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Predatory Innovation: An Analysis of Allied Orthopedic v. Tyco in the Context of Section 2 Jurisprudence

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PREDATORY INNOVATION: AN ANALYSIS OF *ALLIED ORTHOPEDIC V. TYCO* IN THE CONTEXT OF SECTION 2 JURISPRUDENCE

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I. Introduction

Innovation is at the core of the American economy. It drives our progress and growth. Indeed, the American legal and regulatory system is designed to protect and promote innovation, with the government's hand guiding innovation in areas as diverse as the patent laws, tax regulation, and the appropriations process. But not all "innovation" is beneficial. Some conduct that is claimed to be innovation is not innovation at all, but instead is intended to be exclusionary. For example, a drug maker might develop a chewable version of a prescription medication to prevent generic substitutions. Or a surgical device maker might redesign its product to make third-party peripherals incompatible.

In such cases, the purported innovation either does not improve the product in any material way or offers only a small benefit, and leads to the exclusion of rivals. Where a product redesign is meant to impede competition, entrench a dominant firm's position in the market, or artificially change the structure of the market so as to make it more difficult for new entrants to succeed (and without corresponding benefits to consumer welfare), "innovation" should be discouraged and may be unlawful predatory conduct under antitrust laws.[1]

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[1] *See* Philip J. Weiser, Deputy Assistant Att'y Gen., Antitrust Div., U.S.

For purposes of the antitrust laws, predation is defined as "conduct which has the purpose and effect of advancing the actor's competitive position, not by improving the actor's market performance, but by threatening to injure or injuring actual or potential competitors, so as to drive or keep them out of the market, or force them to compete less effectively."[2] Predation should be illegal under the antitrust laws where, on balance, it harms customers more than it benefits them.

Predation comes in different flavors: most commonly, courts consider predation through pricing schemes designed to impede competition ("predatory pricing"). But predation also occurs outside the pricing context, where firms use non-pricing practices – including redesign, advertising, and product preannouncements – to entrench a firm's dominant market position by raising rivals' costs, while producing little or no corresponding benefits to consumer welfare.

The focus of this paper is on predatory or exclusionary behavior related to redesign or "innovation." While innovation generates significant procompetitive benefits, courts must be sensitive to dominant firms' ability to use purported "innovation" as a means to secure market dominance or impede competition in complementary markets, without any material benefit to consumers. In such instances, this type of conduct is exclusionary or predatory and violates the Sherman Act.

Predatory innovation may violate Section 2 of the Sherman Act,[3] or the Federal Trade Commission may regulate such behavior under Section 5 of the FTC Act.[4] Thus, for predation claims, the plaintiff must demonstrate that the defendant is a monopolist extending or preserving its monopoly power, or using its monopoly position in one market to gain market power in an adjacent market.[5]

The D.C. Circuit Court's decision in *United States v.*

Dept. of Justice, Remarks as Prepared for Silicon Flatirons Center Digital Broadband Migration Conference: Examining the Internet's Ecosystem 10 (Jan. 31, 2010), http://www.justice.gov/atr/public/speeches/254806.pdf ("The harder challenges for antitrust enforcers are to address and remedy efforts to squelch the development of more nascent disruptive entrants.").

[2] LAWRENCE ANTHONY SULLIVAN, HANDBOOK OF THE LAW OF ANTITRUST 108 (1977).

[3] 15 U.S.C. § 2.

[4] *Id.* § 45.

[5] *See, e.g.*, United States v. Microsoft Corp., 253 F.3d 34, 50-51, 80-81 (D.C. Cir. 2001) (analyzing alleged predatory innovation under the rubrics of monopolization and attempted monopolization claims).

Microsoft Corp.[6] sets forth the appropriate framework for determining when "innovation" becomes exclusionary or predatory conduct that violates the antitrust laws. As discussed below, courts should "properly [be] very skeptical" about antitrust claims arising from a dominant firm's product design changes, particularly in technology markets where products are constantly changing.[7] Yet, predatory and exclusionary redesign exists, and such activity should not be presumptively shielded from antitrust review simply because it concerns "innovation."[8] The facts of *Microsoft*, as well as the FTC's complaint in *Intel*, show how monopolists can use predation as a strategy to protect a monopoly from competition.[9] When implemented, predatory redesign can be harmful to competition.

Predatory redesign becomes even more dangerous in network markets, such as for software and hardware, for several reasons. First, lock-in, network, winner-takes-all, and similar effects, together with low marginal costs, can amplify the conduct's anticompetitive effects.[10] Second, in such markets, a would-be monopolist's position may be strengthened by the intellectual property rights it holds.[11] Although changing design or updating patented or copyrighted products remain rights-holder choices – as is the bundling of two different products – rights may be exploited to raise barriers to entry and to exclude competition.[12]

The relevant inquiry in determining whether predatory conduct violates antitrust law is whether, on balance, the redesign at issue is likely to result in harm to consumers through reduced output, lower quality, or higher prices (or higher quality-adjusted prices). Although courts may appropriately presume

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[6] 253 F.3d 34.

[7] *See id.* at 65.

[8] *See id.*

[9] *Id.* at 64-67, 74-78; Complaint, Intel Corp., Docket No. 9341, ¶¶ 56-61, 80-91 (F.T.C. Dec. 16, 2009), *available at* http://www.ftc.gov/os/adjpro/d9341/091216intelcmpt.pdf.

[10] Maria Lillà Montagnani, *Predatory and Exclusionary Innovation: Which Legal Standard for Software Integration in the Context of the Competition versus Intellectual Property Rights Clash?*, 37 INT'L REV. INTELL. PROP. & COMPETITION L. 304, 305 (2006); *see also* Carlos Acuña-Quiroga, *Predatory Innovation: A Step Beyond? (Understanding Competition in High-technology Markets)*, 15 INT'L REV. L. COMPUTERS & TECH. 7, 12-13 (2001).

[11] *See* Montagnani, *supra* note 10 at 305-06.

[12] *Id.*

that innovation is procompetitive in the first instance, courts should not shield purported innovation that is on balance exclusionary from the ambit of the antitrust laws. In that regard, the decision in *Microsoft* set forth the correct framework: the burden rests with the plaintiff to establish a *prima facie* case of predation; the defendant then has the opportunity to offer justifications to rebut an established *prima facie* case; and ultimately the plaintiff has the burden to demonstrate that the proffered justification is outweighed by the exclusionary effect of the redesign.[13] On the other hand, the Ninth Circuit's decision in *Allied Orthopedic v. Tyco* – which established a *per se* rule protecting redesign – was a significant departure from the normal standards employed to determine whether a product redesign is predatory and may encourage anticompetitive behavior.[14] Particularly in the Ninth Circuit – the home to Silicon Valley – the decision could have enormous consequences.

Additionally, other tests, analogous to the *Allied Orthopedic* decision – including the "profit sacrifice test" and the "no economic sense test" – are also inappropriate measures to judge whether product redesign is predatory or exclusionary (although these tests are preferable to the *Allied Orthopedic* test of *per se* legality). On the one hand, the profit sacrifice test will generate false positives, because innovation and redesign are themselves profit sacrifices and, of course, should not be punished.[15] On the other hand, both the no economic sense test and the profit sacrifice test will generate false negatives because, as described in detail below, both tests focus exclusively upon whether the defendant's conduct cost the defendant more than the benefits the conduct provided to the defendant, thus ignoring harm to consumer welfare.[16]

Part II of this article summarizes the *Allied Orthopedic* decision and the test applied by the Ninth Circuit in that case. Part III explains how certain product design changes can have an adverse effect on competition. Part IV summarizes several other prominent cases challenging innovation as predatory or exclusionary. Finally, Part V describes and evaluates three alternative predatory innovation tests and concludes that the

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[13] *Microsoft*, 253 F.3d at 58-59.

[14] 592 F.3d 991 (9th Cir. 2010).

[15] *See, e.g.*, Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 ANTITRUST L.J. 311, 314 (2006).

[16] *See generally id.* (criticizing both tests and advocating a test focused on consumer welfare).

Microsoft balancing test is the appropriate standard.

II. The Decision in Allied Orthopedic Inappropriately Shields Anticompetitive Predation from Antitrust Review

In *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Group*, the Ninth Circuit rejected the balancing test articulated by the D.C. Circuit in *United States v. Microsoft Corp.* as a means to determine whether product changes violate the antitrust laws. The *Allied Orthopedic* court held that "[t]here is no room in th[e] analysis for balancing the benefits or worth of a product improvement against its anticompetitive effects."[17] The court reasoned that "[i]f a monopolist's design change is an improvement, it is 'necessarily tolerated by the antitrust laws,'" *per se*.[18] In casting aside the *Microsoft* balancing test, the court held that "[t]o weigh the benefits of an improved product design against the resulting injuries to competitors is not just unwise, it is unadministrable."[19]

In *Allied Orthopedic*, a group of hospitals and other health care providers sued Tyco Health Care Group (Tyco) for allegedly violating Sections 1 and 2 of the Sherman Act.[20] Tyco was an early entrant into the pulse oximetry market, which includes sensors and monitors that read and display a patient's level of blood oxygenation, and as such established a large installed base of monitors.[21] Tyco's technology was protected by its "R-Cal" patent through November 2003, which gave it the exclusive right to sell sensors compatible with its monitors.[22] Tyco expected that as soon as its patent expired, competitors would sell generic replacement sensors compatible with its monitors.[23] In anticipation of the expiration of the R-Cal patent, Tyco developed new, patented monitors and sensors that provided new features such as a writable memory chip on the sensor and a more efficient method for calibrating the sensors. The new monitors, however, were incompatible with generic sensors.[24]

The plaintiffs alleged that Tyco violated Section 2 of the

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[17] *Allied Orthopedic*, 592 F.3d at 1000.

[18] *Id.* (quoting Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 545 (9th Cir. 1983)).

[19] *Id.*

[20] *Id* at 994.

[21] *Id.*

[22] *Id.*

[23] *Id.*

[24] *Id.*

Sherman Act by unlawfully maintaining its monopoly power over the sensor market by redesigning its monitors and sensors, and also alleged violations of Section 1 related to Tyco's bundling and exclusive dealing.[25] As to the Section 2 claim, the Ninth Circuit affirmed the district court's ruling that Tyco's redesign of its pulse oximetry monitors and sensors did not violate Section 2.[26] Specifically, the court held that a product design change that in some way improves a product does not violate Section 2 unless associated with some *separate* anticompetitive conduct.[27] Additionally, while the plaintiffs argued that the benefits of any product redesign should be weighed against its anticompetitive effects, the court concluded that such a balancing test would be unwise and unadministrable.[28]

The court further held that there was undisputed evidence that Tyco's product redesign was an unequivocal "improvement," and that the new sensor's more efficient calibration process allowed Tyco to introduce new types of sensors without requiring its customers to purchase new monitors or reprogram existing monitors.[29] The court's rationale gave substantial weight to the fact that the U.S. Patent and Trademark Office had granted Tyco a patent: "the existence of a patent on a new product design is some evidence that the change is an improvement over previous designs."[30] While the court did not go so far as to conclude that the grant of a patent itself was sufficient to immunize a redesign from antitrust scrutiny, it afforded the patent process considerable deference.[31]

The plaintiffs also presented evidence of statements that allegedly showed Tyco hoped the product redesign would block entry by generic sensor manufacturers.[32] The court held that "[s]tatements of an innovator's intent to harm a competitor through genuine product improvement are insufficient by themselves to create a jury question under Section 2."[33]

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[25] *Id.* at 998.

[26] *Id.*

[27] *Id.*

[28] *Id.*

[29] *Id.* at 1000-01.

[30] *Id.*

[31] *See id.* One significant question is whether the court would have provided the same level of deference to, for example, the approval of a product design change filed with the FDA, where such changes require FDA approval but do not necessarily mean that the filer "improved" the product.

[32] *Id.* at 1001.

[33] *Id.* (citing Oahu Gas Serv., Inc. v. Pac. Res., Inc., 838 F.2d 360, 368-69

The court also found that Tyco did not use its market power to force consumers to purchase its new sensors and monitors.[34] Specifically, the court found that, while Tyco did discontinue its previous line of monitors, other monitor manufacturers were effectively competing in the market.[35] Additionally, the court reasoned that Tyco was under no obligation to make its new monitors compatible with the older sensors because "a monopolist has no duty to help its competitors survive or expand when introducing an improved product design."[36] Thus, the court held that Tyco's product redesign did not violate Section 2 because it was an undisputed improvement and Tyco did not use its monopoly power to force its new product on consumers.[37]

The *Allied Orthopedic* test is problematic. Although in that case the facts may not have supported a finding of predation, the Ninth Circuit articulated a test that shields all redesign under the guise of "innovation," no matter how minimal its benefits may be, no matter whether it is predatory in design and effect, and no matter its ultimate impact on market prices, output, or quality. There is ample historical basis to conclude that not all so-called innovation benefits consumer welfare and is therefore undeserving of blanket protection from antitrust scrutiny.

III. Product Design Changes Can Be Predatory and/or Exclusionary

Courts naturally and appropriately are skeptical of claims that innovation has harmed the competitive process because the economic benefits of innovation are obvious. Nevertheless, various examples demonstrate how firms use "innovation" as a pretext to gain or maintain market position.

Predatory redesign is the most significant among claims of anticompetitive "innovation." Predatory redesign occurs where a firm changes the nature of its product in an effort to exclude its competitors. In the broadest sense, there are two types of predatory redesign. One type is where the defendant

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(9th Cir. 1998)).

[34] *Id.* at 1002.

[35] *Id.* Tyco's share of new monitor sales in the U.S. dropped to 35% by 2006; the leading generic's sales rose to 45% by the following year. *Id.*

[36] *Id.* (citing Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 545 (9th Cir. 1983)).

[37] *Id.*

intentionally creates an incompatibility to make it more difficult for competitors to interoperate with its products, indirectly achieving a competitive edge in the market. In such instances, the justification for the redesign is pretextual. The other type of redesign is exclusionary, but not necessarily "predatory." The redesign's ancillary effect is to make it more difficult for competitors to compete. In such instances, the justification for the redesign is not pretextual. This distinction is important: purely "predatory" redesigns are likely anticompetitive, whereas "exclusionary" redesigns usually are not. However, merely offering a product improvement does not end the inquiry. Any redesign can be characterized as an improvement. The magnitude of that improvement must be weighed against its effect on consumer welfare; in other words, the exclusionary impact must be measured.[38] Where the exclusion is sufficiently large, and the improvement is minimal, the exclusion should be condemned, even if not entirely predatory.[39]

There are two scenarios where an exclusionary redesign may be especially harmful: (a) in the context of networked markets, where the redesign creates a strategic incompatibility such that providers of complementary products are "locked out" or foreclosed from interoperating with the dominant firm's platform; and (b) in pharmaceutical markets, where firms "redesign" drugs in order to extend the period of patent exclusion such that generics cannot introduce alternatives in the market.

In a networked market, such as the PC operating system ("OS"), the ability for third parties to "hook" into the Microsoft Windows OS is essential to work within the environment. Given Windows' market share, and the lock-in created by its large application developer network, Microsoft's OS market position is relatively secure.[40] Microsoft could "redesign" or "innovate" on its OS in one of two ways that could raise antitrust concerns. First, Microsoft could create an incompatibility that makes it more difficult for applications to interoperate with the platform. Second, Microsoft could incorporate the functionality provided by a third-party application within Windows and thereby either partially, or completely, make the need for that third-party application obsolete.

In regard to incompatibility, the relevant antitrust

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[38] Salop, *supra* note 15, at 331 (advocating a test focused on consumer welfare).

[39] *See id.*

[40] *See* Acuña-Quiroga, *supra* note 10, at 14.

question is whether the incompatibility is necessary to facilitate a product improvement (or needed to avoid unnecessary costs). If, keeping with the Microsoft example, the change enhances network security and that redesign has the ancillary effect of foreclosing a third-party application from working within the Windows environment – that improvement is not anticompetitive. In contrast, if the change only relates to an aesthetic change, such as the placement of the Windows logo, and has the effect of foreclosing some third-party application, the change is pretextual and effects a marginal improvement in product quality that is greatly outweighed by its exclusionary effect, and thus should be subject to antitrust review.

In regard to technological integration, the relevant inquiry is whether the integration – or technical tie – represents a true integration, or instead represents a "bolting" of one product onto the other. The integration of the hard drive into the PC is one example of an improvement through technological consolidation: the integration of the drive allows for significant cost-savings in manufacturing, which improves the price-to-performance ratio for consumers. On the other hand, the inclusion of a software media player into the OS is a closer call. The Court of First Instance in Europe, looking at that issue in its *Microsoft* decision, analyzed the extent to which the media player and OS had separate demand, and whether there was true intermingling of software code between the OS and the media player.[41] In the opinion of the European Commission ("EC"), there was insufficient intermingling of the OS software code with the media player to justify the technological tie – in other words, there was no true "integration," the media player was simply "bolted" to the OS.[42] At the same time, the effect of such integration (again, in the opinion of the EC), was to materially impede the development of the media player market, without corresponding consumer benefit.[43] This sort of "redesign" is more ambivalent (indeed, in the United States, the Department of Justice did not challenge this conduct), and requires a balancing of the benefit versus its harm.

In pharmaceutical markets, there is also concern about predatory redesign. One notable case was challenged by the

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[41] Case T-201/04, Microsoft Corp. v. Comm'n of the Eur. Cmtys., 2007 E.C.R. II-03601, ¶ ¶ 164-70, ¶ ¶ 205-10.

[42] *Id.* at ¶ ¶ 204-05.

[43] *Id.* at ¶ 205.

FTC.[44] In January 2000, Warner Chilcott acquired Ovcon 35 ("Ovcon"), a branded oral contraceptive, from Bristol-Myers Squibb ("BMS").[45] Ovcon was not subject to any patent protection.[46] In September 2001, Barr filed an application with the FDA for approval to make and sell a generic version of Ovcon.[47] Barr planned to sell generic Ovcon at a 30 percent discount compared to the branded product.[48] Barr publicly announced its intention to market generic Ovcon by the end of 2003.[49] Warner Chilcott considered the Barr generic to be the "biggest risk to the company."[50] Warner Chilcott expected that Barr's generic would capture at least 50 percent of Ovcon's new prescriptions within the first year and cause a significant decline in Ovcon revenues.[51]

The FTC alleged that, to protect these revenues from generic competition, Warner Chilcott planned a "switch" strategy, whereby the company would introduce a chewable form of the drug before generic entry occurred.[52] Warner Chilcott's strategy, the complaint states, was to convert its customers to Ovcon Chewable and to stop selling Ovcon.[53] As a result, prescriptions for Ovcon Chewable would not be replaceable with generic Ovcon without express approval of the patient's physician.[54]

Although Warner Chilcott claimed that the redesign benefited customers, namely that customers preferred chewable birth control, the FTC found that justification pretextual and that the so-called "innovation" was merely a redesign that was

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[44] FTC v. Warner Chilcott Holdings Co., No. 1:05-cv-02179-CKK (D.D.C. Oct. 23, 2006), *available at* http://www.ftc.gov/os/caselist/0410034/finalorder.pdf; *see also* Abbott Labs. v. Teva Pharms. USA, Inc. (*In re* Tricor Antitrust Litigation), 432 F. Supp. 2d 408 (D. Del. 2006) (summarized in Part IV.H, *infra*); Walgreen Co. v. AstraZeneca Pharms., 534 F. Supp. 2d 146 (D.D.C. 2008) (involving allegations that Defendant switched the market for prescription heartburn medication in order to prevent generic entry).

[45] Complaint for Injunctive and Other Equitable Relief, FTC v. Warner Chilcott Holdings Co., No. 1:05-cv-02179-CKK ¶ 28 (D.D.C. Nov. 7, 2005), *available at* http://www.ftc.gov/os/caselist/0410034/051107comp0410034.pdf.

[46] *Id.*

[47] *Id.* at ¶ 33.

[48] *Id.* at ¶ 35.

[49] *Id.* at ¶ 34.

[50] *Id.* at ¶ 41.

[51] *Id.* at ¶ 38.

[52] *Id.* at ¶ 39.

[53] *Id.*

[54] *Id.*

intended to exclude competition in the market; Warner Chilcott subsequently abandoned the practice pursuant to an agreed-upon consent decree with the FTC.[55] Under the Ninth Circuit's decision in *Allied Orthopedic*, however, such an arguably minor improvement would go unexamined and be lawful, *even if its effect and intention was to exclude competition.*

IV. Significant Cases Addressing the Issue of Whether Innovation Violates the Antitrust Laws

Few cases have challenged innovation as predatory or exclusionary. However, the prominent cases in this area demonstrate the concern with the *Allied Orthopedic* decision. In several of the cases described below, including *Microsoft*, *Tricor*, and *Bard*, the monopolists charged with predation engaged in conduct that cost little and created marginal, yet suspect, improvements that significantly harmed consumer welfare. If each of these cases had been viewed through the lens of the *Allied Orthopedic* test, the conduct likely would have been judged legal, even though in each instance the harm to consumer welfare was evident. Conversely, application of a rule-of-reason or consumer welfare balancing test (with the appropriate deference paid to innovative efforts) likely would have yielded the correct results in each of these cases without the concern that the test would be "unadministrable," as feared by the Ninth Circuit in *Allied Orthopedic*.

A. *C.R. Bard, Inc. v. M3 Systems, Inc.*[56]

In *C.R. Bard, Inc. v. M3 Systems, Inc.*, C.R. Bard ("Bard") sued M3 Systems ("M3") for allegedly infringing Bard's patents on a tissue sampling gun for biopsies, and the needles that were compatible with the gun.[57] M3 defended on the grounds that the patents were invalid and not infringed, and countersued for fraud, patent misuse, and antitrust violations.[58] The sampling gun at issue was designed to allow a *single* physician to perform a tissue biopsy.[59] Prior to the invention of the sampling gun, two

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[55] Press Release, Fed. Trade Comm'n, Consumers Win as FTC Action Results in Generic Ovcon Launch (Oct. 23, 2006), http://www.ftc.gov/opa/2006/10/chilcott.shtm.

[56] C.R. Bard, Inc. v. M3 Systems, Inc., 157 F.3d 1340 (Fed. Cir. 1998).

[57] *Id.* at 1346.

[58] *Id.*

[59] *Id.* at 1347.

physicians were typically required: one to manipulate the needles, and one to operate an ultrasound device used to guide the insertion of the needles.[60] The sampling gun was twice revised by its inventors to make it easier to use.[61]

The case was tried before a jury, which ruled in favor of M3 on every issue.[62] Specifically, the jury ruled that the two patents at issue were both invalid and not infringed, that Bard committed fraud on the Patent and Trademark Office in obtaining the patents, that Bard misused the patents, and that Bard violated the antitrust laws.[63] The Federal Circuit affirmed the invalidity of one patent and reversed the invalidity of the other, but affirmed the ruling of noninfringement of the latter.[64] The court also reversed the judgments of fraud and misuse, but affirmed the antitrust judgment.[65]

Regarding the antitrust counterclaims, M3 alleged that Bard had modified its sampling gun and needles so that M3's identical needles would not work with Bard's sampling gun without the aid of an adapter.[66] The jury issued special verdicts finding that there was a relevant market for replacement needles for tissue sampling guns, that Bard had monopoly power in that market, and that Bard used restrictive or exclusionary conduct to maintain or acquire its monopoly power.[67] The Federal Circuit held that in order for M3 to prevail, M3 had to show that Bard modified its sampling gun for predatory reasons, rather than to improve the gun's operation.[68] The court, in finding sufficient evidence to sustain the jury's verdict, cited two internal Bard documents: one that showed that the modifications had no effect on the performance of the gun or needles, and another that showed that the use of third-party needles could not possibly injure patients or physicians.[69] The court reasoned:

> [A]lthough Bard contended at trial that it modified its Biopsy gun to make it easier to load and unload, there was substantial evidence that Bard's real reasons for

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[60] *Id.*
[61] *Id.* at 1347-48.
[62] *Id.* at 1346.
[63] *Id.*
[64] *Id.*
[65] *Id.*
[66] *Id.* at 1369.
[67] *Id.* at 1382.
[68] *Id.*
[69] *Id.*

> modifying the gun were to raise the cost of entry to potential makers of replacement needles, to make doctors apprehensive about using non-Bard needles, and the preclude the use of 'copycat' needles.[70]

Although the *Bard* court did not articulate a "balancing test" for determining whether such conduct violated the antitrust laws, the decision squarely focused on whether, on balance, Bard's conduct would harm customers, even though it was undisputed that the "innovation" did marginally improve the Bard product.

B. *California Computer Products, Inc. v. IBM Corp.*[71]

In *California Computer Products, Inc. v. IBM Corp.*, California Computer Products ("CalComp") sued IBM for monopolization and attempted monopolization of various computer disk product markets.[72] Specifically, CalComp alleged that IBM violated the antitrust laws by cutting prices on computer peripheral products, redesigning products, and raising prices on central processing unit ("CPU") products.[73] The products at issue primarily involved computer peripheral disk products that connect to a CPU, either in a combined system or as external components that plug into the CPU.[74]

As to the product redesign claims, CalComp alleged that IBM changed the designs of its disk drives, CPUs, and controllers solely for the purpose of inhibiting competition from IBM-compatible third-party disk drive manufacturers.[75] Specifically, CalComp's claims revolved around IBM's decision to integrate its disk drive controller into one of its CPUs.[76] CalComp claimed that this integration did not improve performance and served only to cause compatibility issues with its products; however, the Ninth Circuit held that there was uncontroverted evidence that this integration was a cost-saving step that allowed IBM to lower prices for its products.[77] Notably, the court held that "price and performance are inseparable parts of any competitive offering;

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[70] *Id.*
[71] Cal. Computer Prods. v. IBM Corp., 613 F.2d 727 (9th Cir. 1979).
[72] *Id.* at 731.
[73] *Id.*
[74] *Id.*
[75] *Id.* at 739.
[76] *Id.* at 743.
[77] *Id.* at 744.

and equivalent function at lower cost certainly represents a superior product from the buyer's point of view."[78] The court reasoned:

> IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers whether by reason of lower manufacturing cost and price or improved performance. It was under no duty to help CalComp or other peripheral equipment manufacturers survive or expand. IBM need not have provided its rivals with disk products to examine and copy . . . , nor have constricted its product development so as to facilitate sales of rival products. The reasonableness of IBM's conduct in this regard did not present a jury issue.[79]

Thus, the court held that the district court's directed verdict in favor of IBM on the product redesign issue was appropriate.[80]

CalComp did not articulate a balancing test, and this decision formed the basis of the Ninth Circuit's decision in *Allied Orthopedic*. The *Allied Orthopedic* decision, however, goes much further than the *CalComp* holding requires. *CalComp* specifically looked to the "reasonableness" of IBM's decision to integrate its hard drive into the computer.[81] The court did not shield all claims of innovation from antitrust liability regardless of its purpose and impact on the market. Indeed, in looking to the effects of the redesign, the *CalComp* court strongly suggested that a balancing test would be more appropriate.[82]

C. *Transamerica Computer Co. v. IBM Corp.*[83]

Transamerica Computer Co. v. IBM Corp. involved much of the same conduct as *CalComp* and the Ninth Circuit affirmed the district court's decision in favor of IBM with regard to its design changes based primarily on the authority of the prior decision.[84] One additional design change contested by

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[78] *Id.*
[79] *Id.*
[80] *Id.*
[81] *Id.*
[82] *See id.*
[83] Transamerica Computer Co. v. IBM Corp., 698 F.2d 1377 (9th Cir. 1983).
[84] *Id. See also* Memorex Corp. v. IBM Corp., 636 F.2d 1188 (9th Cir.

Transamerica Computer ("Transamerica") was IBM's redesign of two of its smallest CPUs.[85] These CPUs included a channel for attaching slower speed devices, but were engineered such that they were incompatible with third-party peripherals.[86] The district court found that this conduct unreasonably restricted competition because the only reason for IBM's design choice was to make third-party storage drives, which were faster than IBM's own drives, incompatible with the IBM computer.[87] Nevertheless, the district court did not award Transamerica damages; the court found that IBM did not possess monopoly power in the relevant market, and it found that Transamerica did not suffer any damages, because the market for the excluded products was insignificant.[88] The Ninth Circuit affirmed this result, holding that the district court's finding that Transamerica did not suffer any damages attributable to the design change was not clearly erroneous.[89] Although not necessary to the holding, the Ninth Circuit reiterated what it had held five years earlier in *CalComp*, namely that because "the contested changes were improvements in the products, [and] were not *unreasonably* restrictive of competition," they did not violate the Sherman Act.[90]

D. *Innovation Data Processing, Inc. v. IBM Corp.*[91]

In *Innovation Data Processing, Inc. v. IBM Corp.*, Innovation Data Processing ("Innovation") sued IBM for allegedly illegally tying two of its software products.[92] Innovation developed the Fast Dump Restore ("FDR") program, which competed with IBM's Data Facilities Data Set Services

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1980) (per curium) (affirming based on the authority of California Computer Products, Inc. v. IBM Corp., 613 F.2d 727 (9th Cir. 1979)); Telex Corp. v. IBM Corp., 510 F.2d 894 (10th Cir. 1975) (holding that IBM's actions, including making third-party disk drives incompatible with new CPUs, did not violate the Sherman Act).

[85] *Transamerica*, 698 F.2d at 1383.

[86] *Id.*

[87] *In re* IBM Peripheral EDP Devices Antitrust Litigation, 481 F. Supp. 965, 1007-08 (N.D. Cal. 1979).

[88] *Transamerica*, 698 F.2d at 1383.

[89] *Id.*

[90] *Id.* at 1382 (emphasis added).

[91] Innovation Data Processing, Inc. v. IBM Corp., 585 F. Supp. 1470 (D.N.J. 1984).

[92] *Id.* at 1471.

("DFDSS") program.[93] DFDSS and FDR enabled the backup and restoration of computer data between computer disks and tapes.[94] Additionally, DFDSS enabled users to install IBM's Multiple Virtual System ("MVS") operating system directly from a backup tape and without the aid of an additional operating system.[95] IBM offered DFDSS either separately or bundled together with the latest version of a package of optional operating system programs called Installation Productivity Option ("IPO").[96] Innovation alleged that this bundling of DFDSS was an illegal tying arrangement.[97]

The district court held that there was no illegal tying arrangement for two reasons. First, based on the facts presented, IBM customers were able to purchase either DFDSS or IPO separately, as IBM offered an IPO bundle that allowed the customer to cancel the DFDSS license at any time and pay only for the period of usage.[98] Second, the court held that there was no illegal tying arrangement because the latest version of IPO constituted a lawful package of interrelated components.[99] DFDSS was the only program that could load a certain type of tape onto a disk without the assistance of a preexisting operating system, and thus the court held that IBM would have been justified in exclusively bundling DFDSS with IPO because of this unique feature.[100] While the court granted IBM's motion for summary judgment as to a *per se* illegal tying arrangement, it did not grant IBM's motion for summary judgment as to a rule of reason tying theory due to genuine issues of material fact as to that claim.[101]

Innovation Data Processing is an early example of another type of predatory innovation claim: whether a product design that bundles preexisting, separate products represents a technology tie that is illegal, or whether it represents a legitimate product improvement whose effect is to eliminate a previously separate product market. Such claims were at the forefront of the DOJ's investigation of Microsoft's inclusion of its browser into

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[93] *Id.*
[94] *Id.* at 1472.
[95] *Id.* at 1472-73.
[96] *Id.* at 1473.
[97] *Id.* at 1474.
[98] *Id.* at 1475.
[99] *Id.* at 1476.
[100] *Id.*
[101] *Id.* at 1476-77.

the Windows OS described below.

E. *Caldera, Inc. v. Microsoft Corp.*[102]

In *Caldera, Inc. v. Microsoft Corp.*, Caldera sued Microsoft for allegedly anticompetitive conduct involving Microsoft's MS-DOS and Windows operating systems. In 1996, Caldera acquired Digital Research, Inc. ("DRI"), which up until 1994 developed the DR DOS operating system, a competitor to Microsoft's MS-DOS operating system.[103] By 1988, Microsoft had obtained a monopoly position in the DOS market with MS-DOS.[104] In 1987, DRI developed DR DOS, a direct competitor to MS-DOS that was compatible with programs written for MS-DOS and included many additional features not available in MS-DOS.[105] Caldera claimed that once Microsoft perceived DR DOS as a threat to its dominant position in the DOS market, it engaged in a series of anticompetitive acts to exclude DR DOS from the market.[106]

Specifically, Caldera made five allegations. First, that Microsoft distributed false and misleading announcements about forthcoming Microsoft OS products (a practice called "vaporware"[107]) to delay consumer adoption (and awareness) of DR DOS. Second, that Microsoft engaged in anticompetitive licensing practices to discourage original equipment manufacturers ("OEMs") from including DR DOS with their systems. Third, that Microsoft intentionally engineered its Windows OS to be incompatible with DR DOS for the sole purpose of eliminating DR DOS as a competitor. Fourth, that Microsoft excluded DRI from its Windows beta testing process (in which it had previously been included) to prevent DRI from making DR DOS compatible with the latest version of Windows prior to launch. And fifth, that Microsoft combined its Windows and DOS products together with Windows 95 to eliminate the market for a separate DOS operating system.[108]

Microsoft moved for partial summary judgment on the

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[102] Caldera, Inc. v. Microsoft Corp., 72 F. Supp. 2d 1295 (D. Utah 1999).

[103] *Id.* at 1298, 1305.

[104] *Id.* at 1298.

[105] *Id.*

[106] *Id.* at 1299.

[107] *See generally* Acuña-Quiroga, *supra* note 10, at 25-26 (describing vaporware).

[108] *Caldera*, 72 F. Supp. 2d at 1299-305.

issues of incompatibility, DRI's exclusion from the beta testing process, and illegal tying.[109] As to incompatibility, Caldera alleged that Microsoft inserted various detection devices that disabled either the installation or operation of Windows if any version of DOS other than MS-DOS was detected.[110] Additionally, Caldera alleged that Microsoft intentionally created other incompatibilities between DR DOS and Windows, and put software locks into three of its products in the Korean market that prevented users from running these programs with DR DOS.[111] In evaluating these claims, the court concluded that they must be viewed in context with Caldera's other allegations of anticompetitive conduct, including its claim that Microsoft excluded DRI from Windows beta testing so that DRI could not fix compatibility issues.[112] While the court held that Microsoft did not have an absolute duty to predisclose its Windows OS to competitors, its decision to exclude DRI after it had previously included DRI could be considered as part of the alleged overall scheme to exclude DR DOS from the market.[113] Thus, the court denied Microsoft's summary judgment motion as to the incompatibility and beta testing exclusion issues.[114]

With regards to tying, Caldera alleged that Microsoft combined MS-DOS and Windows into one product under the Windows 95 OS, even though Windows 95 could be separated into its separate DOS and Windows components; and the combined product offered no significant technological benefits over the separate products.[115] The court held that the appropriate standard for evaluating the technological tying claim was whether "a valid, not insignificant, technological improvement has been achieved by the integration of two products," such that a new product has been created.[116] Additionally, the court held that the two products must have been joined for technological reasons *and* the technological improvements must have demonstrated efficiencies.[117] Finally, the court held that to succeed in a tying claim, the plaintiff must show that there is

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[109] *Id.* at 1309.
[110] *Id.* at 1310-12.
[111] *Id.*
[112] *Id.* at 1313.
[113] *Id.* at 1317-18.
[114] *Id.* at 1314, 1318, 1319.
[115] *Id.* at 1319-20.
[116] *Id.* at 1325.
[117] *Id.* at 1325-26.

sufficient consumer demand such that the defendant could efficiently provide the tied products separately.[118] In applying these rules to Caldera's allegations, the court held that based on the opinion of Caldera's expert testimony that Windows 95 was just an update of Windows and MS-DOS, that the products could be separated, that Windows 95's improvements were not a result of integration, and that a market would exist for the separate products if they had not been integrated, a genuine issue of material fact existed as to whether the integration of Windows and MS-DOS created a valid, not insignificant technological improvement.[119] Thus, the court also denied Microsoft's summary judgment motion as to Caldera's tying claim.[120]

Caldera and Microsoft ultimately settled their antitrust dispute prior to the resolution of the case on the merits. Nevertheless, the *Caldera* opinion is important because it affirmed the balancing test for product improvement allegations. It held that the "standard" for such claims "contemplates the effect the design choice has on competition. It does not impose the much heavier burden on a plaintiff of demonstrating that a design choice is entirely devoid of technological merit."[121]

F. *United States v. Microsoft Corp.*[122]

In *United States v. Microsoft Corp.*, the United States and several states sued Microsoft for monopolizing the Intel-compatible PC operating systems market, for attempting to monopolize the Internet browser market, and for illegally tying its Internet browser, Internet Explorer ("IE"), to its Windows OS.[123] As part of the attempted monopolization claim, the plaintiffs alleged that Microsoft technically integrated IE into Windows to increase its market share in the Internet browser market.[124] Specifically, the plaintiffs alleged that Microsoft: (1) excluded IE from the "Add/Remove Programs" utility, thus providing no easy method to uninstall IE; (2) designed Windows so that even if a user installed another Internet browser and set it

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[118] *Id.* at 1327 (quoting Eastman Kodak v. Image Tech. Servs., 504 U.S. 451, 462 (1992)).

[119] *Id.*

[120] *Id.* at 1328.

[121] *Id.* at 1313.

[122] United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

[123] *Id.* at 45.

[124] *Id.* at 64.

as the default, certain functions of Windows would still require IE; and (3) integrated IE code with OS code such that attempting to delete all of the files used by IE would cripple Windows.[125]

Before evaluating each of the alleged anticompetitive integrations, the DC Circuit held that "[a]s a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes."[126] Additionally, the court held that this rule was even truer in a market that was rapidly changing, such as the one at issue.[127] Nevertheless, the court held that judicial deference to a product innovation does not mean a monopolist's product design changes are *per se* lawful.[128] Applying this standard to the challenged conduct, the court held that Microsoft's conduct was anticompetitive: (1) Microsoft's exclusion of IE from the Add/Remove Programs utility, which had previously included IE, increased Microsoft's Internet browser share through means other than competition on the merits; (2) Microsoft's override of a user's default Internet browser settings deterred customers from using a browser other than IE; and (3) Microsoft's integration of Windows and IE code deterred computer manufacturers from pre-installing rival Internet browsers, thereby reducing the rivals' share.[129]

The court then went on to evaluate whether there were any procompetitive justifications for the integrations that outweighed their anticompetitive effects. As to Microsoft's exclusion of IE from the Add/Remove Programs utility and the commingling of Windows and IE code, the court held that both of these actions constituted exclusionary conduct because Microsoft did not offer any procompetitive justifications for its actions.[130] As to the default Internet browser setting override, Microsoft argued that this integration was necessary because certain Windows features, such as the Windows Update feature, the Windows 98 Help system, and integrated web browsing in Windows Explorer, would not function properly unless using IE with its exclusive ActiveX controls.[131] The court held that, given

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[125] *Id.* at 64-65.

[126] *Id.* at 65 (citing Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 544-45 (9th Cir. 1983)).

[127] *Id.* at 65.

[128] *Id.*

[129] *Id.* at 65-66.

[130] *Id.* at 66-67.

[131] *Id.* at 67.

these justifications, the burden was then on the plaintiffs to offer a rebuttal and demonstrate that the anticompetitive effect of the challenged conduct outweighed the proffered benefit.[132] Because the plaintiffs did not meet this burden, the court held that Microsoft could not be held liable for this aspect of its product design.[133]

Finally, the plaintiffs also challenged Microsoft's conduct with respect to Java, a type of middleware that allows software programmers to potentially develop programs across a variety of operating platforms.[134] The plaintiffs alleged, with respect to Java, that Microsoft designed Java Virtual Machine ("JVM")[135] such that it was incompatible with the JVM developed by Sun Microsystems, thus creating interoperability problems for programs designed for one JVM, but not the other.[136] The court held that "[i]n order to violate the antitrust laws, the incompatible product must have an anticompetitive effect that outweighs any procompetitive justification for the design."[137] While Microsoft's JVM did create interoperability issues, it also allowed applications to run faster, and the court held that it did not have any anticompetitive effect on its own.[138] Therefore, the court held that Microsoft could not be held liable for the development and promotion of its JVM.[139]

The *Microsoft* decision is the seminal decision with regard to claims of anticompetitive product redesign. The court was properly "skeptical" of such claims, but also recognized that the appropriate test under Section 2 must be to analyze the ultimate effect of an anticompetitive act on consumer welfare, including those claims related to innovations designed to harm competition.

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[132] *Id.*

[133] *Id.*

[134] *Id.* at 74.

[135] A JVM is an operating system specific program that translates Java code into byte code that the underlying operating system can understand. *Id.*

[136] *Id.*

[137] *Id.* at 75.

[138] *Id.*

[139] *Id.* In *Microsoft*, the court gave substantial deference to Microsoft where it proffered a justification for its conduct, namely with regard to Java and the IE default overrides. The court did not articulate how it balanced the justification against the exclusionary effect of such conduct, or whether it did balance them at all. We can only assume that the DOJ failed to meet its burden on these issues.

G. *Berkey Photo, Inc. v. Eastman Kodak Co.*[140]

In *Berkey Photo, Inc. v. Eastman Kodak Co.*, Berkey Photo, Inc. ("Berkey") alleged that Eastman Kodak Co. ("Kodak") violated Section 2 of the Sherman Act by willfully maintaining its monopoly power in the film, color print paper, and camera markets, and violated Section 1 by conspiring with flashlamp manufacturers.[141] Many of Berkey's claims arose out of Kodak's introduction of its 110 photographic system, which included a new type of pocket camera and an improved, compatible color film.[142] The new film was created to facilitate creating clear color prints from the smaller negatives produced by the new film format.[143] The new film, however, required a new photofinishing process that was incompatible with the older process.[144]

With regard to the claims involving predatory innovation, Berkey made several allegations. First, Berkey alleged that Kodak failed to sufficiently predisclose its new camera system to competitors, and that this conduct was anticompetitive.[145] The Second Circuit held that, although Kodak had disclosed new innovations in the past, "as a matter of law, Kodak did not have a duty to predisclose information about the 110 system to competing camera manufacturers" because "[t]he first firm, even a monopolist, to design a new camera format has a right to the lead time that follows from its success."[146]

Second, Berkey alleged that Kodak's practice of marketing its new 110 film along with its 110 camera was anticompetitive because the new film, with its new photofinishing process, was unnecessary to produce adequate photographs with the 110 camera.[147] The court, however, disagreed, holding that "any firm, even a monopolist, may generally bring its products to market whenever and however it chooses,"[148] and adding, "[t]his is not to say, of course, that new product introductions are *ipso facto* immune from antitrust scrutiny, . . . in all such cases . . . it is not the product introduction itself, but some associated conduct,

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[140] Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263 (2d Cir. 1979).
[141] *Id.* at 267.
[142] *Id.* at 268.
[143] *Id.* at 277.
[144] *Id.*
[145] *Id.* at 279-81.
[146] *Id.* at 281, 283.
[147] *Id.* at 286.
[148] *Id.*

that supplies the violation."[149] The court further held that "[i]f a monopolist's products gain acceptance in the market, therefore, it is of no importance that a judge or jury may later regard them as inferior, so long as that success was not based on any form of coercion."[150] Because the court could not find any evidence that consumers were coerced into purchasing the new 110 camera system, the court held that Kodak's marketing and selling of its 110 camera and film together was not anticompetitive.[151]

Third, Berkey alleged that Kodak's restriction of its improved 110 film to its 110 camera was anticompetitive.[152] The court, however, ruled that Berkey failed to "demonstrate that some consumers who would have bought a Berkey camera were dissuaded from doing so because [the new film] was available only in the 110 format."[153] Thus, the court rejected Berkey's argument solely for lacking evidence of damages, and explicitly did not rule on whether Kodak's restriction of the 110 film to the 110 camera was anticompetitive.[154]

H. *Abbott Laboratories v. Teva Pharmaceuticals (In re Tricor Antitrust Litigation)*[155]

In *Abbott Laboratories v. Teva Pharmaceuticals*, several plaintiffs, including Teva Pharmaceuticals ("Teva"), sued Abbott Laboratories ("Abbott") and Fournier Industrie et Sante ("Fournier") for antitrust violations stemming from the defendants' reformulations of the branded drug Tricor.[156] The antitrust claims were originally asserted as counterclaims to patent infringement litigation surrounding the introduction of generic equivalents to the defendants' drug, Tricor.[157]

To summarize the nature of the challenged predatory conduct, a brief description of the generic drug approval process is necessary. The FDA must approve new drugs before they can be introduced to the market.[158] Approved drugs, along with their

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[149] *Id.* at 286 n.30.

[150] *Id.* at 287.

[151] *Id.* at 287-88.

[152] *Id.* at 288.

[153] *Id.*

[154] *Id.* at 288-89.

[155] Abbott Lab. v. Teva Pharm. USA, Inc., 432 F. Supp. 2d 408 (D. Del. 2006).

[156] *Id.* at 413-14.

[157] *Id.* at 417.

[158] *Id.* at 414.

applicable patent numbers and expiration dates, if any, are listed in the FDA's so-called Orange Book.[159] For the generic equivalents of previously approved branded drugs, the Hatch-Waxman Act provides an Abbreviated New Drug Application ("ANDA") process whereby a generic manufacturer can incorporate the safety and efficacy data of the branded drug into its application if it can prove that its generic drug is the bioequivalent of the branded drug.[160] As part of the ANDA, the generic drug manufacturer must make one of four certifications regarding the patent or patents relevant to the branded drug.[161] One common certification, a "paragraph IV" certification, and the one applicable in this case, is that the relevant patent or patents are either invalid or will not be infringed by the generic drug.[162] The filing of a paragraph IV certification triggers an act of patent infringement, for which the patent holder has forty-five days to respond.[163] If the patent holder subsequently files an infringement suit, approval of the ANDA is stayed until either thirty months have passed or a court has ruled on the validity and infringement of the patent.[164] If the generic drug is ultimately approved, then pharmacists may substitute the generic version of a prescribed branded drug if the generic drug has been "AB-rated" by the FDA.[165] A drug can be AB-rated if it is both the bioequivalent of the branded drug, and is also available in the same form, dosage, and strength.[166]

The plaintiffs alleged that, in response to ANDA filings by Teva for generic versions of the drug Tricor, the defendants reformulated the drug during the automatic stay period and pulled the older version of the drug off the market so that they could maintain their monopoly in the market for Tricor.[167] The plaintiffs alleged that the defendants reformulated Tricor twice: once from capsule to tablet form in response to an ANDA for the capsule form, and again from that tablet form to a slightly different tablet form in response to an ANDA for the first tablet

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[159] *Id.*
[160] *Id.*
[161] *Id.*
[162] *Id.*
[163] *Id.* at 414-15.
[164] *Id.* at 415.
[165] *Id.*
[166] *Id.*
[167] *Id.*

form.[168] Additionally, the plaintiffs alleged that the defendants pulled the capsule and first tablet forms from the market to prevent generic substitution.[169] Although Teva eventually prevailed in the patent infringement actions brought in response to the ANDA filings, it was not able to effectively market replacement generic versions of Tricor because the defendants had pulled the branded versions of Tricor to be replaced from the market during the mandatory stay period.[170]

The district court denied the defendants' motion to dismiss the plaintiffs' antitrust claims.[171] With regard to the plaintiffs' claims based on the defendants' Tricor reformulations, the court held that the defendants' conduct should be evaluated under the rule of reason, such that the anticompetitive effects of the reformulation are weighed against any procompetitive benefits.[172] While the defendants cited benefits from the reformulations, such as a proposed new indication for the first tablet, and the proposed removal of a food requirement for the second tablet, the court did not consider these contested benefits at the motion to dismiss stage because it ruled that the plaintiffs had not admitted these benefits.[173] Thus, the court, following the *Microsoft* opinion, upheld the plaintiffs' monopolization claims because the reformulations and product withdrawals resulted in a substantial foreclosure of the Tricor market, with no significant medical benefits.[174]

I. *In re Intel Corp.*[175]

In December 2009, the FTC filed a complaint against Intel alleging various anticompetitive activities in violation of Section 5 of the FTC Act.[176] The FTC alleged that Intel committed acts constituting unfair methods of competition generally, that Intel monopolized and attempted to monopolize the relevant markets, and that Intel engaged in unfair or deceptive acts or practices.[177] The relevant markets alleged by the FTC were the worldwide

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[168] *Id.*
[169] *Id.* at 416, 418.
[170] *Id.* at 416.
[171] *Id.* at 434.
[172] *Id.* at 422.
[173] *Id.* at 423.
[174] *Id.*
[175] Intel Corp., No. 9341 (F.T.C. 2009).
[176] Complaint at ¶¶ 97-106, Intel Corp., No. 9341 (F.T.C. 2009).
[177] *Id.*

markets, and related submarkets, for CPUs and graphics processing units ("GPUs").[178]

In addition to marketing, advertising, and other conduct, the FTC challenged two instances of Intel's conduct relevant to predatory design change. First, the FTC alleged that Intel redesigned software products, such as compilers and libraries, to undercut the performance advantage of non-Intel x86 CPUs relative to Intel x86 CPUs.[179] The FTC alleged that this software redesign had no sufficiently justifiable technological benefit, and that Intel misrepresented the reasons for software performance discrepancies between Intel and non-Intel x86 CPUs.[180] Second, the FTC alleged that, while Intel at first allowed free interoperability between Intel CPUs and third-party GPUs, and after having induced GPU firms to share their technology with Intel, Intel more recently created interoperability obstacles between Intel CPUs and non-Intel GPUs to enhance its monopoly position in the relevant CPU markets, and to potentially obtain monopoly power in the relevant GPU markets.[181] The FTC alleged that this conduct was intended to slow or prevent non-Intel GPUs from displacing many of the functions performed by CPUs, and thus inhibit the ability of GPUs to become a competing product of CPUs.[182] The FTC also alleged that this conduct had no sufficient or legitimate business justification.[183]

In August, 2010, the FTC issued a consent decree in the *Intel* case.[184] In Section V of the consent decree, the FTC addressed the issue of Intel's alleged predatory redesigns by ordering that Intel may not make any engineering or design change to a product covered by the decree if that change (1) degrades the performance of a competing product and (2) does not provide an "actual" benefit to Intel's product.[185] The consent decree also stated that it will be Intel's burden to demonstrate that any change at issue meets these requirements.[186]

The FTC provided further explanation of the

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[178] *Id.* at ¶¶ 32-40.

[179] *Id.* at ¶ 56. Compilers translate high-level computer source code into lower level object code, while libraries are collections of code that can be incorporated into a program by reference.

[180] *Id.* at ¶¶ 59-61.

[181] *Id.* at ¶¶ 80-91.

[182] *Id.*

[183] *Id.* at ¶ 91.

[184] Decision and Order, Intel Corp., No. 9341 (F.T.C. 2010).

[185] *Id.* § V.A.

[186] *Id.*

requirements of the consent decree in the accompanying Analysis of Proposed Consent Order to Aid Public Comment.[187] The FTC explained that "[t]he Proposed Consent Order would be violated if a design change degrades performance of a competitive or complementary product and Intel fails to demonstrate an actual benefit to the Intel product at issue."[188] Notably, the FTC explicitly did not require a weighing of the anticompetitive harms against the benefits of a particular design change; "it is sufficient that there be actual benefits."[189] Rejecting the approach taken in *Allied Orthopedic*, the FTC explained that "[a] balancing test would be appropriate in a legal challenge to an Intel design change under Section 5 of the FTC Act or Section 2 of the Sherman Act."[190]

V. What Test Should Apply to Predatory Redesign Where Such Redesign Is Claimed to Be an "Innovation"?

The *Allied Orthopedic* test is incorrect. If it was the law of the land, then anticompetitive conduct, such as the conduct at issue in *United States v. Microsoft*, would not constitute a valid claim if it generated even minimal efficiency or improvement. Innovation through redesign can marginally improve a product, but with overriding damage to the competitive process. Changing a capsule form drug to a tablet form drug may be an "improvement," but where the effect of such change is to foreclose generic drug competition, it is appropriate for a court to conclude that on balance such an improvement is exclusionary, even if it is "innovative." Likewise, minor improvements in power consumption are "innovations" in the most basic sense, but when coupled with a substantial change in interconnects, such that competitor products can no longer interoperate with a processor, such "innovation" can be unnecessarily and unlawfully exclusionary.

Given that the *Allied Orthopedic* test will lead to substantial underenforcement, what then is a viable alternative to the test in *Allied Orthopedic*? There are three tests that are often discussed: (1) the profit sacrifice test; (2) the no economic sense test; and (3) the rule-of-reason balancing test or consumer welfare

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[187] *See generally* Analysis of Agreement Containing Consent Order to Aid Public Comment, 75 Fed. Reg. 48338 (Aug. 10, 2010).

[188] *Id.* at 48345.

[189] *Id.*

[190] *Id.*

test. We address each, in turn.

A. Profit Sacrifice Test

Janusz Ordover and Robert Willig introduced the concept of using the profit sacrifice test for predatory innovation in 1981,[191] and it has attracted several well-known proponents over the years.[192] According to the profit sacrifice proponents, "predatory objectives are present if a practice would be unprofitable without the exit that it causes, but are profitable with the exit."[193] The profit sacrifice test does not balance "market-wide costs and benefits of the conduct at issue," instead, "the sacrifice test asks a different question, . . . whether the allegedly anticompetitive conduct would be profitable for the defendant and would make good business sense even if it did not exclude rivals and thereby create or preserve market power for the defendant."[194] Proponents advocate it because:

> [It] provides simple and meaningful guidance to firms to enable them to know how to avoid antitrust liability without steering clear of procompetitive conduct. If antitrust law explicitly embraced the sacrifice test for exclusionary conduct, firms would be able to comply with the law simply by determining whether their contemplated conduct would make good business sense even if the conduct did not increase their market power.[195]

The test, like the no economic sense test described below, fails in several significant regards with respect to predatory innovation/redesign. First, the test can lead to underenforcement in that it will fail to condemn exclusionary redesign that is virtually (if not entirely) costless. For example, a firm with durable market power in the operating system market could make its operating system work more quickly by altering interoperability protocols to deny all third parties the ability to

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[191] Janusz A. Ordover & Robert D. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8 (1981).

[192] *See, e.g.*, A. Douglas Melamed, *Exclusionary Conduct Under the Antitrust Laws: Balancing, Sacrifice, and Refusals to Deal*, 20 BERKELEY TECH. L.J. 1247 (2005).

[193] Ordover & Willig, *supra* note 191, at 9.

[194] Melamed, *supra* note 192, at 1255.

[195] *Id.* at 1257.

hook into its application programming interfaces. While this could result in a modest improvement in OS speed, it also excludes competitors from developing software that can be used with the OS and thus reduces consumers' options.

While most criticisms regarding the profit sacrifice test in the context of Section 2 generally relate to its potential to generate too many false negatives and thus inappropriately immunize anticompetitive conduct, in the context of predatory innovation, the test also can fail because it cannot account for the primary effect of innovation itself, which is, definitionally, a short-term profit sacrifice. As Richard Gilbert explained:

> Innovation is about sacrificing short-term profits for long-term rewards. A firm incurs costs that reduce profits in the short run in order to develop new products or processes that generate profits in the longer run. It is [therefore] difficult to determine when the sacrifice of short-run profit by investing in R&D is excessive.[196]

The profit sacrifice test can result in potential over-enforcement in another way as well. Specifically, innovation causes exit, particularly disruptive innovation. Thus, IBM's decision to invest in research and development to integrate its hard drive within the computer frame was an unmistakable innovation that (a) likely caused a short-term profit sacrifice, and (b) caused competitors of external hard drives to exit.[197] Yet, that innovation was not anticompetitive.

The main problem with the profit sacrifice test is that it focuses almost exclusively on the *defendant* as opposed to the *consumer*. This is why the profit sacrifice test often fails to properly judge whether behavior is anticompetitive. It does not examine the effect on consumer welfare, which is, after all, the lynchpin of antitrust analysis.

B. No Economic Sense Test / Sham Innovation Test

In many respects, the no economic sense test is closely related to the profit sacrifice test, although, at the margin, proponents of each test believe that the other is in some way

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[196] Richard Gilbert, *Holding Innovation to an Antitrust Standard*, 3 COMPETITION POLICY INT'L 47, 57-58 (2007).

[197] *Id.* at 63.

inferior.[198] As one leading proponent of the no economic sense test explained, "[c]onduct is not exclusionary or predatory unless it would make no economic sense for the defendant but for the tendency to eliminate or lessen competition."[199]

The no economic sense test is different from the profit sacrifice test in one critical regard: it does not ask whether the conduct at issue resulted in a short-term profit sacrifice, rather it looks at the conduct as a whole, over time. Thus, the no economic sense test does not have the same shortcoming as the profit sacrifice test described above, because it is not concerned with whether a firm reduced profits in the short term, even if the innovation ultimately did not produce a positive return. Thus, in such instances, the danger of over-enforcement is mitigated, as a putative defendant need not justify short-term R&D investments that did not result in corresponding product improvements (after all, not all innovation is successful).

If, on the other hand, one were to define the contours of the no economic sense test to mean that innovation always makes economic sense, regardless of how minimal it is, then the no economic sense test, in such a construct is really no different than the *Allied Orthopedic* decision, and only sham innovation would be prohibited under Section 2. As noted by Richard Gilbert, such a test would ask only "whether the innovation makes at least some consumers better off. If it does, it is not a sham."[200] While easier to apply than the profit sacrifice test, like the *Allied Orthopedic* decision, it likely will result in substantial under-enforcement of the law. A test that only judges whether a challenged innovation is a complete sham will necessarily fail to identify those instances where a product redesign has minimal justification that contributes significantly to a degradation in consumer welfare.

C. *United States v. Microsoft* Test

The radical departure from well-developed Section 2

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[198] *See, e.g.*, Andrew I. Gavil, *Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance*, 72 ANTITRUST L. J. 3, 52-58 (2004) (discussing the profit sacrifice test and no economic sense test (labeled the "but for" test), among others); *see also* Salop, *supra* note 15 (criticizing both tests and advocating a test focused on consumer welfare).

[199] Gregory J. Werden, *Identifying Exclusionary Conduct under Section 2: The "No Economic Sense" Test*, 73 ANTITRUST L.J. 413, 413, 417 (2006).

[200] Gilbert, *supra* note 196, at 62.

jurisprudence in the *Allied Orthopedic* decision was not justified. The appropriate test by which to judge the legality of product redesign is the basic rule of reason as articulated by the *Microsoft* decision – in other words, an examination of the redesign's effect on consumer welfare. It is the same test used to examine other vertical and horizontal restraints, and essentially the test employed in analyzing mergers. The test as articulated by the D.C. Circuit is straightforward.

A first step in every case is for the plaintiff to make out a *prima facie* case of competitive harm. A *prima facie* case will typically have two components:

1. There must be proof of market power (or a probability that market power will be acquired) in a relevant market.[201] Without market power, and the ability to harm consumer welfare, conduct cannot violate Section 2.[202]
2. The plaintiff must show that the redesign impairs rivals and, as a result, lessens the constraints on the defendant's market power. The relevant inquiry in this respect is whether, as a result of the impairment, the defendant has an enhanced ability to raise prices or limit choice or quality.[203] Where there has been an impairment of rivals sufficient to harm consumers that is not a necessary outcome of the competitive process, a *prima facie* case has been established.

Once a *prima facie* case has been established, then the burden shifts to the defendant to proffer a procompetitive justification for its conduct. The types of justifications that are cognizable in this context are those that offer the prospect of higher quality, lower prices, greater output, and other benefits to consumers.

Once the defendant has met its burden of production, the

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[201] United States v. Microsoft Corp., 253 F.3d 34, 69 (D.C. Cir. 2001) (en banc); *see also* Heerwagen v. Clear Channel Commc'ns, 435 F.3d 219, 227-29 (2d Cir. 2006) (Sherman Act § 2); United States v. Visa U.S.A, Inc., 344 F.3d 229, 238 (2d Cir. 2003) (Sherman Act § 1), *cert. denied*, 543 U.S. 811 (2004).

[202] *See, e.g.*, Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 458-59 (1993).

[203] Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 236-38 (1986).

burden shifts back to the plaintiff to rebut the proffered justification or, if the justification stands unrebutted, then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit.

Most cases will be resolved prior to the balancing of harm versus benefit. The plaintiff may fail to present a *prima facie* case. The defendant may not be able to demonstrate cognizable, non-pretextual efficiencies. However, in cases like *Microsoft*, *Tricor*, and *Bard*, an assessment of magnitudes and corresponding balancing becomes necessary. In those rare instances, the question will be whether the net effect of competition is substantially adverse. Only where the net effect, taking efficiencies into account, is to create a likelihood of increased prices, lower output, or reduced quality, should the challenged redesign be found unlawful.[204]

Complaints that such a test is not easily administered fall flat. As cogently explained by Steve Salop:

> In carrying out this analysis, the courts would not engage in self-conscious, open-ended balancing of the magnitudes of benefits and harms using some subjective social weighting. . . . The finder of fact generally would compare and weigh the magnitude and credibility of evidence on both the procompetitive and anticompetitive sides to evaluate which evidence is stronger on balance. Juries routinely weigh the credibility of opposing experts with differing views of the net effect of the challenged conduct. Alternatively, instead of formally comparing the effect on price and quality impacts of the increased market power with the lower costs and superior product performance, a court may reach the same result by setting the competitive benefits standard higher the greater are the market power harms shown. For example, in a case in which the plaintiff has shown significant market power harms, the court may be more likely to find that the defendant has failed to demonstrate its benefits claims.[205]

Salop's analysis is not unusual, or new, or different. It is the same analysis courts have applied for years in rule of reason cases

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[204] *See* Jonathan M. Jacobson, *Exclusive Dealing, "Foreclosure," and Consumer Harm*, 70 ANTITRUST L.J. 311, 365-69 (2002).

[205] Salop, *supra* note 15, at 331-32.

under both Section 1 and Section 2.[206] It is fundamentally the same test that the courts and agencies apply almost every day in determining whether a merger violates Section 7 of the Clayton Act, a process that necessarily involves a determination whether the net effect of the transaction is to raise prices.[207]

VI. Conclusion

While innovation is appropriately granted deference under the antitrust laws because of its ability to generate significant procompetitive benefits, courts must be wary of anticompetitive conduct dressed up as "innovation" that harms competition while providing no material benefit to consumers. When confronted with allegations of predatory innovation, courts should apply the D.C. Circuit's consumer welfare balancing test in *Microsoft*, and not the *per se* rule protecting redesign established by the Ninth Circuit in *Allied Orthopedic*. While other tests also exist, such as the "profit sacrifice test" and the "no economic sense test," both suffer from encouraging either over- or underenforcement. The *Microsoft* test applies a time-tested approach to ensuring that the focus of the inquiry is appropriately on consumer welfare, and thus should be applied to ensure that the significant potential benefits of innovation are appropriately weighed against any alleged competitive harms.

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[206] *See* Microsoft, 253 F.3d at 58-59 (D.C. Cir. 2001) (en banc) (Section 2); ABA SECTION OF ANTITRUST LAW, ANTITRUST LAW DEVELOPMENTS 57-58 (6th ed. 2007) (Section 1). As the Second Circuit noted in *K.M.B. Warehouse Distributors v. Walker Manufacturing Co.*, 61 F.3d 123, 127 (2d Cir. 1995): ("Establishing a violation of the rule of reason involves three steps. '[P]laintiff bears the initial burden of showing that the challenged action has had an actual adverse effect on competition as a whole in the relevant market. . . .' (citation omitted). If the plaintiff succeeds, the burden shifts to the defendant to establish the 'pro-competitive "redeeming virtues"' of the action. (citation omitted).Should the defendant carry this burden, the plaintiff must then show that the same pro-competitive effect could be achieved through an alternative means that is less restrictive of competition." (citation omitted)).

[207] *See, e.g.*, FTC v. Swedish Match, 131 F. Supp. 2d 151 (D.D.C. 2000); U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 4 (1992) (with Apr. 8, 1997 revisions to § 4 on efficiencies), *available at* http://www.justice.gov/atr/public/guidelines/hmg.pdf.