or developing their technology for various applications or processes.[5] A key tool in protecting patent rights is the grantback clause, also known as the improvement clause. Grantback clauses allow licensors to prevent licensees from displacing their patents from the marketplace through improvements that the licensee may independently practice.[6]

But grantback clauses raise important antitrust concerns that federal courts, the Federal Trade Commission, and the Department of Justice (the "Agencies") have attempted to regulate over the last half century. Generally, courts and the Agencies have treated grantback clauses as potential contracts in restraint of trade under Section 1 of the Sherman Act,[7] the legality of which is determined through one of two analytical frameworks called the *per se* rule and the "rule of reason."[8]

The central claim of this Note is that neither framework in its traditional form is correct for analyzing grantback clauses in patent license agreements. Courts appropriately barred the *per se* rule from the

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[4] *See, e.g.*, Rodney Ho, *Patents Hit Record in '98 as Tech Firms Rushed to Protect Intellectual Property*, WALL ST. J., Jan. 15, 1999, at A2 (stating that "IBM pulled in more than $1 billion in licensing fees [in 1998] from 1,600 different companies.").

[5] *Id.* ("The number of patents issued by the U.S. Patent and Trademark Office is skyrocketing as giant technology companies scrable to shelter their intellectual property in today's tech-crazed marketplace.").

[6] *See, e.g.* Kenneth J. Dow & Traci Dreher Quigley, *Improvements for Handling Improvement Clauses in IP Licenses: An Analytical Framework*, 20 SANTA CLARA COMPUTER & HIGH TECH. L.J. 577, 582 (2004) (describing a particular grantback clause as requiring "any improvements made on the apparatus or process" as belonging to the original patent holder of the apparatus or process); Barry Rein, *Permission Granted*, MACHINE DESIGN, Mar. 7, 1996, at 143 ("Many licenses . . . have grantback provisions in which a company licenses a technology in exchange for granting back to the licensor rights to use any technology it develops.").

[7] *See* 15 U.S.C. § 1 (2006) ("Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal.").

[8] *See* United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 223-24 (1940) (describing the *per se* rule as an automatic prohibition of certain conduct, such as horizontal price-fixing and territorial restraints, because no business justification could vindicate its anticompetitive effects); Standard Oil Co. of New Jersey v. United States, 221 U.S. 1 (1911) (introducing the rule of reason to antitrust analysis, and requiring that under the rule, courts only strike down *unreasonable* restraints on trade as determined through a holistic view of the relevant market, and balancing anticompetitive effects of the restraint with procompetitive effects).

grantback context over sixty years ago,[9] but it has had a few resurgent moments since. The *per se* rule, however, fails to appreciate the significant procompetitive effects grantback clauses have in high technology competition.[10] The rule of reason, on the other hand, is a nebulous and often imprecise approach to agreements spawning from different markets with different motivations.[11] Also, the rule of reason often requires great expense for the litigating parties, as well as for the courts or Agencies analyzing the challenged contracts.[12] Finally, the current form of the rule of reason does not appropriately account for the unique dynamics of high technology markets that licensing parties must consider in making accurate and economically beneficial decisions.[13]

This Note proposes that federal courts and the Agencies should create a more tailored approach to analyzing potential anticompetitive effects of grantback clauses in patent license agreements.[14] Rather than mechanically applying the rule of reason—or contemplating a return to the *per se* rule—courts and the Agencies should carefully analyze the context in which the grantback clause exists.

Instead, every patent license agreement can be treated as a joint venture since license agreements generally contemplate two or more entities collaborating, through contract for the furtherance of some commercial objective.[15] Joint ventures exist either upstream or downstream of the relevant market. In other words, a joint venture exists either for the collection and development of raw materials or the production, marketing, or sale to consumers of some product already developed from raw materials.[16] Patent license agreements are similar: the patented technology is licensed either to assist in the *development* of new products, technologies, or processes from raw materials, or the *production* of the same to be placed in the market.[17]

The anticompetitive effect of grantback clauses in such license agreements truly depends on which type of joint venture the license

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[9] *See Transparent-Wrap Mach. Corp. v. Stokes & Smith Co*, 329 U.S. 637 (1947).

[10] *See infra* Part III.A.

[11] *See infra* Part III.

[12] *See infra* Part III.B.

[13] *See infra* Part III.

[14] *See infra* Part IV.

[15] *See infra* Part IV.

[16] *See* Thomas A. Piraino, Jr., *A Proposed Antitrust Approach to Collaborations Among Competitors*, 86 IOWA L. REV. 1137, 1171 (2001) [hereinafter *Collaborations*] ("Joint ventures may be formed at the purchasing, research and development, production, or marketing stages of the production cycle.").

[17] *See infra* Part IV.

agreement contemplates. Upstream joint ventures are inherently less anticompetitive and more procompetitive because they are further from the marketplace, increase innovation and collaboration, and generally do not restrain the joint venturers from competing with one another outside of the joint venture.[18] Downstream joint ventures have a much higher potential for anticompetitive effects for the converse reasons: they are closer to the market and are thus more likely to restrain output and induce monopolistic or cartelistic behavior.[19] Thus, courts and the Agencies should evaluate the legality of grantback clauses based upon the type of joint venture in which they exist, and determine whether the grantback would change the presumption of legality in an upstream joint venture, or further the anticompetitive potential in a downstream joint venture.[20] This proposed contextual analysis would reduce the overly-broad market analysis required by the traditional rule of reason, and act as a shortcut to the bottom-line inquiry of every antitrust suit: "whether or not the challenged restraint enhances competition."[21]

Part I of this Note discusses the background of patent license agreements and grantback clauses. Part II then discusses the historical antitrust treatment of grantback clauses by federal courts and the Agencies, focusing specifically on the seminal case *Transparent-Wrap Machine Corp. v. Stokes & Smith Co.*[22] and its progeny. Part III argues that the traditional *per se* rule and the rule of reason are inappropriate for grantback clauses in patent license agreements because of the unique structure of high technology markets, the misunderstanding of grantback clauses' procompetitive effects inherent in the *per se* rule, and the unduly burdensome and unnecessary expense that the rule of reason requires. Finally, Part IV suggests that courts and the Agencies reshape their traditional rule of reason analysis and take a more nuanced look at whether the challenged grantback clause exists in an upstream or downstream joint venture, and whether the

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[18] *See Collaborations*, *supra* note 16, at 1178 (describing upstream joint ventures as not being close to the marketplace and therefore being less likely to cause anticompetitive effects).

[19] *See Id.* (describing how "joint ventures at the production and marketing stages have the greatest potential to cause anticompetitive effects.").

[20] *See Id.* at 1176-78 (articulating the correct process by which courts should analyze the legality of joint ventures).

[21] *See* California Dental Association v. FTC, 526 U.S. 756, 779-80 (1999) ("Whether the ultimate finding is the product of a presumption [under the *per se* rule] or actual market analysis [under the rule of reason], the essential inquiry remains the same—whether or not the challenged restraint enhances competition.") (quotation marks and citation omitted).

[22] 329 U.S. 637 (1947).

clause has a beneficial or adverse effect on the joint venture's anti-competitive analysis.

I. BACKGROUND ON GRANTBACK CLAUSES IN PATENT LICENSE AGREEMENTS

A patent is a government-created, legal right to the exclusive possession of an invention.[23] Those who invent new and useful devices, machinery, or processes are granted a right to exclude all others from using or practicing those inventions.[24] Therefore, patent protection encourages innovation.[25] In exchange for the disclosure of novel, useful and nonobvious inventions,[26] the United States offers the patentee

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[23] A long-standing principle of patent law is that a patent does not grant a patentee the right to use or practice the patented invention or discovery, but only grants the right to exclude others from using or practicing the invention or discovery. *See* Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 215 (1980) ("[T]he long-settled view that the essence of a patent grant is the right to exclude others from profiting by the patented invention."); Vaupel Textilmaschinen KG v. Meccanica Euro Italia SPA, 944 F.2d 870, 879 n.4 (Fed. Cir. 1991) ("It is elementary that a patent grants only the right to exclude others and confers no right on its holder to make, use, or sell."); 1 MOY'S WALKER ON PATENTS § 1:1 (4th ed. 2010); AMERICAN BAR ASSOCIATION, INTELLECTUAL PROPERTY AND ANTITRUST HANDBOOK 19 (2007) (discussing the history and modern usage of the term "patent.").

[24] *See* 35 U.S.C. § 101 (2006) ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.").

[25] *See* Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 150–51 (1989) ("The federal patent system . . . embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years."). Innovation is at the heart of both intellectual property law and, less directly, antitrust law, and is perhaps the only reason that these bodies of law harmonize. Courts and the Agencies early considered intellectual property law and antitrust law incompatible with each other because the former granted rights of exclusion, while the later sought to eliminate exclusive conduct that harmed competition. *See* Atari Games Corp. v. Nintendo of Am., Inc., 897 F.2d 1572, 1576 (Fed. Cir. 1990) (noting that "the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition"); Sheila F. Anthony, *Antitrust and Intellectual Property Law: From Adversaries to Partners*, 28 AIPLA Q.J. 1, 4 (2000) (describing that courts and enforcement agencies once believed that intellectual property law and antitrust law had an adversarial relationship, but that this belief is now outdated); Azam H. Aziz, *Defining Technology and Innovation Markets: The DOJ's Antitrust Guidelines for the Licensing of Intellectual Property*, 24 HOFSTRA L. REV. 475, 482 (1995) (submitting that "a thorough analysis of the underlying reasoning behind each set of laws reveals that both intellectual property privileges and antitrust statutes share the common goal of increasing competition and innovation.").

[26] The Patent and Trademark Office awards patents only to those inventions that are new, that have a minimum level of efficacy such that one "skilled in the art"

(one who obtains a patent) a right to control and use the results of its labor for a limited period of time.[27] Without an exclusive right to make, use, or sell an invention for commercial benefit, society could expect fewer people to invent or innovate.[28]

Therefore, a patent's value is largely in the patentee's exclusive right to practice and disseminate its technology or process. But, this exclusive power may be taken from the patentee in several ways. The most obvious end of a patentee's exclusive right over its invention or discovery is the patent's expiration. Under current law, utility and plant patents expire twenty years after the date when the patent is filed.[29] Design patents—which protect new, original, and ornamental design for a physical good—are awarded for fourteen years, measured from the date the patent is granted.[30]

The development of improvements or substitutes for a patented invention may also weaken a patent's exclusivity right. Because patented inventions become public knowledge after a patent application is filed, any interested party may modify or alter the invention to improve upon it or substitute it altogether, and may obtain a separate patent for the improvement.[31] In fact, competitors are often incentivized to do so when the invention is an important asset in a competitive

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may use the invention without much difficulty, and that advance on prior technology in more than an obvious direction. JOHN GLADSTONE MILLS III, ROBERT CLARE HIGHLEY, DONALD CRESS REILEY III, PETER D. ROSENBERG, PATEN LAW BASICS § 8.2 (2011).

[27] *See* Patlex Corp. v. Mossinghoff, 758 F.2d 594, 599 (Fed. Cir. 1985) ("The basic right concomitant to the grant of a patent is the right of exclusivity founded in the Constitution . . . . The encouragement of investment-based risk is the fundamental purpose of the patent grant, and is based directly on the right to exclude.").

[28] *See* Graham v. John Deere Co., 383 U.S. 1, 5-6 (1966) (discussing the important role patent law has in inducing innovation and invention of novel, useful, and nonobvious technology or systems); Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590 (2011) (discussing how the inducement standard of patent law serves as an economic cornerstone of patent law).

[29] 35 U.S.C. §§ 154-157, 163 (2006).

[30] *Id.* §§ 171-173.

[31] *See, e.g.*, Evans v. Eaton, 20 U.S. 356, 429 (1822) (The patent "also gives to any inventor of an improvement in the principle of any machine, or in the process of any composition of matter which has been patented, an exclusive right to a patent for his improvement; but [the inventor of an improvement] is not to be at liberty to use the original discovery, nor is the first inventor at liberty to use the improvement."). *See also* Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 991 (1997) ("Improvers are free to use material that is in the public domain . . . by 'designing around' the claims of a patent.").

marketplace.[32] Alternatively, improvements may be made when a patentee licenses its patent to others for a particular use, and the licensor discovers or creates an improvement on the original patent.[33] Patent holders grant licenses for several reasons: to earn a royalty on the use of their invention by others; to combine their technology with the technology of another in a joint venture context; or "because they do not have the resources to achieve full commercial exploitation of their intellectual property themselves."[34]

Consequently, a patentee has an obvious interest in controlling any improvements on its patented technology or process developed by other parties.[35] Where a patentee licenses its invention to a third party, it will often include a grantback clause in the license agreement, requiring the licensee to "grant back" to the patentee some or all rights to any improvements made upon the original patent.[36] A grantback provision often acts as partial consideration for the right to license the patented technology.[37] Without such consideration, a patentee may

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[32] *See* Lemley, *supra* note 31, at 1005 ("Trying something new in the hope of improving on an existing product or process is an integral part of the competitive process."). *See also* Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 160 (1989) ("The duplication of boat hulls and their component parts may be an essential part of innovation in the field of hydrodynamic design. Variations as to size and combination of various elements may lead to significant advances in the field. Reverse engineering of chemical and mechanical articles in the public domain often leads to significant advances in technology. If Florida may prohibit this particular method of study and recomposition of an unpatented article, we fail to see the principle that would prohibit a State from banning the use of chromatography in the reconstitution of unpatented chemical compounds, or the use of robotics in the duplication of machinery in the public domain. Moreover, as we noted in Kewanee, the competitive reality of reverse engineering may act as a spur to the inventor, creating an incentive to develop inventions that meet the rigorous requirements of patentability.")

[33] *See generally* Jay Pil Choi, *A Dynamic Analysis of Licensing: The "Boomerang" Effect and Grant-Back Clauses*, 43 INT'L ECON. REV. 803, 803-04 (2002) ("Licensing is a voluntary form of dissemination whereby an inventor can enjoy at least some of the gains to trade by availing other parties of the use of his superior knowledge . . . .").

[34] *Id.* at 803.

[35] Richard Schmalbeck, *The Validity of Grant-Back Clauses in Patent Licensing Agreements*, 42 U. CHI. L. REV. 733, 733 (1975). *See also* PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶1782e (3rd ed. 2011) ("An important concern of the original patentee is the defensive one of not being pushed out of its own market."); Gerard F. Dunne, *Anti-Competitive Considerations of Patent Accumulation by Licensee Grant-Back Provisions*, 57 J. PAT. OFF. SOC'Y 124, 129 (1975) ("The inventor of a parent patent has an interest in preserving his access to technological improvements in his field.").

[36] *See, e.g.,* AREEDA, *supra* note 35 ("A so-called grantback term in a patent license requires the licensee to convey to the original patentee rights under any improvement patent made by the licensee on the licensed invention.").

[37] Schmalbeck, *supra* note 35.

find itself "pushed out of its own market."[38] For example, "a patentee licenses product patent *A*; by practicing the invention, the licensee learns how to do it better and obtains product patent *B*. If the improvement is significant, it may destroy any market for the patentee's original product."[39]

Grantback clauses vary from one license agreement to another—they are purely contractual obligations between parties—but have some general commonalities. Grantback clauses may include: a) a nonexclusive license with or without royalties flowing to either the licensor or licensee to practice the improvement; b) an exclusive license to use or sublicense the improvement; or c) an all-out assignment of the improved technology, which is usually patented separately by the licensee, "without any right reserved for the [licensee]."[40] Under a nonexclusive license agreement, both the licensor and licensee may practice the improvement and license it to others.[41] Under an exclusive license, the licensor may practice the improvement and license it to others, but the licensee may only practice the improvement. It may not license it to others. Finally, under a complete assignment, the licensee may not practice the improvement at all except by a second license from the original licensor.[42]

General commentary views grantbacks as both beneficial and detrimental to competitive markets and innovation. They are beneficial in that they incentivize the dissemination of important technology.[43] For example, the patentee is encouraged to license its technology if it is reasonably certain that it will not be driven from the market by subsequent improvements. The patentee may realize this benefit in two ways: a) by having the ability to practice the improvement; or b) by receiving royalties when the licensee, or another third party, practices the improvement. However, if grantback clauses in patent license agreements were not available, or the law was unduly restrictive (e.g. requiring licensors to permit licensee's to further disseminate the improvements to third parties), patentees would be less likely to license their technology, and instead would seek other alternatives to develop

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[38] AREEDA, *supra* note 35.

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] *See* 2 HOLMES, INTELLECTUAL PROPERTY AND ANTITRUST LAW § 23:1 (2011) (stating that "absent the protection of a grant-back provision, patent owners may be justifiably reluctant to license their patented technology to firms that can then develop and exclusively retain improvement technology made possible by the licenses . . . . By removing this risk, reasonable grant-back provisions enhance the patentee's incentive to license, thus opening up the patented technology to additional firms.").

their technology, such as angel investors, venture capital incubators, or bank loans.[44] Thus, without grantback clauses, important technology might not be disseminated between firms. Dissemination of technology can have important competitive effects that should not be discounted,[45] particularly in high technology markets.

As discussed in Part III below, high-technology industries are unique from other markets in that they progress more rapidly and tend to unify around a single dominant player.[46] If a dominant patentee in a high technology market refused to disseminate its technology because it could not employ a grantback clause, and thus feared being replaced anytime it licensed, other competitors in the market would suffer the most. For example, suppose a national telecommunication firm refused to license new wireless technology, used in transmitting data between phones and computers, to third party software developers. Instead, the company developed its own software, or bought software-developing firms as subsidiaries. The telecommunication firm would thereby maintain control over its patented technology, and resist disseminating its new technology to outsiders. Such conduct would increase the company's monopoly position, slow innovation, further concentrate the market, and erect incredibly high entry barriers to any firm wishing to compete with the telecommunication firm. Grantback clauses defuse such scenarios and benefit innovation and competition by promoting the spread of patented technology, indirectly disincentivizing monopolistic behavior, and allowing new market entrants an opportunity to learn from the dominant firm in a high technology market.[47]

Conversely, the Agencies believe that grantback clauses could stifle innovation and market competition by allowing the patentee, or licensor, to retain a monopoly over certain technology *through the*

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[44] While these alternatives may require a patentee to give up certain proprietary rights in its technology similar to a license agreement, there is arguably a reduced chance that the angel investor, venture capitalist or bank will force the patentee out of the market. Such financiers' economic interest is tied to the patentee's success. A licensee, on the other hand, may desire to compete with the patentee, or at least advance its own interests while standing on the patentee's shoulders without regard to whether the patentee falls in the process.

[45] *See generally* Lemley, *supra* note 31, at 998 (stating that the "rules governing improvements are important in understanding the extent to which protection for first-generation innovation will impede improvement in subsequent generations.").

[46] *See High Technology Competition*, *supra* note 2, at 74-76.

[47] *See* International Nickel Co. v. Ford Motor Co., 166 F. Supp. 551, 566 (S.D.N.Y. 1958) (stating that a system of license agreements with grantback clauses "assure[d] that improvements w[ould] be disseminated throughout the long list of [defendant's] licensees" with a net effect of increasing rather than decreasing competition).

grantback, or by allowing the patentee to extend its monopoly to technology not within the scope of the original patent.[48] In the *Antitrust Guidelines for the Licensing of Intellectual Property* (the "Guidelines"), the Agencies state that grantbacks could reduce a licensee's incentive to engage in research and development when they know that they will not have an exclusive monopoly to the result of their work, but will instead have to share such results with the original patentee.[49] This may be especially true where improvements are assigned back to the original patentee, but may also occur in exclusive grantback agreements.[50]

From an antitrust perspective, exclusive grantback clauses are suspect for another reason. Because exclusive grantbacks generally prohibit one or all parties to a licensing agreement from further licensing the improvements to other third parties, such grantbacks could create a barrier to entry in the market.[51] Since the patentee holds the original patent and the licensee holds the improvement patent, a third party seeking access to such technology must go to both parties and negotiate separate licensing agreements with differing terms of use.[52]

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[48] *See* DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 30 (1995) [hereinafter *Guidelines*] (stating that grantback clauses may adversely affect competition).

[49] *Id.*

[50] Proving that a grantback clause reduced a licensee's incentive to innovate may be particularly difficult in an antitrust suit because of the unusually high standing, harm, and causation requirements of antitrust law, particularly where an innovation is "inchoate at the time the restraint occurs." AREEDA, *supra* note 35, at ¶ 1782f. But, the argument is certainly not without precedent in other contexts of licensing intellectual property. *See* Lasercomb America v. Reynolds, 911 F.2d 970, 979 (4th Cir. 1990) (finding that a copyright licensor's requirement that the licensee of its software not develop any competing software was an attempt to use its copyright to violate basic policy of intellectual property law—the development of the arts).

[51] *See* AREEDA, *supra* note 35 (stating that third parties benefit from nonexclusive grantback clauses because they may license both the original—or dominant—patent and the improvement—or subordinate—patent from any party to the original license agreement, reducing the cost to enter the market).

[52] *See generally* Hartford-Empire Co. v. United States, 323 U.S. 386, 406-07 (1945) (finding that Hartford-Empire Co. acquired, by issue or assignment, more than 600 patents in the glass-making industry, and restricted the use of its patented technology to outsiders by a network of agreements). *See also* AREEDA, *supra* note 35 ("To make the improved product . . . one needs access to both patents . . . . While a third party could negotiate separately with the owners of each patent, transaction costs typically fall when one party can license both patents."). Grantback clauses may create a pooling effect whereby one person or entity controls a dominant patent or patents, and all subsequent improvements filter back to the original patentee. The Supreme Court in *Standard Oil Co. v. United States* suggested that, while pooling patents is not *per se* unlawful under antitrust laws, such a practice might be an abusive restraint of the market. *See Standard Oil Co. v. United States*, 283 U.S. 163, 169

This situation increases the cost of contracting, complicates the negotiation process, and could result in patent license agreements that do not parallel one another in their scope of use, thus becoming unworkable for the third party.[53]

Finally, the last fear of grantback clauses in patent licensing agreements is the idea that grantbacks "reinforce monopoly."[54] This is particularly true where the grantback clause assigns any improvement patents to the patentee and prohibits the licensee from practicing or disseminating the improvement. This type of grantback clause can be especially detrimental to the marketplace where the original patent and improvement patent "compete" with one another, or, stated differently, may be practiced independently.[55] Because a patent is limited in scope to the language of its claim,[56] a patent limits that to which the patentee has exclusive rights. Grantback clauses then can extend that exclusivity beyond what the government has recognized to other innovations through contract. There are justifications for this ownership expansion articulated by both the United States Supreme Court, discussed below in Part II, and a leading antitrust scholar.[57] But the accumulation of improvement patents by the original patentee may be a *de facto* extension of the original patent's expiration date, increasing the patentee's market share, and erecting a significant barrier to entry in the particular market.[58] Antitrust law seeks to prohibit or mitigate such conduct.[59]

(1931) ("Any agreement between competitors may be illegal if part of a larger plan to control interstate markets. Such contracts must be scrutinized to ascertain whether the restraints imposed are regulations reasonable under the circumstances, or whether their effect is to suppress or unduly restrict competition. And [patent] pooling arrangements may obviously result in restricting competition.").

[53] But this problem is likely not unique to exclusive grantback clauses. Where a patentee doesn't license its technology at all, and instead relies on in-house development assisted by the "know-how" of subsidiaries and the capital of investors or banks, any future licensee would be inundated with vast negotiations with such third parties who may retain some proprietary or equity interest in the technology. Thus, while cost of contracting would be an important consideration in the validity of grantback clauses, it is not unique to grantback clauses.

[54] AREEDA, *supra* note 35; 2 HOLMES ON INTELLECTUAL PROPERTY AND ANTITRUST LAW § 23:1 (2011).

[55] AREEDA, *supra* note 35.

[56] *See* Markman v. Westview Instruments, Inc., 517 U.S. 370, 373 (2002) ("The claim defines the scope of the patent grant.") (citation omitted).

[57] *See* AREEDA, *supra* note 35 ("[S]uch cartel or monopolization scenarios hardly describe the typical grantback and therefore provide no ground for any categorical characterization as patent misuse or antitrust violation.").

[58] *See id.* ("[T]he monopoly may be extended in time or otherwise reinforced when grantbacks bring the dominant firm an array of subordinate patents that could compete with each once the original patent expires or that create a thicket of overlap-

II. HISTORY OF ANTITRUST ANALYSIS OF GRANTBACK CLAUSES BY THE COURTS AND THE AGENCIES

The Supreme Court first solidly addressed the permissibility of grantback clauses in patent license agreements in *Transparent-Wrap Mach. Corp. v. Stokes & Smith Co.* ("*Transwrap*").[60] The Transparent-Wrap Machine Corporation ("Transwrap") held a series of patents on a machine that made, filled, and sealed cellophane packages for candy and other similar articles.[61] Stokes & Smith Company ("Stokes") acquired Transwrap's business and the right to use its trademarks, but only obtained licenses on—as opposed to ownership of—Transwrap's patents. Under the license agreement, Stokes was required to assign back to Transwrap any improvements it developed in the use of Transwrap's patents.[62] Several years after the agreement was completed, Stokes took out several patents on improvements, but refused to assign them back to Transwrap. Transwrap sought to collect the patents it had been denied, but when that was unsuccessful, Transwrap notified Stokes that the agreement was void and would be unwound.[63] Stokes brought a declaratory judgment action asking that the grantback provisions be declared illegal and unenforceable, and that Transwrap be enjoined from terminating the agreement.[64]

Judge Learned Hand for the United States Court of Appeals for the Second Circuit held that Transwrap's grantback provisions were *per se* illegal and unenforceable, analogizing the provisions to tying agreements.[65] Under the antitrust prohibition on tying arrangements,

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ping patent claims. New entrants may find such a thicket hard to penetrate, because fighting a weaker patent may be fruitless when many others remain in force.").

[59] *See* 15 U.S.C. § 1 (2006) (generally proscribing any contract, combination or conspiracy that unreasonably restrains the nation's domestic or foreign trade or commerce).

[60] 329 U.S. 637 (1947).

[61] *Id.* at 638.

[62] *Id.* at 638-39.

[63] *Id.* at 639-40.

[64] *Id.* at 640.

[65] Stokes & Smith Co. v. Transparent-Wrap Mach. Corp., 156 F.2d 198, 202 (2d Cir. 1946). The antitrust doctrine against tying arrangements prohibits a seller from conditioning the sale of its goods on the purchase, rental, or license of a separate and distinct good or service. *See* Northern Pac. Ry. Co. v. U.S., 356 U.S. 1, 5-6 (1958) (defining a tying arrangement as "an agreement by a party to sell one product but only on the condition that the buyer also purchases a different (or tied) product, or at least agrees that he will not purchase that product from any other supplier."); Int'l Salt Co. v. United States, 332 U.S. 392, 395-96 (1947) (prohibiting International Salt Company from conditioning the licensing of its patented salt processing machinery on the purchase and use of its unpatented salt because "patents confer no right to restrain use of, or trade in, unpatented salt . . . [and] by contracting to close [the] market for

Judge Hand stated that the grantback provision in question gave the patentee control over unpatented articles—the improvement patents—which but for the agreement, it would not possess.[66] Judge Hand relied on a line of Supreme Court cases which established that tying arrangements using patents as the tying product disturbed public policy and patent laws by endowing the patentee with a monopoly beyond the scope of its original patent.[67]

In a five-to-four decision, the Supreme Court reversed the Second Circuit.[68] The Court rightly (in this author's opinion) repudiated Judge Hand's use of the *per se* rule, and stated that antitrust consideration of grant-back clauses in patent licensing agreements should be analyzed under the rule of reason.[69] In justifying this principle, the Court did not agree with Judge Hand that a patent grantback was like a tying arrangement that impermissibly grew the original patentee's monopoly. Instead, the Court stated that it is merely "conceivabl[e]" that a patent grantback provision "could be employed with the purpose and effect of violating the anti-trust laws."[70] The court stated that the inquiry, however, must be whether the provision substantially lessens competition or tends to create an impermissible monopoly.[71] Where

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salt against competition, International has engaged in a restraint of trade for which its patents afford no immunity from the anti-trust laws.") (citing Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488 (1942)).

[66] *Stokes & Smith Co*, 156 F.2d at 203.

[67] *Stokes & Smith Co.* , 156 F.2d at 201 (relying on Bauer v. O'Connel, 229 U.S. 1, Motion Picture Co. v. Universal Film Co., 243 U.S. 502, and Mercoid Corporation v. Mid-Continent Co., 320 U.S. 661).

[68] *Transparent-Wrap*, 329 U.S. at 648. Justices Black, Rutledge, Burton and Murphy would have ruled Transparent's grantback provisions illegal for the same reasons articulated by Judge Hand below.

[69] *See id.* ("We only hold that the inclusion in the license of the condition requiring the licensee to assign improvement patents is not per se illegal and unenforceable."). In so holding, the Court disagreed that the expansion of a patentee's legal monopoly by contract is violative of public policy, and stated that Congress made all patents assignable for unlimited consideration. *Id.* at 642. Furthermore, Judge Hand's analogy of grantback clauses as tying arrangements was weak, according to the Court. While tying arrangements use patent rights to expand the monopoly power to non-patented products, grantback clauses involve "using one legalized monopoly to acquire another legalized monopoly." *Id.* at 644. Thus, a grantback provision is not violative of public policy. *See id.* at 642-45 ("If Congress, by whose authority patent rights are created, had allowed patents to be assigned only for a specified consideration, it would be our duty to permit no exceptions. But here Congress has made no such limitation. [The] exclusive right [created by the patent], . . . is, for purposes of the assignment statute, of the same dignity as any other property which may be used to purchase patents.").

[70] *Id.* at 646.

[71] *Id.* at 647. (The "rule of reason" is a general inquiry into whether, under "all the circumstances," the challenged conduct "impos[es] an unreasonable restraint

patents are used to suppress competition through restrictive licensing, a whole industry may be drawn under the control of one company.[72] Its competitors would winnow out, and "an industrial monopoly [would be] perfected and maintained."[73] Thus, the Court made the antitrust inquiry a matter of proof, which meant "that the challenger must show that the practice is reasonably calculated to create or prolong monopoly power."[74]

Transwrap, therefore, stands for the proposition that antitrust review of grantback provisions in patent license agreements should always be under the rule of reason.[75] While *Transwrap* was a step in the right direction, the Court missed its chance to push antitrust into a more effective direction, requiring the legality of grantback provisions to be assessed based on their particular upstream or downstream market context. Instead, the court merely said that grantback provisions are not presumptively illegal, thus leaving their legality subject to an exhaustive and confusing battle under the rule of reason.[76]

Subsequent to *Transwrap*, federal courts have generally followed Justice Douglas' admonition to use the rule of reason instead of the *per se* rule to determine the anticompetitive effects of grantback provisions. Furthermore, the Agencies adopted the *Transwrap* standard in the *Guidelines*. Section 5.6 of the *Guidelines* addresses grantback clauses. Similar to the Court in *Transwrap*, it states that grantback provisions can have procompetitive and anticompetitive effects and should be analyzed through the weighing of such effects, paying care-

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on competition."). *See* Continental T. V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 49 (1977) ("[T]he factfinder weighs all of the circumstances of a case in deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition.").

[72] *See, e.g.*, Kobe v. Dempsey Pump Co., 198 F.2d 416, 420 (10th Cir. 1952) (prohibiting attempted monopolization of the hydraulic oil pump industry through the use of exclusive grantback clauses in patent license agreements); United States v. Besser Mfg. Co., 96 F. Supp. 304, 311 (E.D. Mich. 1951) (finding exclusive grantbacks of "inventions still unborn" a prominent tool in illegal horizontal combination).

[73] *Transparent-Wrap*, 329 U.S. at 646-47.

[74] AREEDA, *supra* note 35 at 520.

[75] On remand, the Second Circuit, applying the rule of reason, found that Transwrap's "double monopoly" did not violate the antitrust laws because the market extension was not equivalent to an unreasonable restraint of trade. Stokes & Smith Co. v. Transparent-Wrap Mach. Corp., 161 F.2d 565, 567 (2d Cir. 1947).

[76] Thomas A. Piraino, *Reconciling the Per Se and Rule of Reason Approaches to Antitrust Analysis*, 64 S. CAL. L. REV. 685, 690 (1991) [hereinafter *Reconciling*] ("The Court's rule of reason formula requires a weighing of all the circumstances of each case to determine whether a restraint is legal. This checklist approach puts so many factors at issue that none is dispositive. The only certainty under the rule of reason is that courts will be required to engage in a complicated and prolonged investigation into market impact before deciding on the legality of a particular restraint.").

ful attention to any possible reduction of the licensee's incentive to innovate.[77]

However, the *Transwrap* doctrine is hardly uncontroversial, and while the current iteration of the *Guidelines* follow its principles, history has indicated unease with the *Transwrap* decision. In 1964, the Supreme Court enunciated a ruling that ran directly counter to the reasoning of the *Transwrap* decision. In *Brulotte v. Thys Co.*,[78] the owner of various "hop-picking" patents, the Thys Company, sold machines with corresponding patent license agreements to Brulotte.[79] Under the agreements, Thys Company required Brulotte to pay it royalties for use of the patented machines. Both the agreement and the required royalties extended beyond the date of Thys Company's patents.[80]

Justice Douglas—the same Justice who wrote the majority opinion in *Transwrap*—held that any attempt by the patentee to continue its patent monopoly beyond the expiration of the patent is *per se* unlawful.[81] Justice Douglas analogized Thys Company's royalty agreement to a tying arrangement, *á la* Judge Learned Hand, and stated, "[a] patent empowers the owner to exact royalties as high as he can negotiate with the leverage of that monopoly. But to use that leverage to project those royalty payments beyond the life of the patent is analogous to an effort to enlarge the monopoly of the patent by tying the sale or use of the patented article to the purchase or use of unpatented ones."[82] Several commentators have suggested that this ruling undermines the force of *Transwrap*.[83]

This Note disagrees. Instead, the *Brulotte* holding comes closer to capturing the opportunity missed in *Transwrap* of tailoring the legality of grantback provisions to their particular upstream and downstream context. While the facial holding of *Brulotte* seems to contradict *Transwrap*—by stating that a patentee's attempt to extend its mo-

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[77] *Guidelines*, *supra* note 48, at 30 ("Such arrangements provide a means for the licensee and the licensor to share risks and reward the licensor for making possible further innovation based on or informed by the licensed technology . . . . [But,] may adversely affect competition . . . if they substantially reduce the licensee's incentives to engage in research and development and thereby limit rivalry in innovation markets.").

[78] 379 U.S. 29 (1964).

[79] *Id.* at 29.

[80] *Id.* at 30.

[81] *Id.* 31-32.

[82] *Id.* at 33.

[83] *E.g.* WARD S. BOWMAN, PATENT & ANTITRUST LAW: A LEGAL AND ECONOMIC APPRAISAL 232 (1973); Paul G. Chevigny, *The Validity of Grant-Back Agreements Under the Antitrust Laws*, 34 FORDHAM L. REV. 569, 570 (1966); Schmalbeck, *supra* note 35, at 741.

nopoly through restrictive licensing clauses is *per se* illegal—the holding can also be seen as a narrow evolution on the *Transwrap* decision: where the license agreement exists in a downstream arrangement, attempts to monopolize, fix prices, or reduce output through the licensing agreement are *per se* illegal. Brulotte licensed Thys' technology to "produce" and sell hops, a prototypical downstream activity.[84] Because Thys sought to advance its royalties on patented technology beyond the patent, it was artificially extending its monopoly and inflating the price of its technology above what it would go for in a competitive market without patent protection. Such monopolization and price inflation by agreement are central prohibitions of Sections 1 and 2 of the Sherman Act.[85] Thus, because Thys used a licensing restriction, analogous to a grantback, clause to artificially extend its monopoly and fix the price of its technology in a *downstream* arrangement, the *per se* rule is justified.[86] Thus *Brulotte* should stand more clearly for the notion that grantback clauses, and other license restrictions, may be especially abusive to the marketplace in downstream arrangements, and should therefore be viewed much more skeptically in that context.

The DOJ voiced further dissatisfaction with the *Transwrap* decision in the 1960's when it announced that it would seek to upend *Transwrap* and establish that "assignment-backs" and "exclusive license-backs" be treated as *per se* antitrust violations.[87] The DOJ justified this announcement with the "simple reason that [the rule of reason] is much more restrictive than necessary to protect the patentee's

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[84] *Brulotte*, 379 U.S. at 29.

[85] Sherman Act § 1 prohibits any "contract . . . in restraint of trade or commerce," such as an agreement to inflate prices above the level that would exist under healthy competition, and Sherman Act § 2 criminalizes "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of . . . trade or commerce." 15 U.S.C. §§ 1-2 (2006).

[86] As argued below, attempts to monopolize, fix prices, or reduce output in upstream arrangements are likely much less successful and harmful, and thus do not warrant *per se* treatment.

[87] *See* Donald F. Turner, *Antitrust Enforcement Policy*, 29 A.B.A. ANTITRUST SECTION 187, 188 (1965) ("[W]e shall . . . seek to establish, contrary to *Trans-Wrap*, that a clause in a patent license requiring the licensee to grant back to the patentee all future improvement patents should be held unlawful per se for the simple reason that it is much more restrictive than necessary to protect the patentee's legitimate interests."). In a question-and-answer session after Turner—the Assistant Attorney General in Charge of the Antitrust Division—presented his paper, he was asked what kind of grantback clauses the DOJ thought should be *per se* unlawful. Mr. Turner responded that only assignment-back and exclusive license-back agreements should be *per se* unlawful, and not non-exclusive license-backs. *Id.* at 192.

legitimate interests."[88] Since that declaration, however, the Agencies have resolved that grantback clauses should be treated under the rule of reason, regardless of whether the clauses assign back or exclusively license back improvement patents, and regardless of whether the grantback exists in an upstream or downstream context.[89]

But simply resorting to the rule of reason is a mistake. As mentioned, the rule of reason can be incredibly burdensome and inexact. Instead of applying a blanket rule of reason, or even a *per se* presumption, the courts and the Agencies should follow what Justice Douglas attempted to do in *Brulotte*: tailor a sliding-scale analysis to grantback clauses based on the particular upstream or downstream context in which the provision exists. The particular problems of a blanket application of the *per se* rule or rule of reason are discussed in the following section.

III. WHY DO WE EVEN NEED A *PER SE* AND RULE OF REASON DICHOTOMY FOR PATENT GRANTBACKS?

In antitrust law, it is regularly argued that determining which rule to apply in a case—the *per se* rule or the rule of reason—often settles the outcome before analysis begins.[90] All conduct that elicits *per se* treatment is quite obviously illegal under the antitrust laws, and thus

[88] *Id. See also* Eileen Shanahan, *Patent Licensing Will Be U.S. Antitrust Target: Justice Aid Sees Civil Actions as a Spur to Competition*, N.Y. TIMES, Dec. 10, 1965, at 31 (stating that Donald F. Turner, the head of the Justice Department's Antitrust Division, was interested in testing "the legality of . . . 'grant-back' provisions of patent licenses" and that Mr. Turner believed that courts "could hold the very existence of such an agreement is illegal, without requiring the Government to prove that any harm has been done to competition."); *M'Laren Ready for Patent Suit—Tells Bar Association that Grant-Back's Will Be Challenged*, N.Y. TIMES, Mar. 28, 1969, at 67 ("[Assistant Attorney General Richard W.] McLaren told a meeting of the antitrust section of the American Bar Association that [grantback] agreements 'tend unduly to extend the patent monopoly and to stifle research and development efforts of licensees.").

[89] *See* Sheila F. Anthony, *Antitrust and Intellectual Property Law: From Adversaries to Partners*, 28 AIPLA Q. J. 1, 11 (2000) ("Today, the federal antitrust authorities have a more refined view of the likely effect of grantbacks on innovation, competition, and consumer welfare. Grantback provisions are now evaluated under a more detailed rule of reason inquiry, in which we examine the likely effects of the grantback in light of the overall structure of the licensing arrangement and conditions in the relevant markets.") (internal quotation marks omitted) (citing Transparent-Wrap Mach. Corp. v. Stokes & Smith Co., 329 U.S. 637, 645-48 (1947)).

[90] *See Reconciling*, *supra* note 76, at 685 ("The rule of reason and per se approaches have been so divergent that a court's choice of one analysis over the other will usually determine the outcome of an antitrust case.").

every suit in which the *per se* rule applies is a win for the plaintiff.[91] Conversely, all conduct that warrants rule of reason treatment either tends to be tolerable, or litigation becomes so extensive and the plaintiff's burden so heavy[92] that settlement in favor of the defendant becomes likely.[93] In fact, since the *Transwrap* rule of reason principle was articulated, the DOJ has never prevailed in a case involving grantback provisions alone.[94]

Furthermore, since the time *Transwrap* and its progeny were decided, some federal courts have become discontented with the dichotomy between the *per se* rule and the rule of reason approach to antitrust matters at large.[95] The *per se* rule—whether used in a grantback clause case or otherwise—often gives short shrift to the economic effects of the challenged conduct. "By mechanically precluding certain conduct without any consideration of its economic effects, the rule deter[s] beneficial, as well as pernicious, business practices."[96] On the other hand, a rule of reason analysis can often be unwieldy because of the extensive competitive inquiry "that exhaust[s] the parties' resources, the courts' time, and the ability of jurors to render effective decisions."[97] The rule of reason also fails to give any guidance to businesses trying to conduct themselves lawfully.[98]

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[91] *Id.* ("Traditionally, the rule of reason has meant a decision for the defendant and the per se rule a victory for the plaintiff.").

[92] The rule of reason often requires that the plaintiff provide in depth economic analysis of the anticompetitive market impact of defendant's conduct, and reasons why defendant's justifications do not overbalance its anticompetitive effect, using a multitude of factors, none of which are dispositive. *See* Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 153, 155 (1984) ("A global inquiry invites no answer, it puts too many things in issue. . . . Of course judges cannot do what such open-ended formulas require. When everything is relevant, nothing is dispositive."); M. Laurence Popofsky & David B. Goodwin, *The "Hard-Boiled" Rule of Reason Revisited*, 56 ANTITRUST L.J. 195, 198 (1987) (describing the application of the rule of reason as "a long list of factors without any indication of priority or weight to be accorded to each factor.") (citation omitted) (internal quotation marks omitted).

[93] *See Reconciling*, *supra* note 76, at 685 ("Traditionally, the rule of reason has meant a decision for the defendant and the per se rule a victory for the plaintiff.").

[94] Schmalbeck, *supra* note 35, at 739. As Richard Schmalbeck points out, this is due in part because so few cases deal with grantback provisions alone, but instead "[t]he profusion of issues in these cases has obscured the grant-back issue, that question often being treated briefly and rather mechanically." *Id.* (citing United States v. General Electric Co., 82 F. Supp. 753, 815-16 (D.N.J. 1949)). *See also* AREEDA, *supra* note 35 at 519 ("Apart from the rare attempt to monopolize, nonexclusive grantbacks are virtually always upheld.").

[95] *Collaborations* , *supra* note 16, at 1144.

[96] *Id.* at 1145.

[97] *Id.* at 1144.

[98] *Reconciling*, *supra* note 76, at 690.

A. Inaccuracy of the Per Se Rule and the Rule of Reason

The dichotomy between the *per se* rule and the rule of reason is not helpful in the context of grantback clauses in patent license agreements for two reasons. First, the dichotomy often muddles and confuses the bottom line of the antitrust inquiry. In general, grantback clauses are unlike other conduct challenged as "contract[s], combination . . . or conspirac[ies] in restraint of trade,"[99] such as price-fixing, territorial restraints, or restraints on product out-put. While price-fixing agreements, territorial restraints and restrictions on product output raise clear anticompetitive concerns,[100] grantback clauses often have less obvious anticompetitive effects. Grantback clauses can catalyze procompetitive conduct by incentivizing the dissemination of technology, and encourage innovation by allowing the original patentee to "share in the value of . . . future innovations to which it has contributed by providing access to its invention."[101] Price fixing and other *per se* illegal anticompetitive conduct does not carry such adjuvant qualities.

On the other hand, grantback clauses are also unlike prototypical rule of reason contracts, such as mergers, vertical agreements, or tying arrangements. Patent license agreements, as stated above, can be viewed as a form of joint venture in that the parties partially integrate through the licensing and use of the patented technology to accomplish some new concern. Where such a joint venture does not remove competition from the marketplace, or does not result in cartelization or monopolization (as in *Brulotte v. Thys Co.*), anticompetitive effects are much less obvious.[102] Mergers, on the other hand, are transactions resulting in full integration of two companies who are frequently competitors. A merger may often lead to serious anticompetitive effects if it significantly increases market concentration, opens the door to coordinated interaction (i.e. oligopolistic behavior) in the relevant

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[99] Sherman Antitrust Act §1, 15 U.S.C. § 1 (2006).

[100] *See* United States v. Trenton Potteries Co., 273 U.S. 392 (1927) (holding that an agreement on the part of the members of a combination controlling a substantial part of an industry which fixes the prices which the members are to charge for their commodity is in itself an undue and unreasonable restraint of trade); *see also* United States v. Topco, 405 U.S. 596 (1972) (holding that allocation of territories to cooperative buying association members in which they had exclusive or de facto exclusive licenses to sell the association's private-label brands, together with a veto-like power over admission of new members, constituted a horizontal restraint and a per se violation of the Sherman Act).

[101] AREEDA, *supra* note 35, at ¶1782.

[102] *Id.*

market, or creates entry barriers for new competitors.[103] Vertical agreements may raise similarly significant anticompetitive effects, such as boycotting competitors.[104] Thus, grantbacks in patent license agreements can generally be distinguished from other rule of reason conduct because their anticompetitive effects are much less serious. In fact, the Agencies have stated that their main concern with grantback clauses is the possibility that they will "substantially reduce the licensee's incentive to engage in research and development and thereby limit rivalry in innovation markets."[105]

Courts and the Agencies complicate the issues by using the same antitrust tests on grantback clauses as those used on price fixing and horizontal mergers. As the Supreme Court said in *California Dental Association v. Federal Trade Commission*,[106] "it does not follow that every case attacking a less obviously anticompetitive restraint . . . is a candidate for plenary market examination."[107] Instead, the requisite inquiry is "whether or not the challenged restraint enhances competition."[108] The Supreme Court recognized that often the "quality of proof required should vary with the circumstances."[109] As argued below in Part IV, a more tailored approach to grantback clauses that focuses solely on the upstream or downstream context in which the grantback clause exists would serve the antitrust bottom line more efficiently.

B. Special Context of Grantback Clauses in High Technology Markets

The second reason why the *per se* and rule of reason dichotomy is unhelpful in analyzing grantback clauses is that patent license agreements today exist significantly in high technology markets.[110] High

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[103] *See* DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (1997) [hereinafter *Merger Guidelines*] (describing the various anticompetitive effects a merger can have and thus the need for a full rule of reason analysis in determining legality) *available at* http://www.justice.gov/atr/public/guidelines/hmg.pdf.

[104] *See* Klor's, Inc. v. Broadway-Hale Stores, Inc., 359 U.S. 207 (1959) (holding that plaintiff's complaint stated a cause of action under the Sherman Act by alleging that a combination consisting of many manufacturers, distributors, and a competing retailer conspired among themselves either not to sell to plaintiff, or to sell to it only at discriminatory prices and highly unfavorable terms).

[105] *Guidelines*, *supra* note 48, at 30.

[106] 526 U.S. 756 (1999).

[107] *Id.* at 779.

[108] *Id.* at 780.

[109] *Id.*

[110] Choi, *supra* note 33, at 803.

technology and innovation markets have unusual economic features that make the traditional, unvarying antitrust analysis more difficult (or even illogical) to apply.[111] This is especially true where intellectual property is the driving force in the market. In fact, Robert Pitofsky, former Chairman of the Federal Trade Commission and now Joseph and Madeline Sheehy Professor of Antitrust and Trade Regulation Law at Georgetown Law Center, emphasized this point: "High tech, or more specifically intellectual property markets, are different. The kind of static analysis that we often have applied in the past . . . is in fact unlikely to be fully adequate to take high tech into account."[112]

Generally, there are two reasons for this difference. First, markets that are driven by innovation and technology move more rapidly than other markets.[113] Second, high technology markets "tend to coalesce around single products that create the standard for an entire industry."[114] "Because of the advantages that will accrue to the 'first mover' to be successful in the network market, there is likely to be fierce competition among firms for the ultimate winner-take-all position."[115]

In many respects, this type of "tipping"[116] can be good for consumers.[117] For example, Microsoft's dominant market position in personal computer operating systems has standardized personal computing such that consumers can rely on the same basic platform in every personal computer they use, making their work more efficient and dependable. High technology firms may also be more willing to enter new markets, or even create new markets, if they see an opportunity to

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[111] *High Technology Competition*, *supra* note 2, at 74. *See also* Seth Schiesel, *New Economy: Bringing Competition Policy Into the Age of the Internet*, N.Y. TIMES, Dec. 25, 2000, at C1 ("Many of the analytical and intellectual tools that competition authorities use these days were developed for slow-changing industries like manufacturing. But these methods may not be up to the task of dealing equitably with technology sectors where the competitive landscape can change significantly from year to year.").

[112] Schiesel, *supra* note 111, at C3.

[113] *See High Technology Competition*, *supra* note 2, at 74 ("High technology markets are defined by their rapid pace of innovation. Technological breakthroughs can alter markets almost overnight.").

[114] *Id.* at 75-76.

[115] *Id.* at 76.

[116] *See* John E. Lopatka & William H. Page, *Antitrust on Internet Time: Microsoft and the Law and Economics of Exclusion*, 7 SUP. CT. ECON. REV. 157, 169 (describing the "winner-take-all" effect that exists in network markets as a "'tipping' of the market to a single producer, or a single standard or kind of product.").

[117] *See* Thomas A. Piraino, Jr., *An Antitrust Remedy for Monopoly Leveraging by Electronic Networks*, 93 NW. U. L. REV. 1, 16 (1998) ("Consumers, in fact, often benefit when single [technology] networks come to dominate secondary markets. Not only can a single network enforce common standards more effectively; it can also reduce consumers' costs of using the network.").

dominate that new market.[118] Entering or creating new markets is good for consumers because it increases available products and services. It also encourages innovation, which is the underlying principle of patent protection and antitrust's greatest hope in competitive high technology markets.

Because technology markets evolve more rapidly than other markets, and because a certain level of monopolization in high technology can benefit consumers more than in other markets, courts and the antitrust regulatory agencies should evaluate high technology contracts or conspiracies "in restraint of trade"[119] from a different perspective. As Thomas Piraino correctly points out, overenforcement might discourage firms from significant innovation, while underenforcement might induce a firm shift from efficient monopolization to counduct that would injure consumers, such as erecting burdensome entry barriers for competitors, raising prices, or reducing output.[120]

In the context of grantback clauses in patent license agreements, the extensive rule of reason inquiry is even less necessary. Because grantback provisions are rarely challenged on their own, but are challenged along with other types of anticompetitive conduct, applying an extensive rule of reason analysis to the effects of such clauses is unnecessary and a waste of judicial resources.

Instead, courts and the Agencies should assess the legality of grantback provisions by focusing on the context of the license agreement and grantback provision. Courts and the Agencies should ask whether the license agreement contemplates an upstream joint venture (such as through research and development, where the aim is to develop new products or technology) or is for a downstream joint venture (such as a production joint venture, which is closer to the market and has a greater potential to displace competition and injure consumers). Inquiring into whether the grantback clause exists in an upstream joint venture or downstream joint venture will do much of the heavy lifting in determining whether the provision has potential anticompetitive effects.

IV. A MORE NUANCED CONTEXTUAL INQUIRY

A patent licensing agreement is similar to a joint venture. In either scheme, two or more firms collaborate through licensing agreements to achieve a specific business objective beneficial to all involved

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[118] *High Technology Competition*, *supra* note 2, at 83.
[119] 15 U.S.C. §1 (2006) (Sherman Act § 1).
[120] *High Technology Competition*, *supra* note 2, at 76-77.

firms.[121] Joint ventures can be subdivided for antitrust purposes into upstream joint ventures and downstream joint ventures.[122]

Upstream joint ventures are those collaborations that focus on production "inputs" and are furthest from the marketplace.[123] Examples of upstream joint ventures include research and development, industry standard setting, and joint buying.[124] Within these types of upstream joint ventures, patent license agreements are most prevalent in research and development joint ventures.

Downstream joint ventures, on the other hand, focus on production "outputs."[125] Examples of downstream joint ventures include production joint ventures, marketing joint ventures, and at times, industry standard setting joint ventures. Downstream joint ventures are closer to the market and the consumer, and thus may be more prone to anticompetitive conduct, such as removing competition between previously competing firms in the market in which they were already competing.[126] Within the downstream category of joint ventures, patent license agreements are most likely to exist in production joint ventures.

There is a difference in analysis between license agreements for the purpose of research and development, and license agreements for the purpose of production. The former potentially creates products not previously available in the market place, whereas the latter may simply be an allowance to produce what others, including the original pa-

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[121] *See* ABA ANTITRUST SECTION, ANTITRUST LAW DEVELOPMENTS 372 (Willard K. Tom et al. eds, 3d ed. 1992) (defining "joint venture"); DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS 2 (2002) [hereinafter *Collaboration Guidelines*] (stating that a "'competitor collaboration' comprises a set of one or more agreements, other than merger agreements, between or among competitors to engage in economic activity, and the economic activity resulting therefrom.").

[122] *Collaborations*, *supra* note 16, at 1177, 1182.

[123] *Id.* at 1178 ("[U]pstream joint ventures limited to research and development . . . or other 'inputs' into the productive process do not affect the parties' decisions on pricing and output."). *See also* Robert Pitofsky, *Joint Ventures Under the Antitrust Laws: Some Reflections on the Significance of* Penn-Olin, 82 HARV. L. REV. 1007, 1040 (1969) (implying that such joint ventures are not competitive); Walter T. Winslow, *Joint Ventures—Antitrust Problems and Opportunities*, 54 ANTITRUST L.J. 979, 983-84 (1985) (noting that research and development joint ventures avoid many anticompetitive pitfalls).

[124] *Collaborations*, *supra* note 16, at 1178.

[125] *Collaborations*, *supra* note 16, at 1178.

[126] *See* Polk Bros. v. Forest City Enters., 776 F.2d 185 (7th Cir.1985) (holding that a joint venture was lawful where two companies in the home building industry agreed to form a joint venture which owned and operated a retail store selling each company's respective wares because the cooperation improved economies of scale, lowered costs, and did not restrict output in the marketplace).

tentee, are already producing. This latter type of arrangement might exist where the patentee is located in one region, say the Northeast, but wants to expand to another region, say the Southwest, yet lacks the necessary resources. The patentee can merely license its patented product to a firm in the Southwest instead of opening up its own production facilities. This section discusses how courts should evaluate grantback clauses that exist in the context of upstream and downstream joint ventures.

A. Grantback Clauses in Upstream Joint Ventures

Grantback clauses in upstream ventures, such as research and development joint ventures should be presumptively legal, unless the grantback is exclusive or the original patentee has a monopolistic market share.[127] Grantback clauses in upstream collaborations generally do not affect the licensee's incentives to engage in research and development,[128] but instead further incentivize research and development. In other words, but for the grantback clause, the patentee may not license its technology to others out of fear of being replaced in the market. Where the patentee can be certain that it will not be replaced or superseded by improvements created by the joint venture, it is more likely to license its technology.

Moreover, grantback clauses may be viewed as ancillary restraints to legitimate upstream joint ventures where they are not exclusive and overbroad.[129] First, as a normative principal, the law should encourage research and development joint ventures because of their efficiencies.

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[127] The Agencies already use exclusivity and market power in their rule of reason analysis of grantback clauses, but this Note proposes that a more nuanced contextual analysis needs to accompany an exclusivity and market power inquiry. *See Guidelines, supra* note 48, at 30 (stating that the Agencies will evaluate whether a grantback clause will eliminate or reduce a licensee's incentive to innovate through its exclusivity, and whether the licensor has market power in a relevant technology or innovation market).

[128] *See Guidelines, supra* note 48, at 30 (holding that the reduction in the licensee's incentive to engage in research and development, and thereby limit rivalry in innovation markets, is the key focus of antitrust inquiry into grantback clauses).

[129] The doctrine of ancillary restraints was created by Judge Taft when he sat on the United States Court of Appeals for the Sixth Circuit in *United States v. Addyston Pipe & Steel Co.*, 85 F. 271 (6th Cir. 1898). Judge Taft stated, "no conventional restraint of trade can be enforced unless the covenant embodying it is merely ancillary to the main purpose of a lawful contract, and necessary to protect the covenantee in the full enjoyment of the legitimate fruits of the contract, or to protect him from the dangers of an unjust use of those fruits by the other party." *Id.* at 282. In other words, where a restraint on trade is necessary for legitimate and procompetitive business practices, it will not be struck down as illegal.

Grantback clauses can be viewed as necessary aids for research and development joint ventures because of their ability to protect the patentee's interests.[130] As stated above, without the grantback provision, protecting the patentee's position in the relevant innovation market, the patentee may be reluctant to enter the joint venture and may look for alternative avenues for furthering its technology development. Also, in high technology markets, research and development joint ventures may be the only tool small technology firms can use to gain market power against more dominant firms that have "tipped" the market.[131] Because a small firm with proprietary technology may be quickly eliminated from the market if its patented technology is superseded—and it has no rights to that superseding technology—a grantback clause may be a proper method of protecting such small joint venturers, allowing them to compete with more dominant firms.

Finally, upstream joint ventures generally do not affect the pricing our output of current products, and thus can have no adverse effect on the relevant innovation market.[132] Federal courts have long held that a limitation on output is the key concern in any analysis of contracts or agreements allegedly in restraint of trade.[133] Upstream joint ventures generally do not affect output since their focus is not on putting products into the market, but instead is on developing technology that could be turned into a marketable product, setting standards for an industry, or purchasing raw materials to be used in production. Use of a grantback clause by a patent holder in an upstream joint venture would not shift the joint venture's effect on output from negligible to consequential. A grantback clause merely requires that the original patentee have some rights to any improvements developed as a result of the joint venture.

Thus, grantback clauses in upstream joint ventures should be presumptively legal because they do not restrict others' incentives to innovate, but rather promote industry innovation and dissemination.

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[130] *Collaborations*, *supra* note 16, at 1182. Often research and development joint ventures are entered into because participants "lack the resources to finance a research and development project independently." *Id.* Where this is the case, dissemination of technology is facilitated only through the joint venture, since the patentee cannot develop its technology on its own, and the other parties don't have the patented technology.

[131] *See High Technology Competition*, *supra* note 2, at 142 ("Such ventures often allow smaller firms to participate in research projects in which they lack the wherewithal to pursue independently.").

[132] *See High Technology Competition*, *supra* note 2, at 137.

[133] *See* Chicago Prof. Sports Ltd. P'ship v. NBA, 95 F.3d 593, 597 (7th Cir. 1996) ("The core question in antitrust is output. Unless a contract reduces output in some market, to the detriment of consumers, there is no antitrust problem.").

They aid and protect smaller firms in high technology markets in competing against more dominant firms by encouraging joint ventures. And, they do not limit the output of products entering markets. Such grantback clauses are ancillary restraints reasonably necessary to accomplish the efficiencies of the joint venture.[134]

A court should only enjoin a grantback clause in an upstream joint venture if the grantback clause is exclusive[135] and prohibits the licensee from benefiting from improvements. Such a grantback clause may be a move toward monopolization. Where a grantback clause removes alienability rights of improvements from the licensee, and funnels any improvements back under the complete control of the patentee, the patentee should not be shielded from liability under Section 1 of the Sherman Act simply because they entered into a legitimate joint venture.[136] Attempts to establish a monopoly position in technology markets through the use of grantback clauses and patent pooling have been held illegal under the Sherman Act on several occasions.[137] Therefore, where an exclusive grantback clause is used in an upstream joint venture, the legality of the upstream joint venture should not shield the monopolistic grantback.

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[134] *See Collaborations*, *supra* note 16, at 1188 ("A court should simply consider whether such restraints are necessary to promote the venture's precompetitive purposes.").

[135] *See Guidelines*, *supra* note 48, at 30 ("Compared with an exclusive grantback, a non-exclusive grantback, which leaves the licensee free to license improvements technology to others, is less likely to have anticompetitive effects.").

[136] *See High Technology Competition*, *supra* note 2, at 138 (stating that a monopolistic behavior by the parties to a joint venture should not be shielded by the presumptive legality of the joint venture itself). *See also* Kobe, Inc. v. Kempsey Pump Co., 198 F.2d 416 (1952) (attempted monopolization to acquire via exclusive grantbacks in patent license agreements).

[137] *See, e.g.*, United States v. National Lead Co., 332 U.S. 319, 327 (1947) ("These patents, through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry."); *Kobe, Inc.*, 198 F.2d at 423 ("We think the evidence warrants the finding that the first . . . agreement . . . was the beginning of an arrangement to corner the hydraulic pump business for oil wells and that it had that result . . . . Nor do we believe, under the circumstances of this case, that the new organization can escape the consequences of these arrangements.").

B. Grantback Clauses in Downstream Joint Ventures

In the context of downstream joint ventures, grantback clauses are likely to exist most prevalently in production joint ventures.[138] Production joint ventures are collaborations to produce some good or product. They are downstream because they are closer to the market and the customer.[139] A production joint venture can easily regulate output, as seen in *Brulotte v. Thys*, and thus has a higher propensity for being anticompetitive than upstream joint ventures.[140] Because production joint ventures are frequently the last stop on a product's journey to the retail shelf, a production joint venture may set prices for that good above competitive levels or reduce its yield.[141] This type of behavior is more likely to occur where the producing firm or firms have monopolistic power in the market.[142]

Grantback clauses used in production joint ventures can catalyze or stimulate monopolistic power and subsequent anticompetitive consequences by limiting independent decision making or centralizing the control of a key asset—the licensed patent and any future improvements.[143] Therefore, courts and the Agencies should analyze grantback clauses in production joint ventures with greater scrutiny than similar clauses in upstream joint ventures.

Courts and the Agencies should treat grantback clauses in production joint ventures more cautiously than in upstream joint ventures because they have the potential of furthering monopolistic or cartelistic behavior in a downstream product. For example, Company *A* and

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[138] *See, e.g. Nat'l Lead Co.*, 332 U.S. at 327 (National Lead Co. used its patents in titanium pigments to control and regulate the *manufacture and sale* of titanium pigments and compounds in the United States) (emphasis added).

[139] *See, e.g.,* Otter Tail Power Co. v. United States, 410 U.S. 366 (1973) (describing an electric power company's attempt to control the "downstream" retail market of power supply by refusing to supply power to municipalities that did not renew the power company's retail franchise contract).

[140] *Id.*

[141] *See Collaboration Guidelines*, *supra* note 121, at 6 ("Competitor collaborations may harm competition and consumers by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement.").

[142] *See* Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 543, 547 (9th Cir. 1991) (stating that under 15 U.S.C. § 2 (the Sherman Act), a corporation's unilateral conduct to control an essential facility is not prohibited unless the corporation has the power to eliminate competition in the downstream market *and* the corporation exercises that power, thus monopolizing the market).

[143] *See Collaboration Guidelines*, *supra* note 121, at 6 (stating that the potential anticompetitive harms of joint ventures may be accomplished by agreements that "limit independent decision making or combine the control of . . . key assets").

Company *B* can form a production joint venture where Company *A* holds a key patent for a new type of widget that helps automobiles operate with less fuel, and Company *B* has the facilities and capital to produce and ship these widgets to car manufacturers. If the joint venture agreement contemplates that any and all improvements of the widget developed during the joint venture shall belong to Company *A*, then the grantback clause could create or further a monopoly.[144] Company *A* will hold the exclusive rights to both its original widget and any improvements that might result from the joint venture.

Such a monopolistic agreement in a downstream venture can very easily affect price and output since one company is the gatekeeper of a product and faces no competition. The United States Court of Appeals for the Ninth Circuit held this type of behavior to be a clear violation of Section 2 of the Sherman Act in *Alaska Airlines, Inc. v. United Airlines, Inc.*[145] The court stated that when a corporation owns an "essential facility"[146] and has the power to eliminate competition in downstream markets through the control of that essential facility, the corporation violates Section 2 of the Sherman Act.[147] In the above example, the patent would be an essential facility. Through the grantback clause, Company *A* could restrict competition in the downstream market for its widget by denying others, even its joint venture partner, from independently practicing any improvements on the widget.

Furthermore, even a non-exclusive grantback clause in a production joint venture has the potential to harm competition. Where a grantback clause contemplates that both the original patentee and the licensee can independently practice any improvements, or license those improvements to third parties outside the joint venture, the grantback clause may facilitate a patent-holding cartel.[148] For example, assume Company *A* licenses its key widget patent to a joint venture with Companies *B* and *C*, who have combined their resources to produce the widget and sell it to car manufacturers. If the joint venture

[144] Admittedly, this is a straw man argument because this is an exclusive grantback, which is generally held to be unlawful in most contexts. *See Guidelines*, *supra* note 48, at 30. But, the example is necessary to demonstrate a clear example of a grantback clause's potential to aid monopolistic behavior.

[145] 948 F.2d 536 (9th Cir. 1991).

[146] An essential facility is a resource that is a requirement of competition and cannot be easily duplicated. *See* United States v. Terminal R.R. Ass'n. of St. Louis, 224 U.S. 383, 392 (1912) (holding that defendants, who had exclusive control over railroad terminal facilities in St. Louis through which every train traveling east or west must pass, violated the Sherman Act by refusing their competitors access to the terminal on reasonable terms).

[147] *Alaska Airlines, Inc.*, 948 F.2d at 543 (citing Otter Tail Power Co. v. United States, 410 U.S. 366 (1973)).

[148] AREEDA, *supra* note 35, at ¶1782.

agreement provides that all three companies will have the right to independently practice any improvements or license those improvements to others outside of the joint venture, with any licensing revenue to be shared by all three entities through the joint venture, then Companies *A*, *B*, and *C* could form a patent-holding cartel.

While this arrangement may be more competitive because it allows the companies to compete with one another outside of the joint venture by independently practicing any improvements, it may also be a spring board for cartelization. The three entities could coordinate the price or output of their independent practice, thereby restricting competition in the market.

Furthermore, such activity would be more difficult for competitors to detect and for the courts and Agencies to enforce if the three entities do not formally agree on price or output, but instead merely conduct themselves parallel to one another. The United States Supreme Court has consistently held that parallel conduct, without more, does not violate Section 1 of the Sherman Act.[149] In *Theatre Enterprise, Inc. v. Paramount Film Distributing Corp.*, the Court stated, "this Court has never held that proof of parallel business behavior conclusively establishes agreement or, phrased differently, that such behavior itself constitutes a Sherman Act offense."[150]

Therefore, because a grantback clause, whether exclusive or non-exclusive, may catalyze or increase the potentiality for monopolistic or cartelizing behavior in a downstream joint venture, courts and the Agencies should approach them more skeptically and retain a form of rule of reason analysis. Such analyses should look to the overall market in which the joint venture exists and ask two key questions. The first question should analyze the market power of the joint-venturing firms. This inquiry should be borrowed from the Agencies' horizontal merger analysis.[151] Where the combined market share of the joining firms in the relevant product and geographic market is between fifty and seventy percent, the grantback clause should be analyzed to determine whether its terms are likely to create a monopoly or restrict price or output through cartelized behavior. Only a non-exclusive grantback clause would survive this inquiry. An exclusive grantback clause in such a context should be *per se* unlawful because its restriction would likely lead to monopolization through patent pool-

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[149] Theatre Enter., Inc. v. Paramount Film Distrib. Corp., 346 U.S. 537, 541 (1954).

[150] *Id.*

[151] *See Merger Guidelines*, *supra* note 103, at 15 (detailing the Agencies' analysis of the market shares of merging firms).

ing.[152] The Agencies have held that where post-merger market share of the merged firms makes it the dominant player in the market, unilateral conduct and coordinated conduct can have serious anticompetitive effects on the market.[153] Such effects include price-fixing and reducing output.

Second, courts and the Agencies should ask whether the grantback clause would facilitate barriers to entry by new market entrants.[154] Easy entry into a market by new competitors may alleviate anticompetitive effects of a patent grantback clause because the joint venturing firms would be hesitant to restrict price or output since a new entrant could displace them by lowering prices or increasing output. Where the joint venture produces a new product in the market, entry barriers may be much greater because the patents for the new product held by the joint venture may be "essential facilities" in the market. But, where the joint venture produces a product that others also produce through different technology, market entry may be easier since a new market entrant can seek to license technology from another firm that is not restricted by the joint venture. A non-exclusive grantback clause may survive this second inquiry regardless of whether the joint venture produces a new product absent any evidence that it would facilitate parallel conduct between the joint venturers, such as sharing profits from licenses to third parties. An exclusive grantback may survive this inquiry if the joint venture does not produce a new product, or the new product may be produced by competitors through equivalent technology that already exists in the marketplace.

CONCLUSION

Grantback clauses in patent license agreements are an important tool for patent-holders to protect themselves from licensees displacing them in the market through technological improvements. Yet, grantback clauses may also have anticompetitive effects on the markets in which they exist because they can reduce licensees' incentives to innovate, and they can lead to patent-holding monopolies or cartels. Federal courts and the Agencies have analyzed the anticompetitive

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[152] *See, e.g.*, Duplan Corp. v. Deering Milliken, Inc., 444 F. Supp. 648, 671-73 (D.S.C. 1977) (prohibiting license agreements that required licensee to license all improvements back to licensor).

[153] *Merger Guidelines*, *supra* note 103, at 20-25.

[154] *Id.* at 27-28.

effects of such grantback clauses by mechanically applying either the *per se* rule or the rule of reason.[155]

But using either rule is deficient for grantback clauses because the *per se* rule mischaracterizes the procompetitive effects of grantback clauses in patent license agreements, and the rule of reason analysis unnecessarily consumes the resources of the parties, the agencies, and the judiciary, and gives little guidance to conscientious businesses. Instead of applying the *per se* rule or the rule of reason analysis in their traditional form, courts and the Agencies should tailor their inquiry to the context in which the grantback clause exists. By analogizing patent license agreements to joint ventures, the courts should determine whether the grantback clause exists in an upstream joint venture or a downstream joint venture. Upstream joint ventures, such as research and development projects, have inherently less anticompetitive effects than downstream joint ventures, and grantback clauses do not change that effect unless the grantback clause is exclusive. Thus, non-exclusive grantback clauses in upstream joint ventures should be presumptively legal, while exclusive grantback clauses should be scrutinized using traditional market-power analysis.

On the other hand, downstream joint ventures, such as production joint ventures, have a greater potential for anticompetitive effects in the relevant market, and grantback clauses may further those effects. Exclusive grantback clauses in downstream joint ventures may catalyze patent-holding monopolies, and thus should be presumptively illegal where the joint venture introduces a new product into the market. Non-exclusive grantbacks may encourage patent-holding cartels through parallel conduct. Such grantback clauses should be scrutinized for their anticompetitive effects. Borrowing from the Agencies' traditional merger analysis, courts and the Agencies should evaluate the market share of the joint-venturing firms, as well as the ease of entry into the market by new competitors. This tailored analysis would allow courts and Agencies to get to the heart of grantback clauses' anticompetitive effects more quickly, thus saving the resources usually spent in a full rule of reason analysis, and setting more clear and understandable precedent.

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[155] Although the *per se* rule has not been applied since *Transparent-Wrap Mach. Corp. v. Stokes & Smith Co.*, the Department of Justice called for the *per se* rule to be reintroduced to grantback clauses in 1960's. *See supra* notes 79-80 and accompanying text.