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Monopoly bundling in cyberspace: how many products does Microsoft sell?

BY ALAN J. MEESE*

I. Introduction

Microsoft has required firms that purchase its operating system to take other software from it as well.¹ More precisely, Microsoft requires firms that manufacture personal computers (original equipment manufacturers or OEMs) to purchase Internet Explorer (IE)—Microsoft's Internet browser—if they desire a license to "pre-load" the company's Windows operating system (OS) on per-

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¹ This article refers throughout to Microsoft's "bundle" of Windows and Internet Explorer. Choice of this or similar terminology, of course, is not meant to evince any preconception that the two items are separate products for the purpose of tying doctrine.

sonal computers (PCs) before they are sold to consumers.² At one time, this requirement was technological in nature. Microsoft supplied Windows 95 and Internet Explorer 3.0 on the same master disk, and the former would not function unless the latter was also installed.³ Moreover, once IE was installed, deletion of it would disable the operating system.⁴ Subsequently, the requirement became contractual in nature, as Microsoft required OEMs to purchase IE 4.0, which was supplied separately, as a condition of licensing Windows 95.⁵

More recently, the requirement has again become technological, as Microsoft has released a new version of its operating system, Windows 98. Installation of Windows 98 necessarily entails installation of Internet Explorer 4.0, and deletion of the software code that performs the browser function will, according to Microsoft, degrade the operating system.⁶ Moreover, once OEMs

² See *United States v. Microsoft Corp.*, 147 F.3d 935, 940–41 (D.C. Cir. 1998). *United States v. Microsoft Corp.*, 1998-2 Trade Cas. ¶72,261, pp. 82,671–72 (D. D.C. 1998).

³ *Microsoft*, 147 F.3d at 940–41.

⁴ *Id.*

⁵ This contractual requirement took alternate forms. Initially, Microsoft distributed IE 4.0 on a separate CD ROM, and amended its Windows 95 license agreements to require OEMs to ship the CD with personal computers. Soon thereafter, the agreements were again amended, only this time to require OEMs to install IE 4.0 before shipment. See *Microsoft*, 147 F.3d at 940–41; *United States v. Microsoft*, 980 F. Supp. 537, 544 (D.D.C. 1997).

⁶ See Microsoft Corporation's Memorandum in Support of Its Motion for Summary Judgment 32, No. 98-1232 (D. D.C. August 10, 1998). This document appears at <www.microsoft.com/presspass/doj/8-10summjf.htm>. Citations herein are to that document. In a declaration filed under seal, Edward W. Felten, a computer scientist retained by the United States, purportedly describes how to remove browser functionality from the operating system without damaging the latter. See *Microsoft*, 1998-2 Trade Cas. at 82,673 n.11 (describing declaration's assertions to this effect). It is not clear, however, that the procedure described by the government actually removes the browser or, instead, simply denies the user access to it. *Id.* See also notes 166–68 *infra* and accompanying text.

have purchased Windows 98/IE, they must insure that it is readily available to consumers.⁷ For example, contracts between Microsoft and OEMs prevent the manufacturers from removing the IE icon from the screen that consumers encounter when they boot up their PCs for the first time.⁸ Further, while OEMs remain free to purchase and install competing browsers, they must not give such browsers greater prominence on the computer desktop than they give to IE.⁹ Thus, even if OEMs believe that, say, Netscape's browser is superior to Microsoft's, they must purchase the latter and make it readily available to consumers.

The government has not taken kindly to either bundle. In the fall of 1997 the Department of Justice challenged the Windows 95/IE combination, arguing that it offended a 1994 consent decree prohibiting Microsoft from licensing its Windows OS on the condition that purchasers take other application software as well.¹⁰

⁷ See *Microsoft*, 1998-2 Trade Cas. at 82,673-74 (referring to Microsoft's contractual restriction on "unbundling" the browser from the operating system).

⁸ See *Microsoft*, 1998-2 Trade Cas. at 82,677, 82,673-74. Removal of the icon, it should be noted, does not delete or otherwise affect the software code that provides browser functionality. See Microsoft's Memorandum in Support of Summary Judgment, *supra* note 6, at 32-34. This was also the case with Microsoft's combination of Windows 95 and IE 3.0 and 4.0. Moreover, while the Windows 95/IE bundles contained an "add/remove" utility, the Windows 98/IE bundle has no such utility. At any rate, it appears that "removal" of IE does not, in fact, delete the software code that constitutes the application, but instead disables it until recalled. See *Microsoft*, 147 F.3d at 941 ("It appears to be undisputed that [removing the icon and running 'add/remove'] do not remove the IE software code, which indeed continues to play a role in providing non-browser functionality.").

⁹ *Microsoft*, 1998-2 Trade Cas. at 82,677 (noting that contractual restrictions prevent OEMs from "creat[ing] icons or folders larger than those placed by Microsoft").

¹⁰ See *Microsoft*, 980 F. Supp. at *passim* (entertaining government's petition for civil contempt and preliminary injunction); *United States v. Microsoft Corp.*, 56 F.3d 1448 (D.C. Cir. 1995) (approving decree); 59 Fed. Reg. 59,426 (Nov. 17, 1994) (reproducing decree).

A district court agreed, and enjoined Microsoft from requiring OEMs to purchase and install Internet Explorer.¹¹ In May of 1998, the government filed a separate suit under the Sherman Act alleging that Microsoft's integration of Windows 98 with Internet Explorer, as well as its contractual prohibition on OEMs interfering with access to the browser, constitute an illegal tying arrangement.¹²

On the surface, the government appears to have an easy case, at least in the Sherman Act litigation. Microsoft seems to have market power—a dominant share of the OS market, however defined.¹³ Moreover, there appears to be a “separate demand” for OSs and browsers, with the result that the items are deemed distinct products.¹⁴ Under current law, such an arrangement is unlaw-

¹¹ See *Microsoft*, 980 F. Supp. at 543–44. More precisely, the court enjoined Microsoft from requiring OEMs to purchase and install IE 4.0, which Microsoft shipped to OEMs on a separate disk. See note 5, *supra*. The court did not, however, purport to require OEMs to remove any software code that had already been installed. See 980 F. Supp. at 544, n.8. See also *Microsoft*, 147 F.3d at 940–41.

¹² See Complaint in *United States of America v. Microsoft Corporation*, ¶¶ 17–23 (May 18, 1998). The government, it should be noted, pressed several other claims including, for instance, claims that various contracts between Microsoft and Internet access providers violated § 1 of the Sherman Act. This article focuses only on the tying claim.

¹³ The government has asserted that Microsoft possesses a monopoly share of a market consisting of “operating systems for Intel-compatible personal computers.” See Memorandum of the United States in Support of Motion for Preliminary Injunction in *United States v. Microsoft Corporation*, 15–18 (May 18, 1998); see also Declaration of David Sibley, filed in support of Motion for Preliminary Injunction, ¶¶ 7–8, 14 (supporting this definition and asserting that Microsoft possesses a 93% share of the market so-defined). Moreover, the government has asserted that, even if the market were defined more broadly, to include all PC operating systems, Microsoft would still possess a monopoly share. See *id.* at ¶ 14, n.20.

¹⁴ See *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 2, 19–22 (1984) (articulating “separate demand” test for determining whether two items are separate products).

ful per se, without further inquiry into its anticompetitive effects or any offsetting benefits.¹⁵

Still, just a few months ago, the D.C. Circuit suggested a quite different result, namely, that such bundling is *lawful*, without regard to the arrangement's possible anticompetitive effects. Interpreting the 1994 consent decree, the court suggested that Microsoft's bundles of Windows 95 and IE 3.0 and 4.0 did not offend the decree but instead fell within its explicit exception for "integrated products."¹⁶ The combination of browser and OS, the court said, appeared to produce benefits not available if, for instance, Windows 95 were combined with Netscape's browser.¹⁷ According to the court, judges are not competent to balance these benefits against any anticompetitive effects that might result from the combination, as such balancing would essentially require courts to second-guess product design decisions.¹⁸ A "plausible claim" that integration of two items produced benefits, the court said, would establish that Windows 95 and Internet Explorer were not simply "bolted together" for the purpose of injuring competition, but were instead different functions of an innovative product beneficial to consumers.¹⁹ While the court remanded the case to the district court for a determination whether the combination did, in fact, produce such benefits, it signaled clearly its own belief that such benefits were present.²⁰

It did not matter to the D.C. Circuit that Microsoft distributed IE 4.0 on a separate disk and that OEMs, therefore, could them-

¹⁵ See *Eastman Kodak v. Image Technical Services*, 504 U.S. 451, 461–62 (1992); *Jefferson Parish*, 466 U.S. at 9–18.

¹⁶ *Microsoft*, 147 F.3d at 945–53.

¹⁷ *Id.* at 950–51.

¹⁸ *Id.* at 950, n.13 ("the limited competence of courts to evaluate high-tech product designs and the high cost of error should make them wary of second guessing the claimed benefits of a particular design decision").

¹⁹ *Id.* at 949–51 and n.12.

²⁰ *Id.* at 951, n.15; *id.* at 952–53 (expressing "tentative" view that Windows 95/IE bundle was a "genuine" integration).

selves create the very same benefits by choosing to purchase and combine the items. Software, the court said, was sufficiently “plastic” that it could always be divided into constituent parts. The mere feasibility of such division did not negate the showing that combination produced benefits and thus could not transform what was otherwise a single product into two.²¹

In so holding, the court claimed that it was merely interpreting the 1994 consent decree, and not determining whether the bundle before it was an illegal tie under the Sherman Act.²² Still, the court asserted that its reading of the decree was “consistent with tying law,” and it invoked tying precedents and scholarly analysis of tying doctrine to buttress its decision.²³ It was inevitable, then, that the court’s reasoning would “spill over” into the parallel litigation under the Sherman Act. Indeed, shortly after the D.C. Circuit issued its opinion, Microsoft moved for summary judgment in the Sherman Act suit, relying heavily upon the D.C. Circuit’s opinion to argue that the Windows 98/IE bundle was a single product for tying purposes.²⁴ While the district court denied the motion, it grudgingly agreed with Microsoft that the D.C. Circuit’s “plausible benefits” test supplied the appropriate standard under the Sherman Act.²⁵

²¹ *Id.* at 951–52. *See also* notes 106–10, *infra* and accompanying text.

²² *Microsoft*, 147 F.3d at 950 n.14 (“The antitrust question is of course distinct. The parties agree that the consent decree does not bar a challenge under the Sherman Act.”).

²³ *Id.* at 950; *see also id.* at 949–53.

²⁴ Microsoft’s Memorandum in Support of Summary Judgment, at 20–22, 27–34.

²⁵ *Microsoft*, 1998-2 Trade Cas. at 82,674–75 (concluding that question was whether there is a “‘plausible claim’ that integration ‘brings some advantages.’”), quoting *Microsoft*, 147 F.3d at 950; *Microsoft*, 1998-2 Trade Cas. at 82,676–77 (finding factual dispute regarding whether combination actually produced benefits and whether Microsoft had simply “bolted” two items together).

Ultimately, it seems the D.C. Circuit will have to decide explicitly which standard—“separate demand” or “plausible benefits”—governs the question whether Windows 98 and Internet Explorer constitute separate products for the purpose of tying analysis. Moreover, the choice between these competing standards will likely be outcome determinative. There is certainly a “separate demand” for browsers and operating systems: at least some of Microsoft’s competitors in the operating system market offer their products in unbundled form.²⁶ Conversely, it seems Microsoft will likely be able to demonstrate at least some plausible benefits produced by the Windows 98/IE bundle. Ironically, however, neither outcome will rest upon any actual inquiry into the net competitive effects of the arrangement. A determination that two products are present will evoke the harsh rule of *per se* illegality; a holding that the arrangement is an integrated or single product will end the tying inquiry altogether.

The all or nothing character of each of these alternatives highlights tying law’s propensity to treat efficiencies in an inconsistent and irrational manner, a propensity exacerbated by the single product test. A product of the applied price theory tradition of industrial organization, the hornbook law of tying, including the separate demand test for determining whether two items constitute distinct products, is unduly biased against certain efficiencies. More precisely, the separate demand test recognizes only those efficiencies that are realized universally, i.e., by each firm participating in the relevant market.²⁷ Where the benefits of bundling two items are not realized throughout the market, current law treats such a bundle as a tie of two distinct products, a tie that is unlawful *per se* if the seller possesses market power.²⁸ Benefits that might be realized by only a subset of market participants will be evaluated, if at all, pursuant to the unduly strict standards governing the “justification” of an otherwise *per se* unlawful tie.

²⁶ See note 102, *infra*.

²⁷ See *Eastman Kodak*, 504 U.S. at 462–63; *Jefferson Parish*, 466 U.S. at 18–22.

²⁸ *Jefferson Parish*, 466 U.S. at 9–18.

To many, the assertion that tying doctrine is biased will sound like old news. After all, scholars have long argued that tying law undervalues certain efficiency claims.²⁹ This article, however, takes old news one step further. For, while tying doctrine undervalues certain efficiencies, particularly those generated posttransaction, it seems to overvalue others. For instance, where efficiencies are realized universally, the separate demand test declares the arrangement a single product, and therefore not a tie at all. Thus, the test immunizes certain bundles without comparing their benefits to any anticompetitive harm they might create. Moreover, some lower court precedents treat any innovative bundle that produces technological, cost-based efficiencies as a single product, beyond antitrust scrutiny. Like the separate demand test, this so-called technological tying doctrine immunizes certain arrangements that may, on balance, reduce consumer welfare. This immunity, it should be emphasized, applies only when the combination's benefits are technological in nature. Where, on the other hand, the benefits are contractual, i.e., arise after the combination leaves the boundaries of the firm, the bundle in question will be deemed separate products and subject to the unforgiving standards of the *per se* rule.

Current law thus deals with different sorts of efficiencies quite differently, and there is no apparent justification for such disparate treatment. Against this backdrop, the D.C. Circuit's opinion can be seen as an attempt to impose a more consistent approach to efficiencies, at least where innovative bundles are concerned. By declaring beneficial bundles to be single products even where a separate demand was present, the court followed the lead of so-called technological tying doctrine, placing nonuniversal efficiencies on the same plane as those realized throughout the market. Further, by recognizing benefits that arose *after* the soft-

²⁹ See, e.g., Alan J. Meese, *Tying Meets the New Institutional Economics: Farewell to the Chimera of Forcing*, 146 U. PA. L. REV. 1 (1997); Benjamin Klein & Lester Saft, *The Law and Economics of Franchise Tying Contracts*, 28 J. L. ECON. 345 (1985); Tyler Baker, *The Supreme Court and the Per Se Tying Rule: Cutting the Gordian Knot*, 66 VA. L. REV. 1235, 1257-61 (1980).

were left Microsoft's boundaries, the court placed contractual efficiencies on the same footing as those that are technological in origin. In this way, the court carried the separate demand test toward its logical conclusion, immunizing innovative bundles on a finding that they produced significant benefits.

Certainly consistency has much to recommend it. Still, even if implemented in the tying context, the D.C. Circuit's approach will treat innovative bundles differently from others; the separate demand test will, after all, still apply where noninnovative bundles are concerned. Moreover, a desire for a consistent approach begs one fundamental question, i.e., which consistent approach? The standard articulated by the D.C. Circuit was only one possibility. To be sure, such an approach may have merit as a matter of second best, given the unduly harsh content of the per se rule. Still, an optimal antitrust policy would account for the benefits of such bundling the old fashioned way, by balancing them against the anticompetitive effects, if any, produced by the arrangement. While such an approach may seem foreclosed by the per se rule, there is some precedent for balancing these effects by means of a "business justification" defense to ties that are purportedly unlawful per se.

This is not to say that courts should engage in open-ended balancing whenever a seller can show that a bundle will produce benefits. Where a bundle is contractual, i.e., can be replicated by purchasers, courts should demand some proof of market failure before allowing a seller to show that a contractual restraint is justified. Where, on the other hand, a bundle is truly technological, courts should engage in such balancing.

II. Tying law, efficiencies, and the rise of the separate demand test

Under current law, an agreement will be deemed a per se unlawful tie if three conditions are met: (1) the agreement bundles two separate products; (2) the seller has market power over one of the items included in the bundle; and (3) the bundle involves a not

insubstantial amount of interstate commerce.³⁰ Where a firm holds a monopoly, then, the inquiry very quickly devolves into one question: Is the bundle really made up of separate products, or is it instead just one product that, like nearly all products, consists of several components? If deemed two products, the arrangement will be declared unlawful per se, if one, beyond scrutiny under tying doctrine.³¹

Current law, then, prevents a monopolist from bundling two truly separate products, even if the bundle produces no anticompetitive effects or is, on balance, procompetitive.³² That is, after all, the plain implication of the per se rule. To be sure, some lower courts allow sellers to justify bundles, even if per se unlawful.³³ Other courts, however, have decided that “per se” means what it says, and the Supreme Court has never endorsed the assertion of an affirmative defense to a tie otherwise deemed per se unlawful.³⁴

At any rate, even those courts that purportedly allow sellers to justify ties usually subject such attempts at justification to the strictest of scrutiny. Sellers must show that benefits outweigh any anticompetitive effects, and that the bundle is the least restrictive

³⁰ See *Eastman Kodak*, 504 U.S. at 461–62; *Jefferson Parish*, 466 U.S. at 9–18.

³¹ *Jefferson Parish*, 466 U.S. at 20–22.

³² See *id.*, at 33–35 (O’Connor, J. concurring) (criticizing the per se rule against tying on this basis).

³³ See, e.g., *Mozart Co. v. Mercedes-Benz of N. Am., Inc.*, 833 F.2d 1342, 1348–51 (9th Cir. 1987) (entertaining business justification defense).

³⁴ See, e.g., *Fox Motors, Inc. v. Mazda Distribs., Inc.*, 806 F.2d 953, 957–58 (10th Cir. 1986) (affirmative defenses are not available where tie is per se unlawful); *Ringtown Wilbert Vault Works v. Schuylkill Mem’l Park, Inc.*, 650 F. Supp. 823, 827 n.8 (E.D. Pa. 1986) (same); *Jefferson Parish*, 466 U.S. at 25–26, n.42 (“We have also uniformly rejected . . . ‘goodwill’ defenses for tying arrangements . . . [and] there is no basis for departing from our prior cases here.”); Meese, *supra* note 29, at 21, n.74 (arguing that Supreme Court precedent precludes the assertion of affirmative defense to “per se” illegal ties).

means of achieving any legitimate objectives.³⁵ It is on this second requirement that most attempts at justification founder, as courts are quick to invoke “less restrictive” alternatives that are also significantly less effective at meeting the objective in question.³⁶ For instance, a franchisor that requires its franchisees to purchase inputs from it as a means of maintaining uniform, high quality in the franchise product will be met with the claim that quality specifications, or even reliance on franchisees’ best judgment, will suffice for this purpose.³⁷ In so doing, courts ignore the very rationale of such restrictions, namely, that franchisees may lack the requisite information or incentive to choose inputs of sufficient quality, and that specifications are costly to create, monitor and enforce.³⁸ Similar undue hostility has always met assertions that bundling is necessary to protect the goodwill of a main or tying product.³⁹

³⁵ *Metrix Warehouse, Inc. v. Daimler-Benz A. G.*, 828 F.2d 1033, 1040–41 (4th Cir. 1987); *Siegel v. Chicken Delight, Inc.*, 448 F.2d 43, 50–52 (9th Cir. 1971); cf. *Eastman Kodak*, 504 U.S. at 474–75.

³⁶ See generally Meese, *supra* note 29, at 71–86.

³⁷ See *Metrix Warehouse, Inc.*, 828 F.2d at 1041 (franchisor could protect its goodwill by relying upon specifications or franchisees’ judgment); *Chicken Delight*, 448 F.2d at 51–52 (franchisor could protect its goodwill by relying upon specifications); *Anderson Foreign Motors v. New England Toyota*, 475 F. Supp. 973, 984–85 (D. Mass. 1979). But compare *Mozart Co.*, 833 F.2d at 1349–51 (affirming jury’s finding that less restrictive alternatives would not adequately advance franchisor’s interest in protecting goodwill associated with trademark).

³⁸ See Alan J. Meese, *Antitrust Balancing in a (Near) Coasean World: The Case of Franchise Tying Contracts*, 95 MICH. L. REV. 111, 117–22, 149–51 (1996).

³⁹ See, e.g., *Eastman Kodak*, 504 U.S. at 483–84 (asserting that Kodak could protect its goodwill by relying on purchasers’ judgment); *Standard Oil Co. v. United States*, 337 U.S. 293, 306 (1949) (*dicta*) (asserting that seller can protect goodwill of tying product without contractual restraint by relying upon purchasers to choose superior tied product); *International Salt Co. v. United States*, 332 U.S. 392, 397–98 (1947) (concluding that manufacturer could protect its goodwill by relying upon specifications); *IBM Corp. v. United States*, 298 U.S. 131, 139–40 (1936) (holding that manufacturer could protect its goodwill by relying upon

Tying doctrine's hostility toward affirmative defenses insures that cases of monopoly bundling will almost always stand or fall on the answer to the separate product question. As a result, tying law, at least as articulated by the Supreme Court, has for some time been overinclusive, voiding any tie of separate products obtained by a monopolist, even those ties that were competitively neutral or even beneficial.⁴⁰ Many lower courts, however, tempered the overinclusive character of formal doctrine through manipulation of the single product test, folding into the test the question whether the bundle in question created significant efficiencies.⁴¹ In so doing, courts treated as single products packages of items that, as a matter of common sense anyway, *looked* quite distinct. *Dehydrating Process Co. v. A. O. Smith Corp.* provides a prime example of this approach. There, a seller of mechanical

customers' judgment or, in the alternative, promulgating specifications); *Judson L. Thompson Co. v. FTC*, 150 F.2d 952, 957–58 (1st Cir. 1945) (same). *See also* Meese, *supra* note 29, at 72–84.

⁴⁰ *See Jefferson Parish*, 466 U.S. at 33–35 (O'Connor, J. concurring) (criticizing tying doctrine on this basis).

⁴¹ *See, e.g., Hirsch v. Martindale-Hubbell, Inc.*, 674 F.2d 1343, 1347–48 (9th Cir. 1982) (determining whether two items were separate products by asking “whether the aggregation serves to facilitate competition by promoting product quality”); *Principe v. McDonald's Corp.*, 631 F.2d 303, 307–11 (4th Cir. 1980) (finding that franchise opportunity and lease of franchise premises were a single product because “the challenged aggregation is an essential ingredient for the franchise system's formula for success”); *Kugler v. Aamco Automatic Transmission*, 460 F.2d 1214, 1215–16 (8th Cir. 1972); *Dehydrating Process Co. v. A.O. Smith Corp.*, 292 F.2d 653, 655–57 (1st Cir. 1961). *See also* HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE*, 366 (1994) (“[C]reative courts have manipulated the judicial test so as to distinguish efficient from inefficient forced sales.”); STEPHEN F. ROSS, *PRINCIPLES OF ANTITRUST LAW*, 290 (1992). Several scholars endorsed such an approach. Klein & Saft, *supra* note 29, at 359–61; Baker, *supra* note 29, at 1315 (endorsing broad single product inquiry as second-best approach given overinclusive nature of the per se rule); Ward S. Bowman, *Tying Arrangements and the Leverage Problem*, 67 *YALE L.J.* 19, 29 (1957). *See also* LAWRENCE A. SULLIVAN, *ANTITRUST* 448–49 (1977) (arguing that most efficiency claims can be addressed as part of the single product inquiry).

unloaders bundled such unloaders with storage silos. The seller claimed that, when it had previously sold unloaders separately, for use with silos made by others, it received substantial customer complaints.⁴² First Circuit precedent, however, foreclosed any assertion that such concerns justified an otherwise illegal tie. Evaluating a tie of rivet-setting machines and rivets, the court had previously held that purchasers, “are quite capable of judging for themselves in an atmosphere of competition whether or not rivets of one manufacturer will work in the machines of another,” with the result that any justification must fail.⁴³ Nevertheless, the *Dehydrating Process* court relied on the (negative) goodwill consequences of separate sale in holding that unloaders and silos were a single product.⁴⁴ Under this and similar precedents, then, a bundle that created significant benefits was, without more, a “single product,” beyond antitrust scrutiny.⁴⁵

⁴² Indeed, one half of these purchasers filed refund claims. *Dehydrating Process Co.*, 292 F.2d at 655–56. Such complaints occurred, the court noted, despite the seller’s efforts to inform purchasers that its unloaders might not be compatible with silos made by others. *See id.* at 656.

⁴³ *See Judson L. Thompson Mfg. Co.*, 150 F.2d at 957–58 (condemning tie of rivet-setting machines and rivets). *See also* note 39, *supra* (collecting Supreme Court authority for the same proposition). The court reached this conclusion, it should be noted, despite its finding that “the best results are obtained when the machines and rivets of one manufacturer are used together, and that if improper rivets are used repairs to the machines at the expense of the lessor and interruptions might ensure.” *Judson L. Thompson Mfg. Co.*, 150 F.2d at 957.

⁴⁴ *Dehydrating Process Co.*, 292 F.2d at 655–57.

⁴⁵ For instance, in *Principe*, the Fourth Circuit found that McDonald’s requirement that franchisees lease premises from it was not a tie because the trademark and premises were “integral components of the business methods being franchised.” 631 F.2d at 309. In so holding, the court emphasized that McDonald’s possessed superior information about local real estate markets and was in a better position to take account of the effect of certain locations on the franchise system as a whole. *See Principe*, 631 F.2d at 309–10; *see also Kugler*, 460 F.2d at 1215–16 (holding that franchise trademark and advertising materials purchased from a local agency were not separate products for tying purposes). *Cf.*

The Supreme Court put a stop to this creativity, or at least tried to, in *Jefferson Parish*. There the Court rejected the assertion that the answer to the single product question should turn on whether the bundle in question produces significant benefits.⁴⁶ Instead, the Court said, two items should be deemed separate products whenever there is sufficient “separate demand” for each of the bundled items that a significant number of firms do, in fact, offer the items in question separately.⁴⁷ The existence of such separate sales, the Court said, would establish that it is efficient to offer the items in unbundled form.⁴⁸ Lower courts, in turn, relied on this new test to find two products where previous tests may have found only one.⁴⁹

Leading antitrust scholars have endorsed the *Jefferson Parish* approach to the single product question, characterizing this standard as a process-oriented mechanism for determining whether, in

Meese, *supra* note 38, at 132–33 (arguing that, as the sole owner of the trademark, the franchisor will have incentive to maximize revenue of the franchise system).

⁴⁶ *Jefferson Parish*, 466 U.S. at 19–20. Cf. *id.* at 40 (O’Connor, J. concurring) (arguing that two items should not be deemed separate products “when the economic advantages of joint packaging are substantial”); see also *Jack Walters & Sons Corp. v. Morton Bldg., Inc.*, 737 F.2d 698, 703–04 (7th Cir. 1984) (concluding that *Jefferson Parish* rejected “economies” test for determining whether bundle of two items constituted a single product).

⁴⁷ *Jefferson Parish*, 466 U.S. at 21–22; see also *Eastman Kodak*, 504 U.S. at 462–63 (applying separate demand test).

⁴⁸ *Jefferson Parish*, 466 U.S. at 22–23; see also *Eastman Kodak*, 504 U.S. at 462–63 (“[T]he development of the entire high tech service industry is evidence of the efficiency of a separate market for service.”).

⁴⁹ Compare *Faulkner Advertising Associates, Inc. v. Nissan Motor Corp.*, 905 F.2d 769, 773–74 (4th Cir. 1990) (holding that franchise trademark and advertising services were distinct products under *Jefferson Parish* separate demand test) with *Principe*, 631 F.2d at 309–10 (trademark and real estate lease are single product) and *Kugler*, 460 F.2d at 1215–16 (trademark and advertising services are a single product). See also *PSI Repair Services, Inc. v. Honeywell, Inc.*, 104 F.3d 811, 814–16 (6th Cir. 1997) (finding circuit boards and constituent components to be single product).

fact, the bundling at issue produces significant efficiencies.⁵⁰ Of course, the fact that a seller with market power has chosen to bundle two items is little indication of the practice's efficiency. However, even in those instances in which a firm has a monopoly for antitrust purposes, there may be a significant number of other firms in the market that have no market power.⁵¹ Moreover, even if a firm possesses a complete monopoly within its own geographic market, there may be other geographic markets that are quite competitive.⁵² Where firms with no market power or expectation of obtaining it commonly sell the items in question separately, it is said, a presumption is properly established that unbundled sale of the items is efficient, and further scrutiny is necessary.⁵³ Where, on the other hand, all such firms provide the items in question only in a bundle, combination must reflect cost savings when compared to separate provision.⁵⁴ In such cases, it is said tying analysis should cease, as forcing even a monopolist to unbundle would be inefficient.⁵⁵ Indeed, condemnation of a uni-

⁵⁰ See X PHILLIP E. AREEDA, EINER ELHAUGE & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶¶ 1741, 1744, at 196–202, 1745b, c (1995); see also ROSS, *supra* note 41, at 287–90.

⁵¹ See, e.g., *Eastman Kodak*, 504 U.S. at 481 (80% share of market sufficient to show monopoly); *American Tobacco Co. v. United States*, 328 U.S. 781, 797 (1944) (market share greater than two-thirds constitutes a monopoly).

⁵² See AREEDA ET AL., *supra* note 50, ¶ 1744c1.

⁵³ See *id.* ¶ 1744, at 203–04; see also ROSS, *supra* note 41, at 289 (agreeing with statement in *Eastman Kodak* that existence of separate sales for tied product “is evidence of the efficiencies of a separate market”).

⁵⁴ See AREEDA ET AL., *supra* note 50, ¶ 1744, at 197–98. See also HOVENKAMP, *supra* note 41, at 360 (arguing that ubiquity of a tying arrangement does not establish market power because “if the arrangement is efficient, then we would expect it to be ubiquitous”). Cf. *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 221–22 (D.C. Cir. 1986) (Bork, J.) (where contract cannot create or enhance market power, it likely is designed “to make the conduct of business more effective”).

⁵⁵ See AREEDA ET AL., *supra* note 50, ¶ 1744b, c5.

versally-adopted bundle would purportedly place a monopolist at an unfair competitive disadvantage.⁵⁶

In the real world, of course, the separate demand test for determining whether two items are distinct products will not identify every instance in which bundling produces significant efficiencies. While the presence of uniform bundling in a competitive market is *sufficient* to demonstrate that bundling produces significant benefits, it is by no means necessary. Instead, bundling may substantially reduce the costs faced by some firms but not those faced by others; in such cases the separate demand test will nevertheless compel the conclusion that two products are involved.⁵⁷ Still, scholars maintain courts can properly account for such nonuniversal efficiencies by allowing sellers to assert a business justification defense.⁵⁸

III. Tying doctrine, price theory, and the treatment of innovative bundles

A *Tying doctrine as applied price theory*

As currently structured tying law takes cognizance of efficiencies in two very different ways. Some benefits are captured by the separate demand test with its reliance upon the presence or absence of bundling by firms with no market power or chance of achieving it. When application of this test reveals that benefits are present, the bundle in question is treated as a single product, and scrutiny ends. Benefits not captured by this test, if they are recognized at all, will only be considered under the hostile standards governing the scrutiny of business justifications.

⁵⁶ *Id.*

⁵⁷ See *Jefferson Parish*, 466 U.S. at 19–23; AREEDA ET AL., *supra* note 50, ¶ 1744e, at 204. See also notes, 73–84, *infra* and accompanying text.

⁵⁸ AREEDA ET AL., *supra* note 50, ¶ 1741b, at 180–81; *id.* ¶ 1744e, at 204. See also Ross, *supra* note 41, at 290, 296–99 (assuming that, where separate demand is present, efficiencies can be properly analyzed via a business justification defense); HOVENKAMP, *supra* note 41, at 369–70 (same).

Tying law's uneven approach to different sorts of efficiencies is not, it seems, accidental. Instead, this disparate treatment reflects what Oliver Williamson has described as the "applied price theory" tradition of industrial organization, a tradition that has influenced antitrust doctrine for several decades.⁵⁹ Price theory, and the school of industrial organization that it spawned, provided a complete paradigm that purported to explain all varieties of firm behavior. The assumptions animating the paradigm were straightforward. The world consisted of innumerable, fully autonomous firms. The boundary between a firm and the market—that is, the distinction between what a firm did itself and what it left for others—was a function of the firm's own costs and those of potential suppliers or distributors. These costs, in turn, were determined entirely by technology and reflected in each firm's production function.⁶⁰ So, for instance, in deciding whether to produce its own auto bodies or purchase auto bodies from others, an automobile manufacturer would compare its own cost of production with those of potential suppliers; differences in such costs would be a function of economies of scale, economies of scope, and the like.⁶¹

⁵⁹ See Oliver Williamson, *Delimiting Antitrust*, 76 GEO. L. J. 271, 273 (1987) (describing influence of applied price theory tradition of antitrust); OLIVER WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM* 23–26, 365–84 (1985) (same); R. H. COASE, *Industrial Organization: A Proposal for Research*, in *THE FIRM, THE MARKET, AND THE LAW* 57, 58–62 (1988) (describing limitations of price-theoretic approach to industrial organization). See also Alan J. Meese, *Price Theory and Vertical Restraints: A Misunderstood Relation*, 45 UCLA L. REV. 143, 190–92 (1997) (describing price-theoretic assumptions underlying traditional doctrines governing vertical restraints).

⁶⁰ See WILLIAMSON, *supra* note 59, at 7–8, 86–89; Oliver Williamson, *Technology and Transaction Cost Economics*, 10 J. ECON. BEH. & ORG. 355, 356 (1988) (contending that, within price-theoretic paradigm, "the 'natural' boundaries of the firm were thought to be defined by engineering considerations"); George Stigler, *The Division of Labor is Limited By the Extent of the Market*, 59 J. POL. ECON. 185, 185 (1951) (economists "have generally treated as a (technological?) datum the problem of what the firm does—what governs its range of activities or functions").

⁶¹ See WILLIAMSON, *supra* note 59, at 3. Thus, works of the period referred to two—and only two—possible justifications for vertical inte-

Because the costs of performing any given economic activity were solely a function of production technology, the price-theoretic paradigm only recognized or contemplated efficiencies of the sort that could be realized *within* a firm, previous to any sale transaction. Concomitantly, within this paradigm, once a sale was made, and the item in question passed beyond the boundary of the firm, any efficiencies attributable to that firm were exhausted. Thus, there was nothing to be gained through contractual restrictions on the manner in which a purchaser used the item sold or performed any functions related to it.⁶² To be sure, a firm could realize (technological) efficiencies by integrating fully into another step of the production process; it could not, however, realize similar efficiencies by contract.⁶³

gration: (1) reduction in production costs and (2) monopolization or other antisocial behavior. *See, e.g.*, DONALD DEWEY, *MONOPOLY IN ECONOMICS AND LAW* 201-02 (1959); Friedrich Kessler & Richard Stern, *Competition, Contract and Vertical Integration*, 69 *YALE L.J.* 1, 2-3 (1959); Robert H. Bork, *Vertical Integration and the Sherman Act*, 22 *U. CHI. L. REV.* 157, 200 (1954). *See also* Williamson, *supra* note 60, at 356 (contending that, aside from engineering considerations, “[o]nly a narrow range of price theoretic purposes for reshaping economic organization are entertained by this conception of the firm . . . to perfect monopoly, evade sales taxes and the like”).

⁶² *See* WILLIAMSON, *supra* note 59, at 371 (concluding that, within price-theoretic paradigm, “there was nothing to be gained by introducing nonstandard [contractual] terms into market-mediated exchange”); *id.* at 23-26; COASE, *supra* note 59, at 67. A prime example is found in price theory’s treatment of exclusive dealing contracts. As described by price theorists, the benefits of such arrangements were limited to their propensity to lower the costs of production and distribution. Such arrangements, for instance, were thought to assure manufacturers of an outlet for their product and insure larger and less frequent deliveries. Because these benefits could be reflected in volume discounts, scholars said dealers would choose exclusive purchasing “voluntarily,” without contractual requirement. *See, e.g.*, JOEL B. DIRLAM & ALFRED E. KAHN, *FAIR COMPETITION: THE LAW AND ECONOMICS OF ANTITRUST POLICY* 181-87 (1954) (“[I]t is difficult to see why many of the mutual benefits and socially beneficent consequences of exclusive dealing require coercion for their achievement.”); *accord*, *Standard Oil Co.*, 337 U.S. at 313-14.

⁶³ *See* WILLIAMSON, *supra* note 59, at 184-89. Professor Williamson cites the brief of the United States in *United States v. Arnold Schwinn*,

Price theory's embrace of a technology-only view of efficiencies, it should be noted, depended upon certain critical assumptions about the behavior of those who took title to items once they passed beyond the seller's boundaries. For instance, it was assumed that purchasers had perfect information about items they bought, or that sellers could provide them with such information costlessly.⁶⁴ Moreover, it was assumed that purchasers would not act opportunistically, that is, would behave so as to maximize the joint utility of both parties.⁶⁵ Given these assumptions, price theorists saw no legitimate need for contractual restraints on the manner in which purchasers made use of the product.⁶⁶

388 U.S. 365 (1967), a brief authored by Donald Turner and Richard Posner. Similar reasoning can be found in William S. Comanor, *Vertical Territorial and Customer Restrictions: White Motor and Its Aftermath*, 81 HARV. L. REV. 1419, 1436 (1968).

⁶⁴ See Richard N. Langlois, *Transaction Costs, Production Costs, and the Passage of Time*, in COASEAN ECONOMICS: LAW AND ECONOMICS AND THE NEW INSTITUTIONAL ECONOMICS 2 (Steven G. Medema ed., 1998) ("In this kingdom [the price-theoretic paradigm], knowledge remains explicitly and freely transmittable, and cognitive limits seldom if ever constrain.").

⁶⁵ See WILLIAMSON, *supra* note 59, at 7 (noting that price-theoretic paradigm assumed that adjudication would prevent opportunism); *id.* at 48 (arguing that, in the absence of opportunism, parties could govern relationships through "general clause" contracting, requiring each to act in a jointly-rational manner); Comanor, *supra* note 63, at 1430 (asserting that "unrestricted market" would provide optimal quantity of pre- and postsale services, despite free-rider problem); *id.* at 1433 (same); Lee E. Preston, *Restricted Distribution Arrangements: Economic Analysis and Public Policy Factors*, 30 L. & CONTEMP. PROBS. 506, 511 n.12 (1965). Meese, *supra* note 59, at 190–92 (asserting that traditional approach to vertical restraints rested on such an assumption).

⁶⁶ Professor Williamson has summarized this milieu as follows:

The allocation of economic activity as between firms and markets was taken as a datum; firms were characterized as production functions; markets served as signaling devices; contracting was accomplished through an auctioneer; and disputes were disregarded because of the presumed efficacy of court adjudication. The possibility that subtle economizing purposes are served by organizational variety does not arise within—indeed, is effectively

The fact that price theory recognized only technological, pre-transactional efficiencies did not insure that it recognized *all* such efficiencies. The paradigm did more than assume that technology was the sole source of efficiencies; it also assumed that all firms possessed the same technology and thus faced the same production function.⁶⁷ This singular focus on (universally possessed)

beyond the reach of—this orthodox frame work. Correspondingly, the prevailing public policy attitude toward unfamiliar or nonstandard business practices during that interval was deep suspicion and even hostility.

WILLIAMSON, *supra* note 59, at 7.

Professor Coase offered a similar summary of the price-theoretic attitude toward contractual restraints.

[I]f an economist finds something—a business practice of one sort or other—that he does not understand, he looks for a monopoly explanation. And as we are very ignorant in this field, the number of ununderstandable practices tends to be rather large, and the reliance on a monopoly explanation is frequent.

COASE, *supra* note 59, at 67.

⁶⁷ Langlois, *supra* note 64, at 2–4 (“[T]he ‘theory of the firm’ of price theory . . . begins with identical idealized firms and then builds up to the industry by simple addition. . . . Thus does the ‘theory of the firm’ in the modern-day price theory start with firms as production functions, each one identical, and each one transforming homogeneous inputs into homogeneous outputs according to given technical ‘blueprints’ known to all.”). See also F. A. Hayek, *The Use of Knowledge in Society*, 35 AMER. ECON. REV. 519, 521–22 (1945) (decrying overreliance by economists and others upon “scientific knowledge,” to the exclusion of more localized, idiosyncratic knowledge). The assumption that firms all possess the same production function, of course, was most often associated explicitly with the perfect competition model. As Professor Hayek observed, however, most conditions of the perfect competition model “are equally assumed in the discussion of the various ‘imperfect’ or ‘monopolistic’ markets, which throughout assume certain unrealistic ‘perfections.’” See F. A. HAYEK, *The Meaning of Competition*, in INDIVIDUALISM AND ECONOMIC ORDER 94 (1948). See also *id.* at 97–98 (describing assumption of perfect competition model that “a large number of people are producing the same commodity and command the same objective facilities and opportunities for doing so”); Langlois, *supra* note 64, at 2 (noting that Joan Robinson and Edward Chamberlin, who pioneered the theory of oligopoly, relied upon price-theoretic models).

technology as the sole source of efficiencies precluded recognition of efficiencies associated with differences in institutional structure, personal knowledge, and the like.⁶⁸ In the real world, of course, such differences as well as, for that matter, historical accident, could lead different firms to adopt different technologies, or to employ similar technologies in varying ways.⁶⁹ By ignoring these differences in knowledge, structure and history, and thus assuming that all firms employed the same technology and faced the same costs, price theory missed important sources of pretransactional efficiency.

The law of tying, and with it the current test for distinguishing a bundle from a single product, reflect the price-theoretic paradigm. As I have shown elsewhere, the law's attitude toward tying distinct products flows readily from price theory's hostility toward contracts apparently designed to extend a firm's influence beyond its "natural" boundaries.⁷⁰ This hostility has found expres-

⁶⁸ See Williamson, *supra* note 59, at 11–12; Langlois, *supra* note 64, at 2–4. See also HAYEK, *supra* note 67, at 97–99.

⁶⁹ See, e.g., Langlois, *supra* note 64, at 11 ("Standard price theory partakes of the epistemology of old spy movies, in which complete knowledge of how to build and launch an ICBM could somehow be transcribed onto a microdot and hidden under a postage stamp. . . . In the world of tacit knowledge, [however,] having the same blueprints as one's competitors is unlikely to translate into having the same costs of production."); HAYEK, *supra* note 67, at 101–02 ("[I]n conditions of real life the position even of any two producers is hardly ever the same. . . . At any given moment the equipment of a particular firm is always largely determined by historical accident, and the problem is that it should make the best use of the given equipment (including the acquired capacities of the members of its staff) and not what it should do if it were given infinite time to adjust itself to constant conditions."); HAYEK, *supra* note 67, at 523 ("How easy is it for an inefficient manager to dissipate the differentials on which profitability rests and that it is possible, with the same technical facilities, to produce with a great variety of costs are among commonplaces of business experience that do not seem to be equally familiar in the study of the economist.").

⁷⁰ Meese, *supra* note 29, at 50–54. Cf. *Jefferson Parish*, 466 U.S. at 21–22 (stating that the single product test must be framed so as to identify those instances in which sellers "have foreclosed competition on the merits in a product market distinct from the market for the tying item").

sion not merely in the ease with which the per se rule is invoked, but also, of course, in the poor treatment accorded attempts at business justifications. Witness, for instance, the many statements by economists and others that purchasers are perfectly capable of deciding for themselves whether to purchase the items a seller wishes to bundle, even in those instances in which a seller can demonstrate that such bundling will protect its goodwill.⁷¹ This assumption of course, is reflected in tying law's conclusion that reliance upon the purchaser's judgment, perhaps informed by specifications, is an effective, less restrictive alternative that defeats the assertion of a business justification defense.⁷²

Of course, there is nothing to justify unless the law treats the bundled items as separate products. Like tying law generally, however, the separate demand test rests upon unrealistic assumptions associated with the price-theoretic paradigm. As noted earlier, this test treats separate sale of two items as efficient whenever *some* firms in the relevant market engage in such unbundling.⁷³ The necessary implication of such a finding, of course, is that the bundling before the court is not designed to minimize costs. This

⁷¹ See, e.g., James M. Ferguson, *Tying Arrangements and Reciprocity: An Economic Analysis*, 30 L. & CONTEMP. PROBS. 522, 558–64 (1965); Donald F. Turner, *The Validity of Tying Arrangements Under the Antitrust Laws*, 72 HARV. L. REV. 50, 66–67 (1958); Alfred E. Kahn, *A Legal and Economic Appraisal of the "New" Sherman and Clayton Acts*, 63 YALE L.J. 293, 324, n.160 (1954); William B. Lockhart & Howard R. Sacks, *The Relevance of Economic Factors in Determining Whether Exclusive Arrangements Violate Section 3 of the Clayton Act*, 65 HARV. L. REV. 913, 946 (1952); Louis B. Schwartz, *Potential Impairment of Competition—The Impact of Standard Oil Co. of Calif. v. United States*, 98 U. PA. L. REV. 10, 27 (1949) ("The efficiency of uniting two products in use [should] be judged by the end user.").

⁷² See *Eastman Kodak*, 504 U.S. at 483–84; *Standard Oil*, 337 U.S. at 305; *International Salt*, 332 U.S. at 397–98; *IBM*, 298 U.S. at 139; *Metrix Warehouse*, 828 F.2d at 1041; *Chicken Delight*, 448 F.2d at 51–52; *Judson L. Thomson Mfg. Co.*, 150 F.2d at 957–58. See also *Times-Picayune Co. v. United States*, 345 U.S. 594, 605 (1953) ("[A]ny intrinsic superiority of the 'tied' product would convince freely choosing buyers to select it over others, anyway.").

⁷³ See notes 46–49, *supra* and accompanying text.

result, however, depends upon the (price-theoretic) assumption that all firms in the relevant market, including the monopolist, share the same production function and thus the same costs as those firms that have chosen to unbundle.⁷⁴ Otherwise, there would be no basis for presuming that separate sale by the monopolist would be efficient. Efficiencies not realized by all, then, are barely recognized.

Posttransactional efficiencies, it seems, find themselves particularly hard hit by the separate demand approach. For, unlike pre-transactional efficiencies, which may in some cases correspond to uniform technological laws, posttransactional efficiencies will likely be correlated with nonuniform, idiosyncratic factors.⁷⁵ A fast food franchisor, for instance, may find itself with two classes of franchisee: those who do business in stable neighborhoods with a significant amount of repeat business, and those who do business on turnpikes with mostly one-time patrons. In these circumstances, a franchisor might logically decide to protect the goodwill associated with its trademark by requiring the second class of franchisee to purchase certain inputs only from the franchisor, leaving those franchisees in the first class free to choose inputs of their choice.⁷⁶ Or, a particular franchisor may confine its

⁷⁴ Indeed, a leading treatise explicitly assumes that universal bundling in one competitive market should establish that bundles in other markets are efficient because production costs and quality concerns will likely be uniform across geographic markets. *See AREEDA ET AL.*, *supra* note 50, ¶1744c1, at 198–99. *See also id.* ¶1744c4, at 200 (“That the unconcentrated competitors bundle A-B in the very same market as the defendant makes it unlikely that the cost, quality, or consumer preference implications of the bundling differ among the sellers.”). The treatise offers no theoretical argument or empirical evidence for these assertions that firms that make the same products generally share the same production functions.

⁷⁵ *See WILLIAMSON*, *supra* note 59, at 48.

⁷⁶ *See Meese*, *supra* note 38, at 119, n.37; *WILLIAMSON*, *supra* note 59, at 48 (“It is not necessary, moreover, that all parties be given to opportunism in identical degree. . . . [I]f the propensity to behave opportunistically is known to vary among members of the contracting population, . . . gains can be realized by expending resources to discriminate among types.”). Indeed, some franchisors have gone so far as to

locations to areas where repeat business predominates, and thus eschew bundling, while a different franchisor that focuses only on turnpikes or similar areas with little repeat business might adopt bundling throughout its entire system.⁷⁷

Each such instance of franchisor bundling could produce substantial benefits; yet, each will be deemed a tie of separate products under current law. For, under that law, a trademark and good or service will only be deemed a single product where the franchise is of a source variety, that is, where the trademark in question simply signals that the bundled item was necessarily manufactured within the same firm that owns the trademark.⁷⁸ If, on the other hand, the franchise is of a business format variety, the trademark will merely signify that the franchisee is operating under the franchisor's guidelines, and not that the franchise product originates with the franchisor. Many other firms will likely manufacture the bundled item, and the separate demand test will require the conclusion that the bundle consists of two distinct products.⁷⁹ Items that technology requires to be produced within

integrate vertically with respect to those outlets that serve mostly one-time customers, leaving other outlets independently owned. See Keith K. Wollenberg, Note, *An Economic Analysis of Tie-In Sales: Reexamining the Leverage Theory*, 39 STAN. L. REV. 737, 754–55, n.114 (1987) (noting that Standard Oil once owned all service stations operating on interstate highways, while allowing owner-operated stations in neighborhoods where repeat trade was prevalent).

⁷⁷ See Klein & Saft, *supra* note 29, at 348, n.15 (noting that a particular franchisor “assured high-quality supply by granting franchisees fairly large exclusive territories and locating their outlets off the main highway”).

⁷⁸ See *Power Test Petroleum Distributors v. Calcu Gas*, 754 F.2d 91, 96–98 (2d Cir. 1985); *Jack Walters*, 737 F.2d at 704–05; *Krehl v. Baskin-Robbins Ice Cream Co.*, 664 F.2d 1348 (9th Cir. 1982).

⁷⁹ See, e.g., *Faulkner Advertising Associates*, 905 F.2d at 772–74; *Chicken Delight*, 448 F.2d at 51–52; *William Cohen & Son v. All American Hero, Inc.*, 693 F. Supp. 201, 205–07 (D. N.J. 1988); *Smith v. Mobil Oil Corp.*, 667 F. Supp. 1314 (W.D. Mo. 1987). The leading academic proponent of the separate demand test, it should be noted, has rejected any distinction between source and business format franchises, arguing that, in either case, courts should deem a bundle that produces significant

the firm owning the trademark will be deemed part of a single product, those naturally produced outside the firm will be deemed distinct.⁸⁰ As two scholars have noted, this result is perverse, as bundling may well produce more benefits where a business format franchise is involved.⁸¹

To some extent, the current bias against efficiencies not acknowledged by the price-theoretic paradigm could be remedied by explicitly recognizing the availability of affirmative defenses and relaxing the traditionally onerous standards governing their assertion. And, indeed, several scholars, including some who support the current contours of the single product test, have called for just such an approach.⁸² More precisely, these scholars have called

efficiencies a single product. *See AREEDA ET AL.*, *supra* note 50, ¶ 1749a2. Thus, the treatise approves of the result in *Principe*, although many franchisors do not, as McDonald's did there, require their franchisees to lease real estate from them. *See id.* ¶ 1749a2, at 256, n.25 (approving *Principe*). The treatise implicitly concedes, then, that the separate demand test does not identify all bundles that produce significant benefits.

⁸⁰ *Chicken Delight*, 448 F.2d at 48, n.4 (concluding that Chicken Delight trademark and bundled items were separate products because, *inter alia*, "Chicken Delight did not itself manufacture the tied items"). Similarly, the manufacturer of a complex machine may believe that some purchasers have the correct incentives and expertise to choose their own complementary products, but that others are incapable of making such choices. *See IBM*, 298 U.S. at 134 (noting that IBM, which bundled the purchase of adding machines and punch cards, allowed the United States to purchase cards separately, upon payment of a royalty). If, however, the manufacturer should choose to bundle only with respect to the second class of customers, the separate demand test will compel a finding that the seller has tied two separate products. *PSI Corp.*, 104 F.3d at 816–17 (describing Honeywell's practice of bundling with respect to some customers but not others and concluding that two products were present); *Allen-Myland, Inc. v. IBM*, 33 F.3d 194, 214 (3d Cir. 1994) (same). *Cf. Eastman Kodak*, 504 U.S. at 484 (questioning Kodak's claim that bundling was necessary to protect its goodwill because the policy was not pursued consistently).

⁸¹ Klein & Saft, *supra* note 29, at 359–61.

⁸² *See, e.g., AREEDA ET AL.*, *supra* note 50, ¶ 1760e-f; HOVENKAMP, *supra* note 41, at 369; ROSS, *supra* note 41, at 296–300. *See also* Meese, *supra* note 38, at 141–45, 149–52 (taking contours of separate product

on courts to treat efficiencies not identified by the separate demand test just as courts would treat such efficiencies in the rule of reason context.⁸³ Indeed, as noted earlier, one treatise has explicitly argued that the availability of such relaxed scrutiny justifies the refusal to consider nonuniversal efficiencies at the single product stage.⁸⁴

Certainly relaxation of the current judicial hostility toward the assertion of justifications to bundles would be a positive development; indeed, I have argued elsewhere that the prevalence of such efficiencies requires repeal of the per se rule.⁸⁵ Still, such relaxation would not eliminate entirely the disparate treatment currently accorded different sorts of efficiencies. Instead, under such a regime, any efficiencies captured by the separate demand test would, ipso facto, immunize the bundle from further scrutiny. Other efficiencies, however, would have to be weighed against any anticompetitive effects produced by the bundle. Moreover, even if such efficiencies were to predominate, the bundle would nevertheless be condemned if the same (or nearly the same) benefits could be achieved through less restrictive means.⁸⁶

test as a given and advocating relaxation of standards governing affirmative defenses).

⁸³ See Meese, *supra* note 82, at 141–45, 149–52; AREEDA ET AL., *supra* note 50, ¶1760e–f; HOVENKAMP, *supra* note 41, at 369; ROSS, *supra* note 41, at 296–300.

⁸⁴ See AREEDA ET AL., *supra* note 50, ¶1741b, at 180–81. See also ROSS, *supra* note 41, at 290.

⁸⁵ See Meese, *supra* note 29, at 86–94.

⁸⁶ See AREEDA ET AL., *supra* note 50, ¶1760d (“Even where the benefit of the restraint outweighs the harm, society need not suffer that harm if the defendant’s legitimate objectives can be achieved equally well (or nearly so) by an alternative means that restrains competition substantially less.”); see also VII AREEDA ET AL., *supra* note 50, ¶1505, at 385–89 (describing identical approach in the rule of reason context). This treatise recognizes that rule of reason scrutiny would treat efficiencies less favorably than does the single product test it praises and advocates. See AREEDA ET AL., *supra* note 50, ¶1760c, at 366. On the next page, however, it asserts that “a tribunal’s relative hospitality to efficiency and other defenses should be the same whether lack of justification is consid-

The rationale for such disparate treatment is not immediately apparent. According to some, where bundling two items is a universal practice, forcing a monopolist to unbundle will be inefficient, i.e., will force the firm to employ more real resources than necessary to provide the ultimate good or service in question.⁸⁷ Moreover, because firms with no market power will remain free to bundle, forced unbundling will place the monopolist at a competitive disadvantage.⁸⁸ Each of these arguments, however, depends upon the assumption that all firms, including the monopolist, share the same production function, i.e., that the monopolist realizes the same efficiencies through bundling as do smaller firms. If, on the other hand, bundling does not produce the same efficiencies for the monopolist, prohibiting such bundling will have no negative effects.

Let us assume, however, that the presence of universal bundling establishes that firms share the same production function. Even if this is the case, there is still no reason to distinguish universal efficiencies from those that are achieved only by certain firms, such as the monopolist. For, even in the case of nonuniversal efficiencies, forcing the monopolist to unbundle will be inefficient, raise the firm's costs and place it at a disadvantage vis a vis those firms still allowed to bundle, or firms that can replicate its costs without bundling. Relaxation of the price-theoretic assumption that all firms share the same production function, and the concomitant recognition that bundling can benefit some but not others, calls into question any preference for bundles that are universally adopted. Consistency would seem to require adjustments in tying doctrine designed to take cognizance of efficiencies in a more rational manner.

ered under the one product or the defensive heading." *Id.* ¶ 1760c, at 367. Both statements, it seems, cannot be correct.

⁸⁷ See note 55, *supra* and accompanying text.

⁸⁸ See note 56, *supra* and accompanying text.

B. Special treatment for innovations

The shortcomings of the separate demand test are most apparent in rapidly changing markets, where firms are least likely to share similar cost structures. Thus, even scholars who otherwise support the *Jefferson Parish* separate demand test have advocated a more relaxed approach where the bundle in question can be characterized as an innovation. As defined by these scholars, “innovation” can take two forms. First, a firm may cause previously separate items to work together in a new manner.⁸⁹ Or, a firm may begin bundling items that had, in the past, been combined downstream by purchasers.⁹⁰ In either case, a straightforward application of the *Jefferson Parish* test would seem to mandate a finding that the bundled items are separate products. By hypothesis, after all, the items have always been sold separately; moreover, other firms may not rapidly mimic the innovation.⁹¹ Thus, it would seem, there will be a separate demand for bundled items and tying analysis must proceed.

Despite the apparent result under the price-theoretic separate demand test, scholars have argued that courts should allow sellers to demonstrate directly that, in fact, an innovative combination actually lowers the costs of production or creates an improved product, and that consumers are not able to replicate these benefits by combining the separate items themselves.⁹² If the innovative bundle does create such benefits, there is only one product, and scrutiny should end.⁹³ If not, then tying analysis should go forward and any claim that the bundle produces net benefits should be evaluated as an affirmative defense. And, indeed, some

⁸⁹ AREEDA ET AL., *supra* note 50, ¶ 1746, at 224–25.

⁹⁰ *Id.* at 225–26.

⁹¹ *See id.* at 224 (“By definition, new products are product bundles that others have not significantly marketed. Thus, they cannot be found a single product under the [separate demand] test.”).

⁹² *See id.* at 224–29; HOVENKAMP, *supra* note 41, at 368–69.

⁹³ *See* AREEDA ET AL., *supra* note 50, ¶ 1746, at 224–29; HOVENKAMP, *supra* note 41, at 368–69. *See also* *Jack Walters, Inc.*, 737 F.2d at 703.

lower courts have employed just such a test, albeit before *Jefferson Parish* announced the separate demand standard.⁹⁴

Of course, any test that allows sellers of innovative bundles to demonstrate directly the benefits of such arrangements will take cognizance of a broader range of efficiencies than can be captured under the separate demand test. In particular, such a test will capture—and treat as dispositive—efficiencies that a particular firm might realize ahead of or to the exclusion of others. Thus, the test will eliminate some of the disparate treatment produced by price theory's assumption that market participants generally face the same production function.⁹⁵ Still, such an approach is not entirely divorced from price theory; for, like the separate demand test, the test will not identify posttransactional benefits. Instead, courts and scholars have limited their definition of cost savings to those realized through so-called technological tying, that is, efficiencies that a firm can generate by technologically uniting two or more items.⁹⁶ Savings realized by uniting items contractually—that is,

⁹⁴ See, e.g., *Response of Carolina, Inc. v. Leasco Response, Inc.*, 537 F.2d 1307, 1330–31 (5th Cir. 1976) (declaring operating system and computer hardware a single product because “technological factor tying the hardware to the software” was designed “to achieve [a] technologically beneficial result”) (alternate holding); *Telex Corp. v. IBM*, 367 F. Supp. 258, 347 (N.D. Okla. 1973), *rev'd on other grounds*, 510 F.2d 894 (10th Cir. 1975); *ILC Peripherals Leasing Corp. v. IBM Corp.*, 448 F. Supp. 228, 230–32 (N.D. Cal. 1978) (finding combination of PC drive unit and head/disk assembly a single product because, *inter alia*, combination eliminated need for an automatic loading mechanism and thus lowered the cost per megabyte of storage capacity); *but compare id.* at 232–33 (relying also upon fact that combination was consistent with industry practice). See also *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534, 541–43 (9th Cir. 1983) (finding that Kodak's release of new film that could only be developed using Kodak chemicals and paper was not a “tie” because no coercion was present).

⁹⁵ Cf. notes 67–68, *supra* and accompanying text (describing price theory's assumption that firms generally possess the same production function).

⁹⁶ See AREEDA ET AL., *supra* note 50, ¶1746, at 225–27; HOVENKAMP, *supra* note 41, at 368–69 (“Any demonstrated cost reduction that results from the way an arrangement of items is manufactured or sold should

using contract to limit the discretion of purchasers—are not recognized under this approach.⁹⁷ Indeed, as noted earlier, one leading treatise states that, in determining whether an innovative bundle produces efficiencies and should thus be deemed a single product, courts should ask whether purchasers *could* replicate the bundle and its benefits themselves.⁹⁸ In so doing, this treatise ignores the question whether purchasers possess the information or incentive to make the proper choice.⁹⁹ As a result, so long as

create an inference that the combination is a single product. Such ‘tie ins’ should generally be legal, even if the seller is a monopolist.”) (emphasis added). Despite the qualifying language (“generally”), Professor Hovenkamp does not explain when such ties should be unlawful.

⁹⁷ *In re Data General Antitrust Litigation*, 490 F. Supp. 1089 (N.D. Cal.), provides a prime example of the disparate treatment of technological and contractual efficiencies in this context. There the defendant required customers who purchased its operating systems also to purchase its central processing units (CPUs), even though its OS would function on other CPUs. The defendant claimed that its operating system and CPU were a single product, invoking posttransactional efficiencies. For instance, the defendant asserted that the OS “will not function reliably when used with foreign CPUs and [that] it is extremely difficult to service [defendant’s] software when used with foreign CPUs.” *Id.* at 1106. While the court agreed that “these considerations are relevant to the ultimate determination of whether the tie-in is unlawful,” it held that such considerations were properly taken “into account as affirmative, business justification defenses rather than [by] folding them into the separate products issue.” *Id.*

⁹⁸ See AREEDA ET AL., *supra* note 50, ¶ 1746, at 227.

⁹⁹ For instance, this treatise concludes that International Salt’s bundle of its salt dispensing machine and salt did not constitute an innovative, single product, “even if defendant’s machine worked better with his salt” because “the customer was no less *able* to put the items together than the defendant.” *Id.* ¶ 1746, at 227 (emphasis added); see *International Salt Co.*, 332 U.S. at 397–98 (rejecting assertion that tie of salt to salt dispensing machine was necessary to protect goodwill associated with machine). In so doing, the treatise does not address whether International Salt’s customers would have the information and incentive necessary to employ the appropriate sort of salt. This approach, of course, replicates that taken by courts hostile to affirmative defenses. See *Eastman Kodak*, 504 U.S. at 483–84 (asserting that tying is not necessary to protect a seller’s goodwill where other vendors “could” produce substi-

items are technologically separate, they constitute separate products, and are subjected to the hostility of the *per se* rule, even if uniting them contractually produces *post*transactional efficiencies.¹⁰⁰ Thus, while the test proposed for innovative bundles discards one price-theoretic assumption—universal production functions—it retains price theory’s hostility toward *post*transactional efficiencies. Some consistency is achieved, as the generous attitude toward universal efficiencies is extended to some benefits realized by particular firms. This extension is limited, however, reaching only those bundles that are innovations, and only those innovations that bring technological benefits.

tutes for tied item of sufficient quality); *Chicken Delight*, 448 F.2d at 51–52 (finding that less restrictive alternatives would further franchisor’s interest where other manufacturers “could” produce substitutes for the tied product). *Cf.* Meese, *supra* note 29, at 75–81 (showing that purchasers may not purchase appropriate tied item even if vendors are willing and able to provide it).

¹⁰⁰ To be sure, these scholars purport to distinguish between reductions in production costs and reductions in transaction costs, treating each as cognizable efficiencies that can justify a finding that two items are in fact a single product. *See* AREEDA ET AL., *supra* note 50, ¶1741, at 182; HOVENKAMP, *supra* note 41, at 367 (same). However, it is clear that, in employing the phrase “transaction costs,” these authors are referring not to *post*transaction costs, such as opportunism, but instead *pre*transaction costs, such as sales expenses. *See* AREEDA ET AL., *supra* note 50, ¶1741, at 182; HOVENKAMP, *supra* note 41, at 369 (referring to “cost reductions” derived from the way in which items are “manufactured or sold”). These *pre*transaction costs, of course, are the sort of technological efficiencies traditionally recognized by the price-theoretic paradigm. Compare Carl Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 144–47 (1979) (distinguishing between various definitions of transaction costs).

IV. Innovative bundles in cyberspace: toward a rule of reason standard

A. *Two cheers for consistency: the D.C. Circuit's generous treatment of innovative bundles*

Litigation over the application of the 1994 consent decree to Microsoft's Windows 95/IE bundle highlighted the shortcomings of both the separate demand test and technological tying doctrine. It seems clear under the separate demand test that Windows 95 and IE 3.0 and 4.0 were distinct products and thus not properly treated as integrated within the meaning of the 1994 decree.¹⁰¹ There was apparently a separate demand for Internet browsers. Microsoft itself once sold browsers and operating systems separately, and other makers of operating systems continue to do the same.¹⁰² Under *Jefferson Parish* and subsequent case law, it seems

¹⁰¹ Assuming, of course, that tying law supplied the meaning of "integrated." See note 23, *supra* and accompanying text (describing D.C. Circuit's reliance upon tying law for its conclusion that the two items were integrated and thus outside the terms of the decree).

¹⁰² See *Microsoft*, 147 F.3d at 940–41; Plaintiffs' Response to Microsoft's Motion for Summary Judgment, at 45–46, 56 (arguing that other OS makers offer OEMs a choice of browsers). Microsoft apparently does not dispute this, instead arguing that no firm offers operating systems without also providing Web browsing functionality. See Microsoft's Memorandum in Support of Summary Judgment, at 34–36. Even if all OS makers do require OEMs to purchase a browser, that does not preclude a finding of separate demand. No hospital, for instance, performs operations without anesthesia. Still, the Supreme Court found a separate demand for anesthesiologists because some hospitals, at least, allowed patients to choose their own anesthesiologist. See *Jefferson Parish*, 466 U.S. at 22–23.

The United States also makes much of the fact that Microsoft offers IE separately, on a stand-alone basis, directly to consumers. See, e.g., Plaintiffs' Response to Microsoft's Motion for Summary Judgment, at 52–53. Such separate marketing, however, does not appear independently relevant. An automotive company may well market batteries, spark plugs, etc. separately, to consumers who have purchased cars elsewhere. Such separate marketing, however, would not suggest that, for instance, spark plugs and automobiles are separate products.

clear that separate sale of Windows 95 and Internet Explorer was efficient with the result that they were separate products.¹⁰³

To be sure, Microsoft argued that the combination of Windows 95 and its browser was an innovation, i.e., that certain OS functionalities were not available if a different browser was employed.¹⁰⁴ Thus, it continued, the two products were “integrated” within the meaning of the decree, a result supported by technological tying doctrine. Yet, even if this doctrine survived *Jefferson Parish*, it did not save entirely Microsoft’s bundle. While the Windows 95/IE 3.0 bundle was properly characterized as “technological,” Microsoft provided Windows 95 and IE 4.0 on separate disks, and OEMs could have achieved the benefits of combining these two items just as readily as could Microsoft, by choosing to purchase IE and installing it.¹⁰⁵ Microsoft’s contractual requirement to do so, it seems, added nothing to the functional benefits of combining the two items.

Despite these obstacles, the D.C. Circuit still suggested that both bundles were integrated products within the meaning of the decree. In light of the various anomalies that beset current doctrine, this is not surprising. No doubt the court realized that its opinion would be relevant outside the context of the consent decree and that a conclusion that the two items were not integrated could subject similar software bundles to per se treatment and the accompanying hostility to any efficiency claims. Moreover, the facts before the court made it quite plain that bundle-

¹⁰³ *Jefferson Parish*, 466 U.S. at 19–21; *Eastman Kodak*, 504 U.S. at 462–63. Cf. *PSI, Inc.*, 104 F.3d at 816–17 (concluding that circuit boards were not a single product because some firms sold component parts of such boards separately); *Allen-Myland, Inc.*, 33 F.3d at 214.

¹⁰⁴ See *Microsoft*, 147 F.3d at 950–51. See also Microsoft’s Memorandum in Support of Summary Judgment, at 27–29 (describing various benefits purportedly created by bundle of Windows 98 and Internet Explorer).

¹⁰⁵ See AREEDA ET AL., *supra* note 50, ¶1746b, at 229 (“To find a new product, the items of software must operate better when bundled together by the seller than they would if they were distributed on different diskettes and installed by the buyer.”).

generated efficiencies need not be universally realized to be real. The separate demand test, with its price-theoretic assumption of static, universal production functions seemed poorly suited to an industry where product upgrades are released on an annual basis.

Still, while bolstering Microsoft's assertion that Windows 95/IE 3.0 was an integrated product, rejection of the separate demand test did not by itself suggest that the Windows 95/IE 4.0 bundle was similarly integrated, as consumers were capable of combining the two items themselves. Again, however, the facts before the court seemed to call into question the distinction between pre- and posttransactional efficiencies. The court could not believe that the result under the decree or tying doctrine must turn on "which firm's employees should run particular disks or CD-ROMs," that is, on whether the benefits in question were generated before or after the software left the boundaries of the firm.¹⁰⁶ As the court observed: "software code by its nature is susceptible to division and combination in a way that physical products are not."¹⁰⁷ It was therefore feasible, the court said, to divide any particular software program into two aggregations of code, and to distribute each aggregation on separate disks. The mere fact that programs could be so bifurcated should not render what was otherwise one product two.¹⁰⁸ Concomitantly, the court said, the law should recognize those efficiencies that might result from uniting two items after they left the boundaries of the firm.¹⁰⁹ Thus, it concluded, an innovative bundle—even a bundle created by contract—should be considered a single product unless it produced no benefits or was created solely for anticompetitive purposes.¹¹⁰

¹⁰⁶ See *Microsoft*, 147 F.3d at 951.

¹⁰⁷ See *id.*

¹⁰⁸ *Id.* at 951–52.

¹⁰⁹ *Id.* at 950–52.

¹¹⁰ *Id.* at 949 and n.12. See also *Microsoft*, 1998 Trade Cas. at 82,674–75 (employing this test to determine whether Windows 98 and IE 4.0 are separate products for tying purposes).

The D.C. Circuit's approach has the undoubted virtue of consistency: nonuniversal benefits, including those that arise post-transaction, are placed on an equal footing with those that would be captured by the separate demand test. Nevertheless, even under this approach, noninnovative bundles will still be subject to the *per se* rule whenever there is a separate demand for their components.¹¹¹ At any rate, uniformity does not by itself recommend the approach adopted by the court. After all, there is more than one uniform rule that could be applied to efficiency-creating bundles; one could, for instance, subject all bundles—even those universally adopted—to rule of reason scrutiny. The ultimate question posed by the unraveling of the separate demand test, then, is not whether efficiencies should be assessed under a uniform standard, but, instead, which uniform standard to adopt. The most logical candidates seem to be (1) extending the generous treatment accorded universal bundles to all beneficial bundles, or (2) subjecting all bundles to traditional rule of reason scrutiny. Under the latter approach, proof that a bundle generates anticompetitive harm would establish *prima facie* illegality, shifting a burden of production to the proponent of the bundle.¹¹²

Of course, this fundamental choice was not before the court in any practical sense. Given the decree's exception for integrated products as well as Supreme Court precedent, the D.C. Circuit was in no position to declare all bundles—even those universally adopted—subject to rule of reason scrutiny. Such a pronouncement would have been tantamount to a repudiation of the requirement that two products be present before an unlawful tie can be found. Still, nothing compelled the court to extend the generous treatment accorded to universal bundles to those that, while beneficial, were only adopted by some market participants. More precisely, the court could have subjected innovative bundles to closer scrutiny, leaving for another day—and another court—the question how to treat universal bundles in a postprice theory world.

¹¹¹ See notes 32–39, *supra* and accompanying text (describing varying standards lower courts apply to attempts to justify ties).

¹¹² See, e.g., IX AREEDA, *supra* note 50, ¶¶ 1728–29 (describing rule of reason as applied in tying context).

Still, because the D.C. Circuit was writing in the shadow of a per se rule hostile even to beneficial ties, one might argue, true rule of reason treatment was not an option, and the court's approach was appealing as a matter of second best, particularly in an environment in which a parallel Sherman Act suit was underway. In that litigation, it should be noted, the government has relied explicitly on the per se rule, despite its shaky economic foundations.¹¹³ Thus, the D.C. Circuit's opinion can be seen as a return to those pre-*Jefferson Parish* decisions that circumvented the per se rule through manipulation of the single product test.¹¹⁴ Yet, the logic of the court's approach to the single product test cannot be limited to the per se context; it would apply even if ties were subjected only to rule of reason scrutiny.¹¹⁵ Moreover, had the court looked beyond the precise issue before it, i.e., the mean-

¹¹³ See Memorandum in Support of Motion for Preliminary Injunction, at 47. At one level, the government's reliance on the per se rule is unexceptional. The rule is, after all, "the law." Still, in other contexts, the government has refrained from enforcing the antitrust laws to the full extent allowed by extant case law, choosing to underenforce those precedents no longer supported by sound economic theory. See William Baxter, *Separation of Powers, Prosecutorial Discretion, and the Common Law Nature of Antitrust*, 60 TEX. L. REV. 661 (1982) (justifying such a flexible approach); Frank H. Easterbrook, *Is There a Ratchet in Antitrust Law*, 60 TEX. L. REV. 705, 711 (1982) (noting that, during the Carter administration, the antitrust division "refused to enforce the Robinson-Patman Act at all and based [this] refusal on an economic approach that amounted to nothing more than a disagreement with the Congress that enacted the statute."). Cf. Meese, *supra* note 29, at 86-94 (arguing that advances in economic theory have undermined economic premises of the per se rule). Ironically, then, the government's stubborn adherence to the per se rule may well lead the D.C. Circuit to the other extreme, i.e., a finding that the Windows/IE bundle is a single product, despite a separate demand for the two items.

¹¹⁴ Cf. *Principe*, 631 F.2d at 308-10; *Dehydrating Process Co.*, 292 F.2d at 655-57.

¹¹⁵ See AREEDA ET AL., *supra* note 50, ¶ 1742a-d (concluding that determination that two items are a single product should also preclude tying analysis under rule of reason). See also Meese, *supra* note 29, at 86-94 (arguing that tying contracts should be analyzed under the rule of reason).

ing of “integrated product” under the consent decree, it may have found the doctrinal tools necessary to construct something like a rule of reason test in substance if not in form. To be precise, the court could have rejected Microsoft’s argument that the mere presence of plausible benefits established that the Windows 95/IE bundle was integrated within the meaning of the decree and instead adopted a more discriminating analysis along the lines of the rule of reason.¹¹⁶ At the same time, the court could have signaled that, under the Sherman Act, Microsoft would be free to justify any tie, even one purportedly deemed per se unlawful.¹¹⁷ To be sure, such an approach would have been controversial in light of the Supreme Court’s hostility to business justification defenses.¹¹⁸ The approach the court actually took—finding an integrated product despite a separate demand for Internet browsers—was equally controversial.¹¹⁹

¹¹⁶ Cf. *Microsoft*, 147 F.3d at 958–59 (Wald, J., dissenting) (arguing that court should determine whether a bundle is integrated by asking “whether the resulting product confers benefits on the consumer that justify a product’s bridging of two formerly separate markets”).

¹¹⁷ See, e.g., *Mozart Co.*, 833 F.2d at 1348–51 (affirming jury’s finding that franchise tie was justified). Of course, adoption of a generous business justification defense would not entirely replicate a rule of reason analysis, as a plaintiff could still establish a prima facie case simply by showing a tie and market power. See Meese, *supra* note 29, at 12–21 (showing that modern per se rule depends on presumption that ties obtained by a monopolist are “forced” on purchasers and that such forcing produces anticompetitive effects); *Jefferson Parish*, 466 U.S. at 12–15 (explaining that purpose of per se rule is to identify instances in which ties are “forced” on purchasers). However, proof that the tie creates significant benefits will shift to the plaintiff the burden of establishing that the tie’s harms outweigh its benefits. See AREEDA ET AL., *supra* note 50, ¶ 1760e2, f. Such proof is not possible absent actual evidence of anticompetitive effect. *Id.* Adoption of properly calibrated business justification defenses, then, would move tying a doctrine a long way toward a de facto rule of reason standard.

¹¹⁸ See notes 32–39, *supra* and accompanying text.

¹¹⁹ See *Microsoft*, 1998-2 Trade Cas. at 82,672–74 (taking issue with D.C. Circuit’s rejection of the separate demand test).

B. Constructing a rule of reason test for innovative bundles

It seems likely that the D.C. Circuit will get a second chance to address this question. Shortly before the D.C. Circuit issued its opinion, the government filed a Sherman Act suit, challenging not only the Windows 95/IE bundle, but also the release of Windows 98, which Microsoft combined with IE 4.0. Unlike the Windows 95/IE 4.0 bundle, which was accomplished by contract, the Windows 98/IE combination was accomplished through software code. Indeed, Microsoft has claimed that the two items are *so* integrated that removal of the code that provides browser functionality would “do serious violence to the operating system” as well.¹²⁰ Because this combination generates significant benefits, Microsoft continues, the Windows 98/IE bundle is properly deemed a single product.¹²¹

In so arguing, of course, Microsoft is asking for treatment more lenient than the rule of reason. Such scrutiny, however, is the norm and not the exception in antitrust analysis; departure from this standard requires concrete justification.¹²² Of course, the single product test is itself more lenient than the rule of reason in those instances in which bundling is universal. Extending such leniency to cases in which bundling is not universal, however, itself requires justification; indeed, the absence of such justification may call the leniency of the single product test into question.

Courts and scholars have offered various rationales for extending this deferential treatment to innovative bundles. In particular, it is said, rule of reason scrutiny for technological ties would be subject to a high risk of error and thus deter technological

¹²⁰ See Microsoft’s Memorandum in Support of Summary Judgment, at 28 (“Internet Explorer technologies are even more deeply integrated into Windows 98 than they were in Windows 95.”); *id.* at 32 (“[T]here is no distinct product called Internet Explorer that can be separated from Windows 98 without doing serious violence to the operating system.”).

¹²¹ See Microsoft’s Memorandum in Support of Summary Judgment, at 27–33.

¹²² See *Business Electronics Corp. v. Sharp Electronics*, 485 U.S. 717, 723–24 (1988).

progress.¹²³ Judges, some courts and scholars have said, simply do not possess the requisite expertise to second-guess decisions involving product design.¹²⁴ The D.C. Circuit, of course, relied precisely upon this rationale in rejecting the separate demand test.¹²⁵

This argument does not appear persuasive. The difficulties inherent in balancing can just as well support a quite different result, namely, liability upon any showing of significant anticompetitive effect.¹²⁶ Wisely, however, antitrust courts have generally avoided each of these extremes, often engaging in the very sort of balancing that some reject as beyond judicial competence. Where, for instance, a seller demonstrates that a vertical restraint produces procompetitive benefits, or a dealer shows that such a restraint works anticompetitive harm, courts do not end the inquiry. Instead, they balance benefits against the harms produced by the arrangement.¹²⁷ This is so, it should be noted, even though

¹²³ See *Microsoft*, 147 F.3d at 950 n.13 (“[T]he limited competence of courts to evaluate high-tech product designs and the high cost of error should make them wary of second-guessing the claimed benefits of a particular design decision.”); *Foremost Pro Color*, 703 F.2d at 543; *Response of Carolina, Inc.*, 537 F.2d at 1330; *Telex Corp.*, 367 F. Supp. at 347; see also *AREEDA ET AL.*, *supra* note 50, ¶ 1746, at 226.

¹²⁴ *Microsoft*, 147 F.3d at 950–51, n.13; *Response of Carolina, Inc.*, 537 F.2d at 1330; *Telex Corp.*, 367 F. Supp. at 347. See also *AREEDA ET AL.*, *supra* note 50, ¶ 1746, at 226 (“[where innovations are involved] tribunals could review such arguments as an efficiency defense, but they lack the technical expertise to judge product design. As a result, allowing tying inquiry to proceed is likely to result in errors that would deter socially desirable innovations and variations in product design.”); *Hovenkamp*, *supra* note 41, at 369 (“No court could balance the social losses that a forced combination sale may impose against potential social gains.”).

¹²⁵ See *Microsoft*, 147 F. 3d at 950–53.

¹²⁶ See, e.g., *United States v. Topco*, 405 U.S. 596, 609 n.10 (1972) (suggesting that per se prohibition is preferable to “rambling through the wilds of economic theory in order to maintain a flexible approach”).

¹²⁷ See, e.g., *Continental T.V. v. G.T.E. Sylvania*, 433 U.S. 36, 52–59 (1977).

the benefits of such arrangements, such as the amelioration of opportunism or the enhancement of goodwill, are not subject to neat quantification and comparison with anticompetitive effects.¹²⁸ Similarly, courts do not condemn a merger simply because it creates market power, or immunize it because it produces efficiencies.

In short, the mere fact that a transaction or contract generates benefits and thus would have been adopted absent an expectation of market power does not ordinarily place it beyond antitrust scrutiny.¹²⁹ Instead, where such an arrangement produces market power, courts and the enforcement agencies balance the harm flowing from that power against any benefits produced by the transaction.¹³⁰ Indeed, the efficiencies ascribed to mergers or other contractual arrangements are often the very sort of (technological) benefits—reduction in production costs or creation of an improved product—that are ascribed to innovative bundles.¹³¹ There is no

¹²⁸ See Oliver Williamson, *Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach*, 127 U. PA. L. REV. 953, 993 n.135 (1979) (noting that “a rigorous demonstration” of the benefits produced by vertical restraints “is not apt to be feasible”). See also Meese, *supra* note 29, at 79–80 (showing that goodwill benefits of bundling can extend beyond bundled products to include any product bearing the seller’s trademark).

¹²⁹ In *Broadcast Music Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1 (1979), for instance, the Court relied, in part, on the fact that small performing rights societies offered the very sort of blanket license there under challenge. 441 U.S. at 22–25. While the fact that this mechanism was acceptable to a “large part of the market” militated against per se illegality, it did not, in the Court’s eyes anyway, militate toward per se legality.

¹³⁰ See, e.g., *F.T.C. v. University Health, Inc.*, 938 F.2d 1206, 1222–23 (11th Cir. 1991); *United States v. United Tote, Inc.*, 768 F. Supp. 1064, 1084–85 (D. Del. 1991).

¹³¹ See, e.g., *University Health, Inc.*, 938 F.2d at 1223 (evaluating claim that transaction would eliminate unnecessary duplication of productive assets and thus lower production costs); *United Tote*, 768 F. Supp. at 1084–85 (scrutinizing and rejecting claim that merger was justified because it would lead to “improved product innovation efforts”); *BMI*, 441 U.S. at 16–25 (holding that blanket license agreement that “substantially lower[s] costs” essentially created a new product and was

apparent reason why courts are capable of balancing good and bad effects in one context but not the other. Indeed, where non-innovative bundles are involved, courts freely evaluate business justifications, sometimes making difficult judgments about technological interoperability.¹³²

Courts should not take a different approach simply because innovation is involved. Innovation can take several forms: some contractual and some technological. Indeed, contractual innovations often involve the integration of functions naturally left to separate firms.¹³³ Antitrust courts, of course, routinely review such innovations, even though economists or firms themselves may not fully understand the purpose of the arrangement in question.¹³⁴ To be sure, the novelty of a contractual arrangement coun-

properly subject to rule of reason scrutiny). *Cf. ILC Peripherals Leasing Corp.*, 448 F. Supp. at 230–32 (declaring combination of disk drive and head/disk assembly a single product because it produced “larger on-line storage capacity” than had previously been available and eliminated necessity of an automatic disk loader).

¹³² See, e.g., *Mozart*, 833 F.2d at 1348–51 (affirming jury verdict that tie was least restrictive means of realizing significant benefits); *N.W. Controls v. Outboard Marine Corporation*, 333 F. Supp. 493, 504–06 (D. Del. 1971); *United States v. Jerrold Electronics Corp.*, 187 F. Supp. 545, 559–61 (E.D. Pa. 1960, *aff’d per curiam*, 365 U.S. 567 (1961) (finding that bundle of community antenna equipment was properly treated as a single product for a limited period, after which it was an unjustified tie)). See generally, AREEDA ET AL., *supra* note 50, ¶ 1760d, at 367–69 (endorsing this level of scrutiny where sellers attempt to justify tie).

¹³³ See, e.g., *National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma*, 468 U.S. 85 (1984) (reviewing NCAA’s policy of concerted output decisions); *BMI*, 441 U.S. at *passim* (reviewing blanket license agreement whereby competitors set uniform royalty); *Continental T.V.*, 433 U.S. at *passim* (reviewing agreement allocating to the manufacturer control over territory in which dealer distributed its goods). Of course, the contracts at issue in *NCAA*, *BMI* and *Continental T.V.* were not innovations by the time they reached the Supreme Court. Presumably, however, the Court would have subjected each arrangement to rule of reason scrutiny even if they had been challenged immediately after they were adopted.

¹³⁴ Frank H. Easterbrook, *Allocating Antitrust Decisionmaking Tasks*, 76 GEO. L.J. 305, 308 (1987) (“Often it takes a decade or more to deter-

sels against per se condemnation, as such treatment will deprive society permanently of the benefits of the practice.¹³⁵ Such uncertainty, however, does not preclude scrutiny under the more forgiving rule of reason, even though, by its nature, such review involves second-guessing business judgments. If antitrust courts can second-guess technological efficiencies and contractual innovations, it is not clear why they cannot scrutinize technological innovations.

Indeed, in other contexts, courts engage in equally complex inquiries asking, for instance, whether drugs are designed reasonably.¹³⁶ More to the point, courts sometimes determine whether software met general standards of merchantability.¹³⁷ Of course, the mere fact that the courts appropriately scrutinize business decisions in one context does not ipso facto establish that they should do so in another.¹³⁸ Market mechanisms that discipline

mine what a business practice really does.”); *cf.* COASE, *supra* note 59, at 67 (noting that most business practices are, from the perspective of an economist, “ununderstandable”).

¹³⁵ HOVENKAMP, *supra* note 41, at 436 (“[T]he continuing case for a rule of reason [in the case of vertical restraints] rests on the premise that we need to know more before we can move to a more categorical rule, one way or the other.”); Easterbrook, *supra* note 134, at 309 (noting that judicial condemnation of a practice can deprive society of its benefits indefinitely). *See also* White Motor Co. v. United States, 372 U.S. 253, 263 (1963) (“We need to know more than we do about the actual impact of these arrangements on competition to decide whether they [should be per se illegal].”).

¹³⁶ *See, e.g.*, *Castrignano v. E. R. Squibb & Sons, Inc.*, 546 A.2d 775, 781–83 (R.I. 1988); *Ortho Pharmaceutical Corp. v. Heath*, 722 P.2d 410, 415–16 (Colo. 1986).

¹³⁷ *See, e.g.*, *Neilson Business Equipment Ctr. v. Small V. Monteleone*, 524 A.2d 1172–76 (Del. 1987). *See also* *Advent Systems LTD v. Unisys Corp.*, 925 F.2d 670, 675–76 (3d Cir. 1991) (finding that license of software was a “good” subject to merchantability provisions of the U.C.C.); *NMP Corp. v. Parametric Technology Corp.*, 958 F. Supp. 1536, 1541–42 (N.D. Okl. 1997) (same).

¹³⁸ *See* FRANK H. EASTERBROOK & DANIEL FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 93–94 (1991).

sellers may be present in one class of cases but not in another, thus justifying disparate treatment.¹³⁹ Theory suggests, however, that these mechanisms are *more* powerful in the sales than in the antitrust context. Most product manufacturers, after all, do not possess significant market power and even monopolists have incentives to design well-functioning products. Where, on the other hand, a plaintiff can establish that a bundle will create or augment market power, there is even more reason for judicial scrutiny than there is in the sales context.¹⁴⁰

Those who would depart from rule of reason scrutiny for innovative bundles, then, have not made a compelling case. To be sure, the collapse of the price-theoretic paradigm suggests that these bundles can produce significant benefits, even if the practice has not been adopted throughout the market. Still, the mere existence of such benefits should not immunize the arrangement in question. Instead, whether technological or contractual, it seems, innovative bundles should be analyzed under the rule of reason.¹⁴¹

¹³⁹ *Id.* at 94–97 (arguing that judicial deference to business judgments is justified by presence of market mechanisms that discipline conduct of corporate officers and directors).

¹⁴⁰ *Cf.* Easterbrook, *supra* note 134, at 306 (arguing that courts should scrutinize business decisions more carefully where firms allegedly “injure consumers, who cannot retaliate readily”).

¹⁴¹ Some may perceive that the argument made here proves too much, i.e., may justify abandoning the separate product test altogether. It may be that the argument made here applies with equal force to the separate product test, at least to the extent that such a test focuses on the benefits of joint packaging. Preservation of tying law in its current form, however, should not be the *summum bonum* of antitrust policy. As the Court said in *Jefferson Parish*:

Of course, the Sherman Act does not prohibit “tying”; it prohibits “contract[s] . . . in restraint of trade.” Thus, in a sense the question whether this case involves “tying” is beside the point. The legality of petitioners’ conduct depends on its competitive consequences, not on whether it can be labeled “tying.” If the competitive consequences of this arrangement are not those to which the *per se* rule is addressed, then it should not be condemned irrespective of its label.

Jefferson Parish, 466 U.S. at 21 n.34.

In fact, some might argue that rule of reason scrutiny will actually protect and enhance innovation. Where software competition is concerned, innovation is the name of the game, and such innovation requires the innovator to incur sunk costs. It is conceivable, however, that a dominant firm could employ a bundling strategy to deprive rivals—or potential rivals—of access to a customer base necessary to support the sunk costs of innovation.¹⁴²

Indeed, fear that Microsoft is engaged in something like the anticompetitive strategy just described led the United States and several states to challenge the (technological) Windows 98/IE bundle. Microsoft's grip on the OS market, it is argued, is driven in part by the network effects that characterize the design and use of operating system software.¹⁴³ The value of any operating system increases along with the number of consumers who employ that system, as a large user base will support a richer variety of complementary application software.¹⁴⁴ Ordinarily, application software will only function with one particular operating system or "platform." As a result, writers of such applications must decide which platform to write for. Because the vast majority of PC users possess a Microsoft OS, most application firms have chosen to write software that is compatible with Windows. Other things being equal then, Windows is more attractive to consumers than other operating systems, as Windows will support a wider array of applications.¹⁴⁵ Any potential challenger to Microsoft's large share of the OS market must be willing to incur the sunk

¹⁴² Cf. Thomas Krattenmaker & Steven Salop, *Anticompetitive Exclusion: Raising Rivals' Costs To Achieve Power Over Price*, 96 YALE L.J. 209, 224–26 (1986) (describing possible strategy whereby manufacturer deprives rivals of outlets through exclusive dealing contracts).

¹⁴³ See *supra* note 13, Declaration of David S. Sibley, ¶¶ 11–17.

¹⁴⁴ See generally David S. Evans and Richard Schmalensee, *A Guide to the Antitrust Economics of Networks*, 10 ANTITRUST 36, 36 (Spring 1996) (concluding that network effects can "arise indirectly . . . when additional network users spur the demand for complementary products").

¹⁴⁵ See *Microsoft*, 56 F.3d at 1452 (reproducing statement of Professor Kenneth Arrow to this effect).

costs necessary to provide a significantly superior product or, in the alternative, to enter at a scale sufficient to induce application writers to provide a meaningful array of software.

Enter Java, a programming language developed by Sun Microsystems. Applications written in this language can run on more than one operating system, with the result that application writers need not confine their product to a single platform.¹⁴⁶ So, for instance, software written in Java could run on both Windows and IBM's OS/2. In order for a Java application to function, however, it must be translated by software, coexisting with an operating system, known as a Java Virtual Machine (JVM).¹⁴⁷ Netscape, it is alleged, is the most important distributional channel for the JVM; an application written in the Java language will run on any personal computer that includes Netscape.¹⁴⁸ By redesigning and bundling Internet Explorer with its OS, the government argues, Microsoft is attempting to drive Netscape from the market, thus making it more costly to distribute the JVM.¹⁴⁹ This strategy, it is said, will deter application makers from writing applications for non-Windows environments, raising the cost of competitive OS entry, and thwarting innovation. Proof that such a strategy is occurring and will be successful should establish a *prima facie*

¹⁴⁶ See *Microsoft*, 1998-2 Trade Cas. at 82,670; *Sun Microsystems, Inc. v. Microsoft Corp.*, 999 F. Supp. 1301, 1302 (N.D. Cal. 1998) ("JAVA technology comprises a standardized application programming environment that affords software developers the ability to create and distribute a single version of programming code which is capable of operating on many different, otherwise incompatible, system platforms and browsers.").

¹⁴⁷ See *Microsoft*, 1998-2 Trade Cas. at 82,670; *Sun Microsystems*, 999 F. Supp. at 1303 ("A specific interpreter or virtual machine is needed for each computer CPU on which the JAVA program is run.").

¹⁴⁸ See *Microsoft*, 1998-2 Trade Cas. at 82,670. Moreover, it appears that Netscape itself is a platform to which some applications can be written. *Id.*

¹⁴⁹ See *id.* at 82,671-72 (describing government's contention); Krattenmaker & Salop, *supra* note 142, at 226 (arguing that distribution is best characterized as an input).

case under the rule of reason.¹⁵⁰ Moreover, proof that the bundle in question produces some plausible benefits and thus would be a single product under the D.C. Circuit's test does not, as a logical matter, preclude the presence of such anticompetitive effects or suggest that the bundle is procompetitive on balance.¹⁵¹

Indeed, the very plasticity that the D.C. Circuit invoked suggests that such a strategy would readily escape something less than rule of reason scrutiny. It is not particularly difficult, it seems, to design software applications in a way that creates benefits of functioning with an operating system.¹⁵² If this is so, an OS firm that wishes to disadvantage makers of a particular sort of application can simply redesign its own application, point to benefits created by that redesign, and insure—through contract or technology—that OEMs or consumers purchase the application along with the OS.

¹⁵⁰ See Meese, *supra* note 38, at 145–46 (describing strategy whereby franchisor employs tying contracts that raise the prices of its competitors' inputs). This is not to say that a plaintiff could establish a *prima facie* case under such a theory simply by establishing that Microsoft's bundle would drive Netscape from the market. A plaintiff would also have to establish that alternate channels of JVM distribution are not sufficient to establish a sufficient base of users of applications written in Java. See Krattenmaker & Salop, *supra* note 142, at 225–26 (concluding that strategy of depriving competitors of distribution channels cannot be anticompetitive if alternate methods of distribution remain). Moreover, a plaintiff would also have to establish that predatory counter-strategies by Netscape and others would not thwart Microsoft's tactics. See *id.* at 268–72. Such a strategy, for instance, could involve Netscape's purchase of alternative vehicles of exclusive distribution for its browser. See *id.* at 268–69. Netscape's recently announced merger with America Online could be characterized as just such a strategy.

¹⁵¹ Cf. Meese, *supra* note 38, at 141–43 (showing that existence of benefits rebuts presumption that contract has been “forced” on purchaser).

¹⁵² See *Microsoft*, 147 F.3d at 961 (“It is difficult to imagine how Microsoft could not conjure up some technological advantage for any currently separate software product it wished to ‘integrate’ into the operating system.”) (Wald, J., dissenting).

Of course, the mere fact that the government can make out a *prima facie* case against Microsoft does not settle the question whether a rule of reason test will encourage more innovation than it will deter. Defenders of the D.C. Circuit's test would be quick to point out that laying out a *prima facie* case does not by itself establish that a bundle is a net harm to society, and they would be correct. To begin with, courts may mistakenly conclude that the bundle will generate or protect market power. Moreover, even those bundles that do generate such power may be efficient on balance. Given these possibilities, as well as courts' traditional hostility to justifications of tying contracts, reasonable minds could certainly conclude that, despite the possibility of anticompetitive behavior outlined above, a rule of reason test for innovative bundles could in the end fetter more innovation than it would encourage.

The challenge for those seeking a first best antitrust policy, then, is to construct a rule of reason test that provides meaningful scrutiny without equating a *prima facie* case with *per se* illegality. That is, unlike current tying doctrine, which views attempts at justification with a jaundiced eye, a rule of reason for innovative bundles would have to allow sellers to adduce evidence that (1) the bundle does not, in fact, enhance a firm's market power and/or (2) the benefits of the bundle outweigh its costs. Thus, courts would have to abandon the presumption that a seller's possession of market power by itself establishes anticompetitive effects, as well as their propensity to rely on the presence of less restrictive, less effective alternatives.¹⁵³

To be sure, gathering the information necessary to conduct such a balance would be a difficult task, both for the parties and the finder of fact. Moreover, reasonable minds can certainly ques-

¹⁵³ As suggested earlier, any such softening of the *per se* rule will face opposition from the United States. See note 113, *supra*. Indeed, the United States has explicitly argued that it need not prove anticompetitive effects in order to establish that the bundle is unlawful. See Plaintiffs' Joint Response to Microsoft's Motion for Summary Judgment, at 48 n.22 ("Because Microsoft's forced licensing of Internet Explorer is unlawful *per se*, anticompetitive effects are presumed.").

tion the competence of courts to compare the anticompetitive effects of a practice against its benefits.¹⁵⁴ Indeed, rule of reason balancing is notoriously *generous* to defendants.¹⁵⁵ Still, in some instances anyway, courts can structure rule of reason analysis so as to minimize the costs and maximize the accuracy of such an inquiry. For instance, where a bundle is purely contractual, courts can often forgo further inquiry, leaving the market to determine whether the bundle in question is reasonable. Of course, markets sometimes fail, and the point of many ties is to overcome such failures by contract.¹⁵⁶ Price theory, and the antitrust doctrine that it bred, fell short precisely because each failed to acknowledge the ability of nonstandard contracts to overcome market failure; the D.C. Circuit sought to remedy this shortcoming by recognizing the possibility of posttransactional benefits.¹⁵⁷ Still, once a plaintiff has established a *prima facie* case, there is no reason to *presume* that the bundle under scrutiny is designed to overcome market failure. Instead, a seller that wishes to justify a contractual bundle on efficiency grounds should first demonstrate that, in fact, the market in question is prone to failure. More precisely, the proponent of the bundle must show that transaction costs, that is, the cost of relying upon the buyer to choose which complementary item to employ, characterize the relationship in question.¹⁵⁸ Such costs, of course, will include information costs and the possibility of opportunism, i.e., behavior that does not maximize the joint welfare of the parties.¹⁵⁹ Failing such an explanation, there is

¹⁵⁴ See *Rothery Storage v. Atlas Van Lines*, 792 F.2d 210, 229 n.11 (D.C. Cir. 1986) (Bork, J.) (arguing that there is no “useable formula” to “weigh procompetitive effects against anticompetitive effects”).

¹⁵⁵ See, e.g., HOVENKAMP, *supra* note 41, at 431 (“The rule of reason has come close to creating complete non-liability for non-price restraints.”).

¹⁵⁶ See Meese, *supra* note 29, at 59–66.

¹⁵⁷ See notes 106–10, *supra*, and accompanying text.

¹⁵⁸ See Meese, *supra* note 29, at 56–57, 61–66 (defining such costs and describing how they can be present in a buyer-seller relationship).

¹⁵⁹ Thus, in order to convince the court to balance procompetitive against anticompetitive effects, Microsoft would have to show that OEMs

no rationale for contractual restraint, and courts should not entertain evidence that the bundle's benefits outweigh its costs. Instead, purchasers should be left to determine whether the bundle creates any net benefits, that is, whether, adjusting for price, the bundle is superior to the combination of the seller's product and a product sold by the seller's competitor. A court should not allow itself or a monopolist to substitute its judgment for the decentralized process of information production and dissemination that characterizes a well-functioning market. Where, on the other hand, the market in question is prone to failure, courts should engage in balancing.¹⁶⁰

It would be tempting to take a similar approach, that is, to declare such a bundle unlawful whenever the market functions

either cannot understand the benefits of the Windows 98/IE bundle, *see Dehydrating Process Co.*, 292 F.2d at 656–57, or in the alternative, that they do not possess the requisite incentives to choose the most appropriate combination of OS and browser. *Cf.* Meese, *supra* note 38, at 117–20 (describing franchisee incentives to free ride). At first blush, it seems Microsoft will find it difficult to make a case that such market failure is present. Unlike customers in *Dehydrating Process Co.*, for instance, OEMs are technically sophisticated and likely understand the interworkings of various forms of software. Moreover, unlike franchisees, for instance, OEMs seem to possess incentives to maximize the goodwill associated with the product they distribute, namely, a package of equipment and software.

¹⁶⁰ Such balancing should proceed even if unbundling would degrade or destroy one of the bundled items. *Cf.* Microsoft's Memorandum in Support of Summary Judgment, at 32 (arguing that Windows 98/IE bundle is not a tie because "there is no distinct product called Internet Explorer that can be separated from Windows 98 without doing serious violence to the operating system"). The mere fact that undoing a particular combination will damage its constituent parts does not establish that the benefits of the bundle outweigh its anticompetitive effects. Moreover, Microsoft apparently concedes that, where two items have purposely been "bolted" together, they should be deemed separate products, even if "unbolting" will damage one or both of the items. *See* Microsoft's Memorandum in Support of Summary Judgment, at 29; *see also Microsoft*, 147 F.3d at 949. There is no reason why the outcome in this context should turn on the seller's intent or purpose. Even a well-intended bundle may be unreasonable. *See Chicago Bd. of Trade v. United States*, 246 U.S. 231, 238 (1918).

well, where the bundle in question is technological in nature. However, if the combination is truly technological, such a short cut would not be warranted. For, in such cases, the seller may claim that the technological nature of the combination itself produces the benefits in question, that is, that unbundling would change the nature of the product or service.¹⁶¹ In such cases, courts will have no choice but to engage in more traditional balancing, comparing the benefits of the combination to the anticompetitive effects it creates.¹⁶²

This is not to say that any technological combination that brings an improvement over prior combinations should lead courts to engage in balancing. The improvement must be produced by the technological integration, and not the result of coincidental advances unrelated to that combination.¹⁶³ Where, on the other hand, the very same improvements could be realized *without* technological combination, courts should apply the approach suggested above for contractual bundles, asking whether any market failures preclude reliance upon purchasers' judgment.¹⁶⁴ Where

¹⁶¹ See AREEDA ET AL., *supra* note 50, ¶ 1746b, at 227–28 (defining innovative bundle as combination that cannot, for technical reasons, be replicated by purchasers); *ILC Peripherals Leasing Corp.*, 448 F. Supp. at 232 (evaluating technological combination of drive unit and head/disk assembly that eliminated need for an automatic disk loading mechanism). *Cf. Data General*, 490 F. Supp. at 1108–09 (finding CPUs and memory boards separate products where consumers removed defendant's board and installed boards manufactured by competitors).

¹⁶² The distinction drawn here between technological and contractual ties may appear to mirror the (unjustified) distinction between the two drawn by technological tying doctrine. See notes 89–100, *supra* and accompanying text. This is not the case, however. What is proposed here is a uniform standard—rule of reason treatment—with differing methods of implementation.

¹⁶³ *Cf. Department of Justice and Federal Trade Commission Joint Merger Guidelines*, § 4.0 (only merger-specific efficiencies are cognizable to justify otherwise anticompetitive transaction).

¹⁶⁴ Indeed, the plasticity on which the D.C. Circuit relied suggests that many apparently technological bundles are best characterized as contractual, i.e., that software can be unbundled without eliminating the benefits of integration.

no such failure is present, courts should deem technological unbundling a less-restrictive alternative, and declare the bundle unlawful.

In conducting this analysis, courts must take care to distinguish a contractual bundle from a truly technological bundle supported by ancillary contractual restraints. Thus, the fact that Microsoft has prohibited OEMs from depriving consumers of ready access to browser functionality does not transform an otherwise technological tie into a contractual one.¹⁶⁵ At first glance, the presence of such a restriction would suggest that the underlying bundle is contractual and should be analyzed as such. Absent a market failure, after all, consumers are just as competent to decide whether to unbundle as to bundle in the first place. In the present case, however, the presence of this contractual restriction does not preclude the possibility that the Windows 98/IE bundle is truly technological in nature. According to Microsoft, anyway, actual removal of the software code that provides browser functionality will “degrade” the underlying operating system.¹⁶⁶ As a result, because no OEM actually desires to injure the operating system, the contracts in question merely prevent OEMs from interfering with customers’ access to the browser, by, for instance, hiding the icon. Such interference, it should be noted, apparently does not impair the underlying software code and thus does not deprive the ultimate consumer of many of the purported benefits of technological integration.¹⁶⁷ Thus, while themselves subject to rule of reason scrutiny as nonprice vertical restraints, the existence of such agreements does not preclude the possibility that the technological combination of Windows 98 and IE produces significant benefits.¹⁶⁸

¹⁶⁵ See *Microsoft*, 1998-2 Trade Cas. at 82,673–74 (distinguishing technological tying cases on the grounds that Microsoft “took the further step of contractually prohibiting OEMs from *unbundling*”) (emphasis supplied).

¹⁶⁶ See note 120, *supra*.

¹⁶⁷ See note 8, *supra*.

¹⁶⁸ If the government can establish a *prima facie* case that such agreements are anticompetitive, Microsoft will be required to adduce evidence of procompetitive benefits. Here again, it seems proof that some market

V. Conclusion

Antitrust should strive to distinguish beneficial arrangements from those that do harm. A product of the applied price theory tradition, tying doctrine does not perform this task well. Bundles that do not generate benefits for all market participants are treated as distinct products, and the mere existence of market power, without more, establishes that a combination of two products is unlawful per se. While some lower courts have allowed sellers to justify per se unlawful ties, the standards employed to evaluate such justifications are unduly onerous, and tying law treats different efficiencies quite differently. Those realized universally will place a bundle beyond scrutiny, while others will likely not be recognized at all.

The D.C. Circuit's *Microsoft* opinion can be viewed as an attempt to mitigate the harsh consequences of tying doctrine's disparate treatment of various sorts of efficiencies. By creating an exception to the separate demand test for innovative bundles, the court recognized that efficiencies need not be realized universally to be real. Moreover, by entertaining proof of benefits not deemed technological, the court recognized the existence of posttransactional benefits, so long slighted by the price-theoretic paradigm.

Still, the collapse of the price-theoretic paradigm did not itself justify the standard announced by the D.C. Circuit. For, there is another uniform standard the court could have applied: rule of reason treatment. Unlike the D.C. Circuit's test, which would immunize any bundle that produces significant benefits, such an approach would balance such benefits against any anticompetitive harms generated by the bundle. If applied in a rigorous manner, such a test may actually encourage innovation.

failure prevents OEMs from, for instance, choosing to display the appropriate icon would be necessary.