

Copyright

by

Douglas Bartram Rathbun

2004

The Dissertation Committee for Douglas Bartram Rathbun  
certifies that this is the approved version of the following dissertation:

THE ROLE OF ECONOMIC INCENTIVES IN  
THE DEVELOPMENT OF LEGAL DOCTRINE

Committee:

---

Maxwell Stinchcombe, Supervisor

---

R. Preston McAfee, Co-Supervisor

---

David Sibley

---

Mark Lemley

---

Douglas Laycock

THE ROLE OF ECONOMIC INCENTIVES IN  
THE DEVELOPMENT OF LEGAL DOCTRINE

by

**Douglas Bartram Rathbun, B.A., M.A., J.D.**

**DISSERTATION**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Doctor of Philosophy**

The University of Texas at Austin  
May, 2004

*Geduld, so heißt es, sie muß ich nun zur Führerin wählen: ich habe es.  
Dauernd, hoffe ich, soll mein Entschluß sein, auszuharren,  
bis es den unerbittlichen Parzen gefällt, den Faden zu brechen.  
Vielleicht gehts besser, vielleicht nicht:  
ich bin gefaßt.*

-Beethoven

## ACKNOWLEDGEMENTS

I would like to acknowledge the invaluable assistance of my co-supervisor, Preston McAfee, who has been a great mentor throughout the course of my graduate studies. I would also like to thank Mark Lemley, whose scholarship has inspired me, and whose insight and guidance deserves full credit for anything useful or intelligent in Part B. For Part C, I thank David Sturley, who helped me navigate the complicated field of commercial maritime law through his expansive and practical understanding of that field. This dissertation would not have been possible without the support and encouragement of my spouse, Michelle van Goidtsnoven Rathbun. I also owe gratitude to Çağatay Koç, for through assisting him with his dissertation I learned a great deal on how to tackle my own. Thanks also to the following individuals for their contribution, instruction, or influence to various parts of this dissertation: David Sibley, Ted Cotton, Andrew Stivers, Max Stinchcombe, Doug Laycock, David Rabban, David Scoones, Joe Farrell, Peter Wilcoxon, Don Fullerton, Jay Westbrook, Bill Horne, Stanley Johanson, and Linda Mullenix. Finally, I am eternally indebted to the inspiration I received from my parents.

The views expressed in this dissertation were formulated before I entered service at the United States Department of Justice, and do not reflect those of the Department of Justice.

# The Role of Economic Incentives in the Development of Legal Doctrine

Publication No. \_\_\_\_\_

Douglas Bartram Rathbun, Ph.D.  
The University of Texas at Austin, 2004

Supervisor: Maxwell Stinchcombe  
Co-Supervisor: R. Preston McAfee

Economic principles and rhetoric have become important sources driving the common law. Courts and scholars have invoked economics to bolster the legitimacy of legal principles considered settled after centuries of case law. They have cited economic scholarship in a manner that gives it authority equal to legal scholarship as a mode of judicial reasoning. Most significantly, economics has had a much stronger influence in crafting better rules, overturning rules that fail more rigorous scrutiny, and evolving rules that help the courts function more efficiently. This dissertation devises analytical techniques that accurately identify complex economic phenomena and adapts these techniques to formulate rules that are well suited to the capabilities of the courts. One part defines a specific class of exclusionary conduct, demonstrates conditions

under which such conduct may be anticompetitive, and provides a framework for determining when the conduct violates the antitrust laws. Another part illustrates the interaction between developments in the economics that underlies exclusive dealing doctrine and the evolution of that doctrine; this part shows how economics can facilitate the development of better doctrine. Another part uses economic tools to provide an approach for analyzing the unintended distortionary effects of liability rules under laws and conventions governing the transportation of goods or cargo; this part proposes an approach for improving these rules.

## CONTENTS

<b>Introduction</b>	1
<b>A. Network Effects, Switching Costs, and New Challenges to the Analysis of Predatory Conduct</b>	3
1. Competition in Dynamic Network Industries	6
2. Competitive Strategy in Dynamic Network Industries	11
3. Product Preannouncements and Their Competitive Effects	15
4. Legal Standards for Analyzing Preannouncements	26
5. Doctrinal Framework and Limiting Factors	30
6. Conclusion	43
<b>B. Economic Incentives, Market Imperfections, and the Efficiency of Package Limitations Under Cargo Carrier Conventions</b>	45
1. Justifications for the Package Limitation	47
2. Economic Function of the Package Limitation	51
3. Distortionary Effects of the Package Limitation	54
4. A Market-Driven Solution	58
5. Improvements to the Market Solution	62
6. Conclusions and Topics for Further Research	65
<b>C. The Influence of Economic Rhetoric and Principles on the Evolution of Exclusive Dealing Doctrine</b>	68
1. Exclusive Dealing Law	71



2.	Application of <i>Tampa</i> and <i>Jefferson Parish</i> Factors . . . . .	74
a.	Foreclosure . . . . .	74
b.	Contract Length and Terminability . . . . .	76
c.	Other Factors . . . . .	77
3.	Laying Foundations for Formalism: Sixteen Years of Losing Cases . . . . .	79
4.	Evolution to an Economic Inquiry . . . . .	85
5.	Recent Cases . . . . .	90
6.	Where is Evolution Taking Us?: Remaining Questions . . . . .	98
	<b>Table of Cases</b> . . . . .	102
	<b>References</b> . . . . .	105
	<b>Vita</b> . . . . .	114

## INTRODUCTION

*Commerce and manufactures, in short, can seldom flourish  
in any state in which there is not a certain degree of confidence  
in the justice of government.*

-Adam Smith, LL.D.  
*The Wealth of Nations*, v.III.¶7

The foundations of law are derived from rules laid down in authoritative texts, such as constitutions or statutes. However, the vitality of the Anglo-American legal system draws its force from the common law, that part of the law that is within the province of the courts themselves to develop. In deciding disputes, courts draw on precedent, but also base their reasoning on many other sources.

In the last century, economic principles and rhetoric have become important sources driving the common law. In some instances, courts and scholars have invoked economics to bolster the legitimacy of legal principles considered settled after centuries of case law. In other instances, economic scholarship has been cited in a manner that gives it authority equal to legal scholarship as a mode of judicial reasoning. Most significantly, however, economics has had a much stronger influence in crafting better rules, overturning rules that fail more rigorous scrutiny, and evolving rules that help the courts function more efficiently.

This paper illustrates ways in which economics has been a central force in the development of legal doctrine. Part A provides the beginning for thinking about how the law of predation in antitrust can address conduct that has managed to escape liability. This part focuses on economic characteristics common to new industries,

characteristics that traditional antitrust doctrine has not been able to account for. By using tools from industrial organization economics, novel strategies designed to take advantage of these characteristics can be shown to be harmful to competition. Hence, a greater understanding of market characteristics can be used to craft a more effective legal doctrine. Part B provides a conceptual framework for analyzing the effect of a legal rule on the incentives of parties to contracts in commercial law. This framework can be used to develop better rules as well as suggesting ways to account for other sources of distortion on the parties' incentives. Finally, Part C illustrates how economic rhetoric has had an impact on the evolution of legal doctrine, having such conceptual appeal and force that it can take on the appearance of settled law. Furthermore, this part illustrates how the introduction of incentive-based economic principles has driven further evolution in the doctrine of exclusive dealing in antitrust.

A. NETWORK EFFECTS, SWITCHING COSTS, AND NEW CHALLENGES TO THE ANALYSIS OF PREDATORY CONDUCT.

*A lie can be half-way around the world before truth has got his boots on.*  
-James Callaghan

We are living in an era of unprecedented technological innovation. The last century witnessed a surge of new products and business processes that transformed our daily lives and pushed business growth to levels once never thought possible. These advances were largely made possible by a sophisticated and reliable system of enforceable property rights, but arguably no less important have been the antitrust laws, which have maintained a commercial environment that constantly awards firms that offer consumers a better deal.<sup>1</sup>

This technologically dynamic marketplace has put antitrust to the test. Innovative business methods and practices and rapidly changing market structures have changed the way firms compete with each other. In the last decade, the biggest and most visible challenges to antitrust analysis arose from high technology markets.<sup>2</sup> Indeed, many commentators and judges have expressed the belief that traditional

---

<sup>1</sup> See William Baumol, *THE FREE-MARKET INNOVATION MACHINE: ANALYZING THE GROWTH MIRACLE OF CAPITALISM* (2002), and studies showing the relationship between innovation, growth, and competition discussed in Jonathan Baker, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSP. 27, 39 (2003), but note Robert Crandall & Clifford Winston, *Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence*, 17 J. ECON. PERSP. 3 (2003), disputing the social benefit of antitrust enforcement.

<sup>2</sup> See Timothy Muris, *Looking Forward: The Federal Trade Commission and the Future Development of U.S. Competition Policy*, 2003 COLUM. BUS. L. REV. 359 (2003); Timothy Muris, *The FTC and the Law of Monopolization*, 67 ANTITRUST L.J. 693 (2000).

antitrust doctrines are no longer capable of addressing all of the competitive problems in these new markets.<sup>3</sup>

Easily the most common sources of competitive problems in many high technology industries are network effects.<sup>4</sup> Network effects occur when the utility derived from the consumption of a product is affected by the number of other people using similar or compatible products. Firms have begun to recognize that dynamic industries with network effects have characteristics that lend themselves to being used for strategic advantage. While network externalities provide an important tool in the arsenal for vigorous competition, in the hands of a firm with a large market share network effects can be dangerous to competition. Accordingly, as industries with strong network effects come to represent an increasingly large part of the economy, questions about the impact of network effects on competition are moving to the forefront of antitrust policy.<sup>5</sup>

Meanwhile, the courts diverge more and more on their interpretations of antitrust doctrine. With increasing frequency, the courts avoid creating practical limiting principles for addressing emerging weaknesses in the law's ability to prevent conduct that is harmful to competition. The result is a legal environment in which

---

<sup>3</sup> See David Teece & Mary Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries*, 43 ANTITRUST BULL. 801 (1998) (Expressing the widespread view that mainstream analysis was up to the task of analyzing competition in high-tech industries); David Balto & Robert Pitofsky, *Antitrust and High-tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583. (1998) (“[H]igh-tech industries impose some special challenges for antitrust enforcers due to a number of issues that makes competition different form that observed in traditional ‘smokestack’ industries”).

<sup>4</sup> CARL SHAPIRO & HAL VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 43 (1999). Network effects are discussed fully in part 1, *infra*.

<sup>5</sup> See, e.g., John Barton, *Patents and Antitrust: A Rethinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L. J. 449, 453 (1997).

conduct in network industries has an anticompetitive effect, yet too often escapes liability. Thus, courts and commentators are beginning to question whether network markets should be legally different from other types of markets.<sup>6</sup> To this end, the antitrust community is eager that new research on the economics of network effects can provide guidance for crafting effective legal rules that better reflect the way industries work.<sup>7</sup>

This paper proposes a way to approach a problematic legal doctrine: predation. While weaknesses in doctrines for predation and exclusionary conduct are easy to criticize, and their failures to address competitive harm often clear, it is not as easy to provide constructive answers for the new antitrust concerns posed by dynamic network industries. Thus, antitrust rules for network industries need to identify new sources of competitive harm that can be found to violate the antitrust laws, but need to carefully define the scope of legal liability to avoid chilling legitimate competitive behavior.

This paper does not suggest an overarching refinement to existing doctrine, but rather uses tried and tested doctrine as a foundation for constructing a useful framework. First, this approach identifies specific conduct that has the potential to create or preserve competitive imperfections. The specific conduct considered is the

---

<sup>6</sup> See David Balto, *Networks and Exclusivity: Antitrust Analysis to Promote Network Competition*, 7 GEO. MASON L. REV. 523, 525 (1999) (Raising the question of whether network-unique antitrust rules would be necessary).

<sup>7</sup> Note, for example, Congress's creation of the Antitrust Modernization Commission, in the *21st Century Department of Justice Appropriations Authorization Act*, Pub. L. No. 107-273, 116 Stat. 1758 (2002), largely in response to challenges posed by networks and the intersection of antitrust and intellectual property policy. See also William Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSP. 43, 58 (2000) (identifying as the two challenges for modern antitrust first to find complex business practices that can be anticompetitive, and second to adapt new techniques to formulating useful legal rules).

strategic use of product preannouncements to exclude rivals. Second, the approach devises analytical techniques that aim to accurately identify specific market circumstances under which the conduct is harmful. Finally, this paper will craft a cause of action with limiting factors narrowly tailored to the economic motivations and effects of the preannouncement strategy. Part 1 describes the competitive characteristics of dynamic network markets. Part 2 discusses the antitrust concerns inherent in these markets. Part 3 focuses on the competitive effects of a particular type of conduct, the strategic preannouncement. Finally, Parts 4 and 5 establish the legal framework for addressing instances when the conduct is illegal.

## **1. Competition in Dynamic Network Industries**

Network effects exist when the value of a network to a consumer depends on the total number of consumers in the network.<sup>8</sup> In the case of networks that are physically connected, such as ATM networks and fax machines, the value of the network to a particular user increases as the total number of subscribers having access to the network increases.<sup>9</sup> In the case of virtual networks, *i.e.* networks that aren't physically linked, the network effects accrue due to positive feedback from complementary goods.<sup>10</sup> That

---

<sup>8</sup> The word *network* refers to the underlying interactional economics of a particular industry, rather than the physical hardware or software associated with the product. For an introductory treatment of the antitrust issues surrounding network effects, see Mark Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998), and William Kolasky, *Network Effects: A Contrarian View*, 7 GEO MASON L. REV. 577 (1999).

<sup>9</sup> More specifically, the utility of each consumer increases with an increase in the total number of consumers purchasing the same or a compatible network product. *See generally* Michael Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985).

<sup>10</sup> *See* Brian Arthur, *Positive Feedbacks in the Economy*, 262 SCIENTIFIC AMERICAN 92 (Feb. 1990).

is, as consumers adopt a particular network product, a market emerges for complementary products. Hence, the value of the base network product is enhanced as the variety of complementary products increases, so more consumers will want to buy the base network product, and as more consumers adopt the product, more firms will find it profitable to provide complementary goods and services for the base product. Thus, the value of the network builds on itself as consumers adopt the network. Examples include computer operating systems, which become more valuable with the variety and nature of compatible software applications, DVD players, which have more value as the variety of movies on DVD-discs increases, and credit card brands, which are more useful when consumers can find more merchants that accept the brand.

The ways in which network industries are different from other industries raise a number of competitive issues. First, the positive feedback process described above means that network markets are often characterized by tipping.<sup>11</sup> This means that once a network product's sales have gained momentum, this inertia drives the market to tip to one dominant network as competing networks fail to catch on with consumers.<sup>12</sup> Consequently, dynamic network industries are particularly important to the makers of antitrust policy because of their tendency to anoint a dominant firm, bringing on a

---

<sup>11</sup> See Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93, 105-106 (1994).

<sup>12</sup> Rival networks may coexist if the inherent advantages of adopting a smaller network outweigh its lesser network benefits. An example is the lingering preference for UNIX network platforms for scientific applications. Product differentiation can also lead to a market with multiple dominant firms, such as the high-speed computer game platforms provided by Nintendo, Microsoft, Sega, and Sony.



heightened risk of market power.<sup>13</sup> Furthermore, a firm's attempts to maintain a dominant position in the market will be of greater concern when excess momentum pushes the market to tip to an inferior network.<sup>14</sup> Note, however, that tipping can only occur if rival networks are incompatible. Compatibility is defined as the ability of network products to be consumed in conjunction with products of rival networks. Therefore, a dominant network has an incentive to prevent compatibility with other networks.<sup>15</sup>

Second, network industries also differ in that demand is not only a function of price and product-related features, but it is also determined by the number of users in the network. Network products not only have intrinsic value due to the product features, but they also have value attributed to the size and nature of the network. Thus, tipping in a market occurs more quickly when the network-related value is relatively large compared to the product's intrinsic value.<sup>16</sup> In addition, tipping is driven by

---

<sup>13</sup> See Michael Katz & Carl Shapiro, *Antitrust in Software Markets*, in COMPETITION, INNOVATION, AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE 31, 33 (Jeffrey Eisenach & Thomas Lenard eds., 2000).

<sup>14</sup> See Stanley Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 J. ECON. PERSP. 117, 118 (1994) (Noting that an inferior product may tip out a superior one if it is widely expected to do so). See also Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 AM. ECON. REV. 940, 942 (1986) (Describing excess momentum). Evidence suggests that the dominant firm is not necessarily the most efficient. See William Shepherd, *Antitrust Repelled, Inefficiency Endured: Lessons of IBM and General Motors for Future Antitrust Policies*, 39 ANTITRUST BULL. 203, 222 (1994).

<sup>15</sup> Katz & Shapiro, *Antitrust*, *supra* note 13, at 33. This is especially true if complements are more valuable than the network product itself. Balto & Pitofsky, *supra* note 3, at 592.

<sup>16</sup> See Mark Lemley & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 ANTITRUST BULL. 715, 721 (1998).

consumers' expectations as to how the network will grow relative to others.<sup>17</sup> If the expectations in the marketplace are that a particular network will be popular, thus having a broader base of consumers or complements, then more consumers will end up adopting the network, and it will indeed become popular. Likewise, if consumers observe firms shifting their production of complementary products to another network, they will believe that the network will shrink, and consumers will shift as well.<sup>18</sup>

Third, once a network has established a broad base of consumers, firms will find it less profitable to develop products for smaller networks, and likewise consumers will be reluctant to give up the network-related value of the product.<sup>19</sup> That is, as the market tips to a network, the network acquires an installed base.<sup>20</sup> When network effects are strong, *i.e.* the network value of the product is large relative to the intrinsic value, the installed base will prefer to stay even if superior networks become available.<sup>21</sup> Thus, the installed base is "locked in" to the network.<sup>22</sup> This reluctance to switch due to network externalities is distinguished from switching costs. As discussed below,

---

<sup>17</sup> See Katz & Shapiro, *Network Externalities*, *supra* note 9 (finding that in the fulfilled expectations equilibrium, the actual size of the network will be equal to the expected size, where the consumer's surplus depends on the actual network size). See also David Balto, *Networks*, *supra* note 6, at 531.

<sup>18</sup> See Jay Pil Choi, *Herd Behavior, the "Penguin Effect," and the Suppression of Informational Diffusion: An Analysis of Informational Externalities and Payoff Interdependency*, 28 RAND J. ECON. 407 (1997).

<sup>19</sup> Some commentators have interpreted this as a type of switching cost. See, *e.g.*, Peter Menell, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 STAN. L. REV. 1045, 1070 (1989).

<sup>20</sup> See Farrell & Saloner, *supra* note 14.

<sup>21</sup> Although the intrinsic value for consumers is greater, the new network is not preferred from an economic standpoint, but would be preferred if enough of the consumer base chose to switch. See Besen & Farrell, *Choosing How to Compete*, *supra* note 14, at 118.

<sup>22</sup> See Paul Klemperer, *Competition When Consumers Have Switching Costs: An Overview*, 62 REV. ECON. STAT. 515 (1995). For an illustration of the process by which firms can strategically lock in consumers, see SHAPIRO & VARIAN, *INFORMATION RULES*, *supra* note 4, at 131-2.

switching costs are types of costs that consumers or firms *incur* to switch. Here, consumers forgo the benefit of the network externalities. In other words, a consumer simply prefers the good that brings higher utility due to network benefits.

Fourth, since a new rival network must overcome the network value of an incumbent product, lock-in creates a natural barrier to entry.<sup>23</sup> In industries with a dominant firm, a new network will not be able to reach minimum operating scale unless it can induce enough of the incumbent's installed base to switch to its network. To do this, it will have to offer a substantial, even drastic, improvement that significantly eclipses the value of the incumbent's product.<sup>24</sup> Furthermore, in cases where a new network can be said to be superior to the incumbent network, consumers that recognize this individually may nonetheless collectively fail to coordinate their buying behavior to reach the critical number needed for the entrant to achieve scale.<sup>25</sup>

Finally, the importance of the network-related value of a product indicates that competition in network industries is not only played out over price and differentiation, but over other dimensions as well, and involves strategies to maintain and control dominance.<sup>26</sup> In dynamic network industries, where the rate of innovation is relatively

---

<sup>23</sup> Lock-in is defined as a special class of network effect where an increase in the number of consumers of the network leads to an increase in the duration of the technology.

<sup>24</sup> The improvement, in terms of the surplus of a better price-performance ratio, would have to be greater than the network benefits forgone. With strong network effects, this difference can be considerable. See Joseph Farrell & Michael Katz, *The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation*, 43 ANTITRUST BULL. 609, 613 (1998).

<sup>25</sup> See Katz & Shapiro, *Antitrust*, *supra* note 13, at 34.

<sup>26</sup> Willow Sheremata, "New" Issues in Competition Policy Raised by Information Technology Industries, 43 ANTITRUST BULL. 547, 561 (1998).

high, new networks are more likely to enter and supersede the dominant network.<sup>27</sup> A dominant network therefore will have strong incentives to innovate in order to fuel future demand. At the same time, innovations will often be backwards-compatible with earlier product generations in order to retain the installed base.<sup>28</sup> Consequently, the dominant firm may be able to become entrenched through multiple product generations, and lock-in may be greater than the force of innovation.<sup>29</sup>

## 2. Competitive Strategy in Dynamic Network Industries

Dynamic network industries pose new and difficult challenges to analyzing conduct that can be harmful to competition. When network effects are strong, the presence of a dominant firm in a dynamic network market can create incentives that inhibit innovation. The natural barriers to entry that arise in markets with network effects suggest that an incumbent network can maintain its dominance without having to innovate as much as a potential entrant would in order to supplant the incumbent.<sup>30</sup> A greater concern, however, is that a dominant firm in a network industry has an incentive to pattern its innovation in a way that preserves its market position.<sup>31</sup> Moreover, in

---

<sup>27</sup> Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 831.

<sup>28</sup> Katz & Shapiro, *Antitrust*, *supra* note 13, at 36-7.

<sup>29</sup> *Id.* at 38.

<sup>30</sup> Farrell & Katz show that the incumbent firm favored by stubborn expectations has “second-best efficient” R&D incentives at best. Farrell & Katz, *Effects of Antitrust*, *supra* note 24, at 639. *See also* Kenneth Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609-25 (1962).

<sup>31</sup> Lemley & McGowan, *Java*, *supra* note 16, at 741. *See also* Suzanne Scotchmer, *Incentives to Innovate*, in *NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* (Peter Newman ed., 1998); Vijay Padmanabhan, Surendra Rajiv & Kannan Srinivasan, *New Products, Upgrades, and New Releases*, INSEAD Working Paper 97/06, January 1997 (Providing conditions under which a firm has an incentive to provide a less-than-full quality upgrade in a dynamic network market).

dynamic network industries, entering rivals will have a reduced incentive to expend on R&D because of an increased risk of not gaining enough momentum to reach a minimum efficient operating scale.<sup>32</sup>

The competitive landscape is so different in dynamic network industries that the traditional hallmarks of monopoly are rarely seen.<sup>33</sup> This calls for a refinement of our understanding of monopoly power in order to be able to take on the challenges that network industries have posed to legal doctrine. According to the classical model of monopoly in economics, a firm has market power when demand for its product is downward sloping, giving the firm some latitude in setting its output or price.<sup>34</sup> However, in dynamic network industries, long-run industry performance is driven more by the pace of innovation than by competition over price.<sup>35</sup> As with many natural monopolies in the last century, firms in network industries can maintain and enhance profitability by hindering the entry of rival innovations rather than by restricting output.<sup>36</sup> Judge Hand observed that the possession of market power “deadens initiative, discourages thrift and depresses energy; that immunity from competition is a narcotic,

---

<sup>32</sup> Katz & Shapiro, *Antitrust*, *supra* note 13, at 35-6.

<sup>33</sup> Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 823.

<sup>34</sup> HAL VARIAN, MICROECONOMIC ANALYSIS 233 (3d ed. 1992). “Monopoly power” is thus defined as substantial market power, or when the demand curve that a firm faces is the market demand itself. Note that a monopolist faces a market demand curve for its product, so maximizing profits can be interpreted either as setting output and having the demand curve determine price, or alternatively as choosing a price that will yield the optimal output given market demand. Suggesting that a monopolist has power over price is therefore misleading, since its price decisions determine the output that the market will support. See HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY § 6.3, at 246 (1994).

<sup>35</sup> Katz & Shapiro, *Antitrust*, *supra* note 13, at 38. See also William Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSP. 43, 57 (2000) (“innovation is the prime determinant of economic performance and growth”).

<sup>36</sup> Joseph Schumpeter, CAPITALISM, SOCIALISM AND DEMOCRACY (1942).

and rivalry is a stimulant, to industrial progress.”<sup>37</sup> Thus, the concerns in dynamic network industries should focus more on whether market power can be used to stifle innovation.<sup>38</sup>

In dynamic network industries, strategies that discourage innovation can be effective tools for maintaining market dominance.<sup>39</sup> Since the pace of innovation can threaten a dominant network’s stronghold on the market, there is an incentive for it to attempt to slow the adoption of rivals’ innovations as well as its own. This is because its dominant position is easier to preserve when innovation occurs at a slower rate.<sup>40</sup> Hence, it is rational for a dominant firm to seek strategies that achieve this result. As illustrated above, the natural entry barriers that network effects impose in a market can reduce firms’ incentives to innovate. Therefore, antitrust policy needs to be concerned about strategies that take advantage of network effects and expectations in a way that further raises the already significant barriers to entry typical to network industries.<sup>41</sup>

The potential for strategies to hamper innovation should raise concerns for antitrust policy because they can lead to an adverse effect on prices or the quality and

---

<sup>37</sup> *United States v. Aluminum Co. of America*, 148 F.2d 416, 427 (CA2 1945).

<sup>38</sup> *Id.*

<sup>39</sup> Daniel Rubinfeld, *Antitrust Enforcement in Dynamic Network Industries*, 43 ANTITRUST BULL. 859, 875 (1998). Discouraging innovation also includes following strategies that have the effect of reducing the return on innovation.

<sup>40</sup> When rival innovation threatens a network’s dominance, the network’s response should be to innovate faster. However, its dominance can be preserved as long as its own innovation is at or just ahead of rival innovation. As such, strategies that hinder adoption of rival innovations or otherwise slow the rate of innovation may be a lower cost method of preserving dominance. This is discussed more fully at notes 71-75, *infra*, and accompanying text.

<sup>41</sup> See Robert Smiley, *Empirical Evidence on Strategic Entry Deterrence*, 6 INT’L J. INDUS. ORG. 167, 175 (1988) (showing that a survey revealed firms report that deterring entry through product preannouncements is frequently an important part of marketing strategy).

variety of goods.<sup>42</sup> In a sense, restricting the output of innovation in a dynamic network market imposes welfare losses just as reducing product output below competitive levels does in markets generally.<sup>43</sup> Indeed, welfare losses can persist and amplify since dynamic network markets are often characterized by path dependence, where innovation in the next product generation is determined by the level of innovation that has managed to emerge in the current generation.<sup>44</sup> If conduct is to be subject to antitrust scrutiny on the ground that it contributes to market power, the critical inquiry is whether it impedes aggregate innovation.<sup>45</sup>

Many of the strategies employed by networks in order to maintain market dominance are far from new, but they can have a materially different competitive significance in dynamic network markets. As network industries come to constitute an ever larger part of the economy, we need an increased understanding of the competitive effects of these strategies. The aim of antitrust policy ought to be to deter attempts to maintain and extend market power while continuing to permit the dominant network to compete and innovate to the benefit of consumers.<sup>46</sup> This may be easier said than done, since in dynamic network markets, less familiarity with new products and market

---

<sup>42</sup> Sheremata, *New Issues*, *supra* note 26, at 551.

<sup>43</sup> See Steven Salop & Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 GEO. MASON L. REV. 617, 619 (1999) (arguing that output includes innovation).

<sup>44</sup> See DOUGLAS NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE, AND ECONOMIC PERFORMANCE 112 (1990).

<sup>45</sup> Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 838. In particular, antitrust should be concerned if a dominant firm innovates more slowly than if it didn't have market power. Rubinfeld, *Antitrust Enforcement*, *supra* note 39, at 875. See also Salop & Romaine, *Preserving Monopoly*, *supra* note 43, at 619.

<sup>46</sup> See Salop & Romaine, *Preserving Monopoly*, *supra* note 43, at 618.

structures can give many strategies the pretext of a valid business justification.<sup>47</sup> As such, even though strategies have been found to have legitimate business purposes in ordinary industries, they may nonetheless require fresh scrutiny in dynamic network industries. The relevant question is whether the quantity and quality of innovation would be significantly reduced through a dominant network's exercise of market power associated with its substantial installed base.<sup>48</sup> The following sections propose that switching costs can provide opportunities for a dominant network to take advantage of its installed base in order to maintain and extend its market power, and identifies how strategic preannouncements can achieve this goal.

### **3. Product Preannouncements and Their Competitive Effects**

As dynamic network industries have become more prevalent, one strategy that has consistently troubled both scholars and the courts is the predatory use of product preannouncements. This strategy involves the promotion of a product well before the product has been developed up to a marketable level, and may also include the promise of product features or capabilities that end up being absent from the product when or if it is eventually released. Economists have been wary of the anticompetitive potential of

---

<sup>47</sup> Moreover, we need to be vigilant of any self-corrective attributes of network markets, *see* Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, and the fact that an inferior dominant network prevails in competition for the next generation may not necessarily be due to anticompetitive conduct. *See, e.g.*, Jay Pil Choi, *Brand Extension as Informational Leverage*, 65 REV. ECON. STUD. 655 (1998).

<sup>48</sup> Rubinfeld, *Antitrust Enforcement*, *supra* note 39, at 877. The Supreme Court has characterized predatory behavior as attempts “to exclude rivals on some basis other than efficiency.” *Aspen Skiing Co. v. Aspen Highland Skiing Corp.*, 472 U.S. 585, 605 (1985) (adopting a test suggested in PHILIP AREEDA & DONALD TURNER, *ANTITRUST LAW*, ¶ 626b (1978)).



strategic preannouncements for as long as they have studied network effects,<sup>49</sup> and it was nearly 30 years ago that the Antitrust Division alleged in *United States v. IBM* that strategic preannouncements were illegal under Section 2 of the Sherman Act.<sup>50</sup> They have been hotly debated in the press.<sup>51</sup> Concerns about their anticompetitive capabilities have led the Software and Information Industry Association to include a condemnation of preannouncements in its eight principles of competition,<sup>52</sup> and have led the Antitrust Section of the American Bar Association to indicate that nonprice predation could be achieved through product promotion.<sup>53</sup>

Nonetheless, the courts have been slow to interpret the strategy as a form of monopolization largely out of fear of injuring a dominant network's incentives to innovate.<sup>54</sup> Indeed, some courts and commentators have pointed out that

---

<sup>49</sup> See, e.g., Katz & Shapiro, *Network Externalities*, *supra* note 9, at 439; Farrell & Saloner, *Installed Base*, *supra* note 14, at 942-3; Salop & Romaine, *Preserving Monopoly*, *supra* note 43, at 637; David Dranove & Neil Gandal, *The DVD-vs.-DIVX Standard War: Empirical Evidence of Network Effects and Preannouncement Effects*, 12 J. ECON. & MGMT. STRATEGY 363 (2003).

<sup>50</sup> *United States v. IBM*, No. 69 Civ. 200 (DNE), 1973 U.S. Dist. LEXIS 11002 (1973).

<sup>51</sup> See, e.g., Jeff Papows, *Software Business Practices Improving, But Not Fixed Yet*, COMPUTERWORLD, Apr. 20, 1992, at 29; Stuart Johnston, *Vaporware Tactics Elicit Mixed Views*, COMPUTERWORLD, May 1, 1995, at 1147.

<sup>52</sup> See S.P.A.'s *Competition Principles* (visited January 1, 2004) <[www.siiia.net/sharedcontent/govt/issues/compete/principles.html](http://www.siiia.net/sharedcontent/govt/issues/compete/principles.html)>. Preannouncements in the computer industry are commonly known as "vaporware." The MICROSOFT PRESS COMPUTER DICTIONARY (1991) defined vaporware as "promised software that misses its announced release date, usually by a considerable length of time." See also Stephan Levy, *Should "Vaporware" be an Antitrust Concern?*, 42 ANTITRUST BULL. 33 (1997) (noting that in a general sense, vaporware includes products beyond computer software, such as doctoral dissertations).

<sup>53</sup> See ABA Antitrust Section: Monograph No. 18, *Nonprice Predation Under Section 2 of the Sherman Act* (1991).

<sup>54</sup> Joel Cohen & Arthur Burke, *An Overview of the Antitrust Analysis of Suppression of Technology*, 66 ANTITRUST L.J. 421, 436 (1998). Claims that strategic preannouncements were anticompetitive were raised in *United States v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982), but the complaint was eventually dismissed. In *United States v. Microsoft*, 56 F.3d 1448 (CA DC 1995), the court concluded that the consent decree adequately addressed the anticompetitive effects charged, and ignored the lower court's concerns about strategic preannouncements. See also David Evans, *Antitrust on Internet Time: Whatever Happened to the Government's Case in United States vs. Microsoft?*, N.E.R.A. Working Paper,

preannouncements have many efficiency-enhancing properties and legitimate, procompetitive business purposes.<sup>55</sup> For example, consumer choices are clearly assisted by timely information about future product availability.<sup>56</sup> Moreover, preannouncements of products or features can be very relevant to a broad range of industries in terms of assisting them with determining technology trends and signaling demand to distribution channels.<sup>57</sup> In network industries, preannouncements enable firms to increase exposure of a product in a way that can enhance expectations and spread marketing costs over time. On the other hand, some economists and lawyers argue that they can freeze sales of rival products as consumers or producers of complements wait for the release of the announced product,<sup>58</sup> and there is a growing body of empirical evidence to support this argument.<sup>59</sup> Therefore, a framework is desperately needed for determining when a strategic preannouncement can be anticompetitive.

When a dominant network attempts to exploit its position in order to maintain or extend its hold on the market, its success depends to some extent on switching costs. Switching costs are the costs associated with abandoning one product in order to adopt

---

September 17, 1999; United States Department of Justice, *Memorandum of the United States of America in Response to the Court's Inquiries Concerning "Vaporware"*, *United States v. Microsoft Corp.*, Civil Action No. 94-1564 (SS), Jan. 27, 1995.

<sup>55</sup> See *id.* See also John Lopatka & William Page, *Microsoft, Monopolization, and Network Externalities: Some Uses and Abuses of Economic Theory in Antitrust Decision Making*, 40 ANTITRUST BULL. 317 (1995) (discussing preannouncements in the case law).

<sup>56</sup> Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 842.

<sup>57</sup> See Wujin Chu, *Demand Signaling and Screening in Channels of Distribution*, 11 MARKETING SCIENCE 327 (1992).

<sup>58</sup> See Salop & Romaine, *Preserving Monopoly*, *supra* note 43, at 637

<sup>59</sup> See, e.g., Shane Greenstein, *Did Installed Base Give and Incumbent Any (Measurable) Advantages in Federal Computer Procurement?*, 24 RAND J. ECON. 19 (1993); Neil Gandal, *Competing Compatibility Standards and Network Externalities in the PC Software Market*, 77 REV. ECON. & STAT. 599 (1995); Dranove & Gandal, *DVD v. DIVX*, *supra* note 49.

another product that is either partially or wholly incompatible with the first.<sup>60</sup> These costs may include, for example, learning how to consume a new network product, costs in transforming resources for use in a new product's network, updating one's "wetware"<sup>61</sup> and the accompanying temporary drop in utility or productivity, search costs involved in learning about the quality of alternative networks, compensatory or liquidated damages from contractual commitments, and the residual value of the network the consumer will forgo to consume the new network product.

A strategic preannouncement may prevent an entrant network from gaining momentum.<sup>62</sup> In a dynamic network market that has tipped to one network, the dominant network tries to develop a base of consumers for the next generation of its product by targeting two groups of consumers: the installed base of its own network, and new consumers. Naturally, the network will have an incentive to make the next product generation backwards-compatible with the current generation.<sup>63</sup> Therefore, switching costs will be an important consideration for the installed base. If a rival entrant network innovates and brings to market a new product to compete with the incumbent network, the incumbent can respond by announcing that it will soon release a new product generation with the same or similar innovations. As a result, the presence of switching costs will induce a subset of the installed base to wait for the next product

---

<sup>60</sup> Defined as such, switching costs may be interpreted to include the opportunity costs of leaving a large network in order to adopt a network product with less network-related value. However, for the purposes of this analysis, network-related opportunity costs and switching costs are distinct phenomena.

<sup>61</sup> "Wetware" refers to the knowledge a consumer accumulates in using a particular product. SHAPIRO & VARIAN, *INFORMATION RULES*, *supra* note 4, at 12.

<sup>62</sup> Farrell & Saloner, *Installed Base*, *supra* note 14, at 954.

<sup>63</sup> See Katz & Shapiro, *Antitrust*, *supra* note 13, at 37 (discussing the incentives for planned obsolescence and intergenerational compatibility).

generation rather than adopt the new network. Alternatively, the installed base may decide that the residual value of the old network abrogates the need to invest in a different product. Either way, rival networks face an uphill battle.

The waiting mechanism can function as follows: Assume that consumers of a network decide to purchase or update new products at times determined by a distribution. When they decide it's time to update, they will use a two-step decision process. First, due to switching costs, they will consider whether they can update by adopting the next product generation of the network they currently consume—a product that may also be compatible with the current network. This would minimize switching costs. But, if the next generation is not yet available, the second step will be to look to alternative networks, weighing the benefits of the entrant network against the costs to switch. If the current network preannounces the next generation, then all consumers arriving on the interval of time between the preannouncement and the release date, will respond by waiting because of the switching costs.<sup>64</sup> This is illustrated in Figure 1. Upon entry, consumers expect the entrant network to grow, due to features of the entrant network that the incumbent network lacks. If the area of  $B + C + D$  is greater than  $A$ , consumers will switch. However, if the incumbent preannounces, consumers will expect an increase in the incumbent's new network. The preannouncement removes  $D$  from the expectations for the entrant network. If  $B + C$  does not exceed  $A$ , consumers will wait.

---

<sup>64</sup> Note that this analysis assumes, without loss of generality, that waiting is costless.

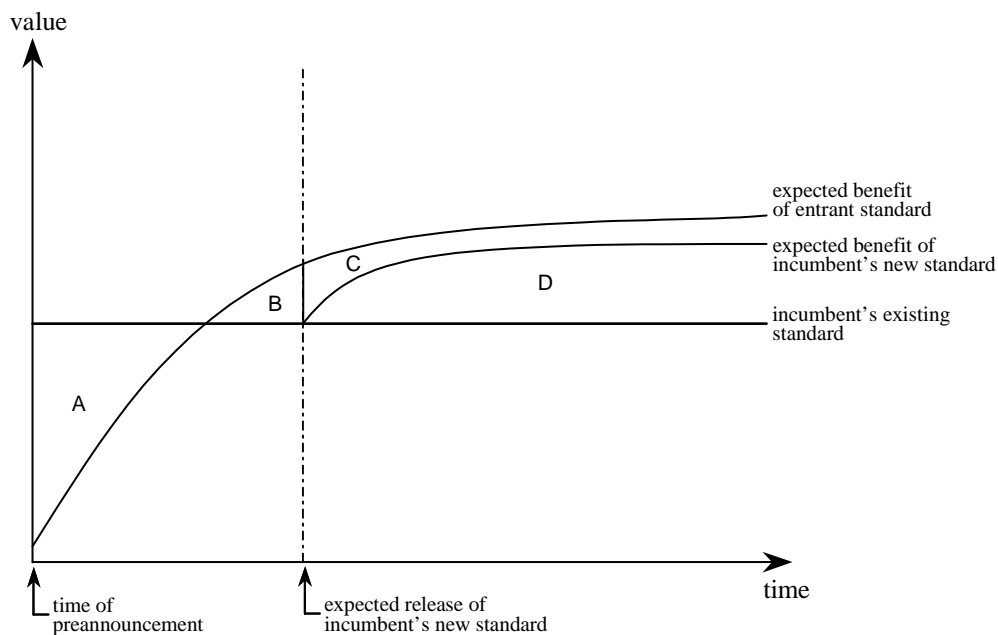


Figure 1: Switch if  $PV ( B + C ) > PV ( A )$

This effect will be more pronounced if the incumbent can prevent the entrant's network from being partially or wholly compatible with its own, further raising the cost of transforming resources for use in the next generation.<sup>65</sup> Thus, the new network will have a more difficult time gaining momentum, and if consumers anticipate this, the new

---

<sup>65</sup> For example, a dominant network could adopt a proprietary configuration that would not be available to any entrants due to, *e.g.*, intellectual property protection. Entrants would be foreclosed from making a network or complement that would be backwards-compatible with the incumbent's network. This could make the cost of converting resources for use in the network prohibitive. Examples could include proprietary file formats that prevent entrant programs from importing the "encrypted" files and converting them for use in the entrant's network. In part due to this reason, then FTC Commissioner Azcuenaga suggested that a dominant firm violates the law if it fails to predispose to competitors a change in a product that renders competitors' products incompatible. See Mary Azcuenaga, *Network Externalities and Other Internet Antitrust Issues*, 564 PLI/Pat. 333, 340 (1999).

network might never reach a minimum efficient scale and will be forced to exit the market. As such, the consumers that wait are the “arbiters of the product’s quality,” which further favors expectations that the dominant firm will prevail in the next generation.<sup>66</sup>

There is a risk to competition when a firm can have some control over the switching costs of its installed base. Although switching costs are determined by wetware and the residual value of the network product being used, the existence and quality of other available networks can also influence the effective cost to switch. The effective cost to switch is the difference between actual switching costs and the expected surplus that can be gained from switching to another product. The emergence of a rival network product will reduce the effective cost to switch if the product offers an innovation that makes it more desirable than the product being used.<sup>67</sup> Hence, if the incumbent network announces that it will offer a product, to be released in the near future, with the same or similar innovations as a rival network, the consumer’s expected surplus from switching is lowered or eliminated. Thus, the preannouncement essentially raises the effective cost of switching to the rival network. This poses a threat to competition because a network can wield influence that bolsters the significant barriers to entry inherent to dynamic network industries.<sup>68</sup>

---

<sup>66</sup> Farrell & Saloner, *Installed Base*, *supra* note 14, at 943.

<sup>67</sup> The way that rival technology can affect switching costs was suggested in Carl Shapiro & David Teece, *Systems Competition and Aftermarkets: An Economic Analysis of Kodak*, 39 ANTITRUST BULL. 135 (1994).

<sup>68</sup> Economists frequently note that barriers to entry are perhaps the single most important determinant of an incumbent firm’s ability to exercise market power on a sustained basis. *See* Mark Burton, David

Because a strategic preannouncement can have an effect on the switching costs of the installed base, market power translates into opportunities for a network to pursue strategies that essentially raise the costs of entry.<sup>69</sup> Before entry into a dynamic network market can occur, a new rival network's innovation must not only overcome the network effects of the incumbent network, but also the switching costs of the incumbent network's installed base. Consequently, if a network can control the switching costs of its installed base, having a large installed base can give it the ability to foreclose entry and wield market power. This effect increases with the size of the installed base in comparison to the number of other consumers. As Farrell and Saloner note, "especially when targeted against a fledgling technology, the preannouncement may well be anticompetitive."<sup>70</sup> Therefore, the larger the dominant network's installed base, the more likely it will be that a strategic preannouncement is anticompetitive.<sup>71</sup>

Moreover, strategic preannouncements can have multiple anticompetitive effects. As the discussion above illustrates, the existence of switching costs can enable the preannouncement to compound the injury of already significant network barriers to

---

Kaserman & John Mayo, *Modeling Entry and Barriers to Entry: A Test of Alternative Specifications*, 44 ANTITRUST BULL. 387 (1999).

<sup>69</sup> Rubinfeld, *Antitrust Enforcement*, *supra* note 39, at 875.

<sup>70</sup> Farrell & Saloner, *Installed Base*, *supra* note 14, at 949. *See also* Lemley & McGowan, *Java*, *supra* note 16, at 726 (arguing that leveraging across generations is the primary method by which a network monopolist can maintain and extend its market power).

<sup>71</sup> *See Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 274-75 (CA2 1979) ("many anticompetitive actions are possible or effective only if taken by a firm that dominates its smaller rivals"). *See also* Rubinfeld, *Antitrust Enforcement*, *supra* note 3, at 872 ("[b]usiness conduct by dominant firms that should be given careful scrutiny and that may be anticompetitive, is likely to be harmless if carried out by firms with little or no market power").

entry.<sup>72</sup> Also, the existence of switching costs and network effects mean that a dominant network will not have to innovate as much as rivals in order to extend its dominance into the next product generation. The dominant network thus has an incentive to preannounce innovations that appear reasonably interchangeable with those offered by rival networks, but then release the next product generation late or with less-than-promised innovations in order to slow the pace of innovation and further insulate itself from entry.<sup>73</sup> In particular, once the preannouncement has prevented an entrant's network from growing network value, its optimal behavior is to go forward with a product that falls short of the entrant's product (in terms of quality or quality adjusted price) by a magnitude just slightly less than the cost to switch.

This is partially harmful to the rate of innovation due to path dependence, where innovation in the next product generations will be less advanced than if rival networks' superior products were able to enter the market. Moreover, this detrimental effect on innovation will continue to compound for as long as a network can maintain its dominant market position. The successful use of a preannouncement strategy could also impact the rate of innovation if it deters potential entrants from investing in innovations in the dominant network's market.

---

<sup>72</sup> See Joseph Farrell & Carl Shapiro, *Dynamic Competition with Switching Costs*, 19 RAND J. ECON. 123 (1988) (showing that switching costs can be used to subvert the competitive process of entry). See also MICHAEL PORTER, *COMPETITIVE STRATEGY* 10 (1980) (demonstrating the degree by which switching costs raise barriers to entry).

<sup>73</sup> Being protected from entry and resistance to innovation have been described as the central features of monopoly. Teece & Coleman, *Meaning of Monopoly*, *supra*, note 3, at 825. See also *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 2, 14 (1984) (also noting that use of market power can lead to a situation in which an "inferior product may be insulated from competitive pressures"). The monopolist's incentive to underproduce innovation is analogous to its profit-maximizing incentive to restrict production, as noted above at note 43 and accompanying text.



Many commentators assert that when products fall short of what was promised in a preannouncement, or are not released at all, the market will discount false or misleading announcements.<sup>74</sup> However, when the next product generation fails to fully deliver what was preannounced, consumers will not necessarily discipline misleading statements by shifting to other networks in future generations. This is because adoption choices will be determined by switching costs and network effects in the same manner in every generation.<sup>75</sup> As a result, preannouncements preclude the entry of superior networks, consumers continue to adopt the dominant network's next generation, and then they complain about the shortcomings in each period.<sup>76</sup>

The effects of preannouncements have been demonstrated empirically in the economics literature. Ohashi observed the importance of network effects on demand elasticities in the war between Beta and VHS to establish a videotape standard.<sup>77</sup> He established that the network-related value alone for VHS grew to \$74 per unit, or \$875

---

<sup>74</sup> See, e.g., Robert Prentice, *Vaporware: Imaginary High-Tech Products and Real Antitrust Liability in a Post-Chicago World*, 57 OHIO ST. L.J. 1163, 1206-1218 (1996).

<sup>75</sup> Another way to say this is that the shortcomings of last generation's preannouncement do not directly affect switching costs with regard to products in the next generation. As an example, Microsoft announced that Windows 95 would work well on any PC with an 80386 processor and four megabytes of RAM, but the product when released required an 80486 processor and eight megabytes, and further required an Intel Pentium processor to take advantage of all of the system's features. Similarly, Microsoft announced that it would be delivered in mid-1994, but eventually released it in August 1995. Yet nearly nine years and five generations later, Microsoft continues to be accused of using the same tactics, and still maintains a dominant position in the operating systems market.

<sup>76</sup> Consumers may be unable to establish that other products were superior, and perception of shortcomings of the chosen network may be biased by cognitive dissonance or endowment effects. *Note also* Prentice, *Vaporware*, *supra* note 74, at 1210-11. More formal empirical studies of consumer complaints have yet to be done.

<sup>77</sup> Hiroshi Ohashi, *The Role of Network Effects in the US VCR Market, 1978-1986*, 12 J. ECON. & MGMT. STRATEGY 447 (2003).

million in the entire United States market.<sup>78</sup> Shy estimated switching costs in the banking market, and showed the cost associated with moving a bank account can exceed 6 percent of the total account balance.<sup>79</sup> He concluded that switching costs and network effects can “confer market power on banks.”<sup>80</sup> Dranove and Gandal measured the effects of a preannouncement for the DIVX standard used to counter entry by the DVD digital video standard.<sup>81</sup> They concluded that “preannouncements can have an affect on standards adoption,”<sup>82</sup> and showed that the DIVX preannouncement succeeded in substantially slowing adoption of the DVD technology during a period of peak demand.<sup>83</sup> They posited other reasons, such as partial compatibility between the DVD and DIVX standards, for DIVX’s failure to win the market. Choi and Thum also show instances in which superior technologies do not get adopted.<sup>84</sup> Moreover, a preannouncement can have an anticompetitive effect even if it can prevent the entry of a network that is backed by considerable capital, such as through a large firm in another market. For an example, Citibank was unable to enter the wire transfer market in the

---

<sup>78</sup> *Id.* at 488. These values are in 2004 dollars. Ohashi measured these values to 1986 in constant January 1978 dollars.

<sup>79</sup> OZ SHY, *THE ECONOMICS OF NETWORK INDUSTRIES* 4 (2001).

<sup>80</sup> *Id.* at 188.

<sup>81</sup> David Dranove & Neil Gandal, *The DVD-vs.-DIVX Standard War*, 12 *J. ECON. & MGMT. STRATEGY* 363 (2003); Neil Gandal, Michael Kende & Rafael Rob also analyze adoption of the CD standard in *The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players*, 31 *RAND. J. ECON.* 43 (2000).

<sup>82</sup> *Id.* at 370.

<sup>83</sup> *Id.* at 369.

<sup>84</sup> Jay Pil Choi & Marcel Thum, *Market Structure and the Timing of Technology Adoption with Network Externalities*, 42 *EUR. ECON. REV.* 225 (1998).

late 1980s, and American Express's entry into that market was difficult and costly even though it had the advantages of a base of agents and a valuable trade name.<sup>85</sup>

#### 4. Legal Standards for Analyzing Preannouncements

When preannouncements have an anticompetitive effect, they should be found to violate Section 2 of the Sherman Act.<sup>86</sup> Conduct is anticompetitive when it “is reasonably calculated to reduce competition in the market and without significant, offsetting social benefits.”<sup>87</sup> As such, whenever a particular form of conduct can be shown to injure the competitive process, the statute mandates that antitrust doctrine be crafted to protect competition by finding legal liability. The courts have faltered, however, in their efforts to identify the particular types of anticompetitive conduct necessary to establish a violation.<sup>88</sup> As a result, monopolization is now regarded as “the most elusive of all antitrust offenses,”<sup>89</sup> and Section 2 case law has given us little guidance on how to deal with a given set of facts.

While general principles have emerged from a century of case law on monopolization, the courts still disagree on the proper standard under Section 2. The case law is “confusing and inconsistent,”<sup>90</sup> and the courts have had mixed success at

---

<sup>85</sup> See David Balto, *Payment Systems and Antitrust: Can the Opportunities for Network Competition be Recognized?*, FED. RESERVE BANK OF ST. LOUIS REV. at 19 (Nov/Dec 1995).

<sup>86</sup> Section 2 of the Sherman Act is codified as 15 U.S.C. § 2.

<sup>87</sup> Herbert Hovenkamp, *The Monopolization Offense*, 61 OHIO ST. L.J. 1035, 1037 (2000).

<sup>88</sup> See Thomas Paraino, *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 N.Y.U. L. REV. 809, 833-45 (2000).

<sup>89</sup> Phillip Areeda, *Monopolization, Mergers, and Markets: A Century Past and the Future*, 75 CALIF. L. REV. 959, 960-61 (1987).

<sup>90</sup> Paraino, *supra* note 88 at 833.

addressing many types of exclusionary conduct. The problem stems from the fact that anticompetitive conduct “can come in too many different forms, and is too dependent upon context, for any court or commentator ever to have enumerated all the varieties.”<sup>91</sup> The result is that there are instances in which harm to competition can be shown, yet existing doctrine falls short in its ability to draw a connection between the conduct causing the harm and remediable liability.

This is especially true in dynamic network industries, where market structure evolves differently, where the pace of technological change is rapid, and where the causal link between conduct and competitive effect can be harder to identify. Though many cases have considered whether preannouncements can be illegal under Section 2, “no test to identify anticompetitive preannouncements ... has yet been developed.”<sup>92</sup> An approach is needed that focuses on the incentives surrounding the strategy to preannounce as well as the effects of the preannouncement in the market.

Section 2 declares that it is illegal for a firm to “monopolize” or “attempt to monopolize.” It is settled law that the offense of monopolization has two elements: first, the possession of monopoly power in a relevant market,<sup>93</sup> and second, “the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.”<sup>94</sup> How to interpret the second element is at the heart of the debate over the proper standards

---

<sup>91</sup> *Caribbean Broad. Sys., Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1087 (CADDC 1998).

<sup>92</sup> John Lopatka, *United States v. IBM: A Monument to Arrogance*, 68 ANTITRUST L.J. 145, 153 (2000).

<sup>93</sup> The Supreme Court defines “monopoly power” as “the power to control prices or exclude competition.” *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 481 (1992) (quoting *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956)).

<sup>94</sup> *United States v. Grinnell Corp.*, 384 U.S. 563 (1966).

under Section 2. Generally, the courts have treated this as a broad requirement to show that the defendant has engaged in some form of conduct that has demonstrable harmful effects to competition. The details are not as clear for laying out a doctrine that will tell what forms of conduct will be found illegal.

In *Aspen Skiing*, the Supreme Court indicated that Section 2 is concerned with conduct having a “normal business purpose.”<sup>95</sup> Likewise, in its *Kodak* opinion, the Court stated that “liability turns on whether ‘valid business reasons’ can explain [a defendant’s] actions.”<sup>96</sup> As such, the Court suggests a doctrine that involves a review of firms’ commercial decision-making processes, but the specific facts of the *Aspen* and *Kodak* cases prevent the Court from elaborating on what “normal” and “valid” mean in a more general sense.

The lower courts use similar language in following *Aspen* and *Kodak*, providing insight into how they should be interpreted. Notably, the Fifth Circuit in *Stearns* focused on whether conduct has a “rational” business purpose “other than its adverse effects on competitors.”<sup>97</sup> Accordingly, many of the appellate circuits have found appeal in the idea that “rational” conduct defines what will be found “valid” or “normal” under the standards of *Aspen* and *Kodak*.<sup>98</sup> Similarly, other circuits have

---

<sup>95</sup> *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 608 (1985).

<sup>96</sup> *Kodak*, 504 U.S. 451, 483 (citing *Aspen*, at 605, and Judge Hand in *United States v. Alcoa*, 148 F.2d 416, 432 (CA2 1945)).

<sup>97</sup> *Stearns Airport Equip. Co., Inc. v. FMC Corp.*, 170 F.3d 518, 522 (CA5 1999).

<sup>98</sup> See e.g. *Concord Boat Corp. v. Brunswick Corp.* 207 F.3d 1039, 1062 (CA8 2000) (quoting *Stearns*); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1165 (CA1 1994).

made illegality turn on whether conduct “makes no economic sense” other than as a means of perpetuating monopoly power.<sup>99</sup>

By reading *Kodak* and *Aspen* as inquiring into the economic rationality of the conduct under investigation, the lower courts do not lead monopolization doctrine into the disfavored practice of trying to second guess business judgment, but rather require proof of objectively measurable results from strategic decisions. This approach also finds support in the analysis used by the Supreme Court in *Aspen*. In defining whether conduct is “predatory” or “competition on the merits,” the Court asked whether the defendant was acting “on some basis other than efficiency.”<sup>100</sup> The DC and Third Circuits also characterized conduct that was not “competition on the merits” as not increasing efficiency.<sup>101</sup> To answer this question, the critical evidence was that Aspen Skiing Company made an economic decision that made sense only if it were making its calculations on the assumption that its anticompetitive conduct would be successful, i.e., that its monopoly power would be maintained.<sup>102</sup> By invoking efficiency, the Court thus appears to indicate that a business purpose that is not “valid” or “normal” would be

---

<sup>99</sup> See, e.g., *William Inglis & Sons Baking Co. v. ITT Continental Baking Co.*, 668 F.2d 1014, 1030-31 (CA9 1981) (analyzing claim of attempted monopolization according to whether “it makes sense only because it eliminates competition”); Plaintiffs’ Joint Proposed Conclusions of Law at \*10, *Microsoft III* (No. Civ.A.98-1232) (advocating approach that considers “whether the conduct’s costs to the defendant are ultimately inexplicable except on the basis of the monopoly returns expected as a result of the conduct’s creation or maintenance of a monopoly”).

<sup>100</sup> *Aspen*, 472 U.S. at 605. For the proposition that “exclusionary” conduct comprehends conduct that does not “further competition on the merits,” the Court cited 3 PHILLIP AREEDA & DONALD TURNER, ANTITRUST LAW 78 (1978)

<sup>101</sup> See *Microsoft III*, 253 F.3d 34 (CA9 2001) and *LePage’s Inc. v. 3M*, 324 F.3d 141, 147 (CA3 2003). For the proposition that conduct is predatory if it attempts to exclude rivals on some basis other than efficiency, the Court in *Aspen* cited ROBERT BORK, THE ANTITRUST PARADOX 138 (1978).

<sup>102</sup> This is how the Supreme Court explained the *Aspen* holding in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. \_\_\_ (2004).

one that is not “rational,” or that could not be optimal but for its effect on competition. This in turn yields a doctrine under Section 2 that relies on economic principles and can account for the anticompetitive effect required by the statute.

## **5. Doctrinal Framework and Limiting Factors**

To figure out how a preannouncement can fit into this doctrine, a framework is needed to focus the courts on those specific facts and circumstances surrounding the preannouncement that would make it anticompetitive. This involves identifying what aspects of a preannouncement mark it as reasonably calculated to perpetuate monopoly without significant and offsetting social benefits. Under the rule defined by *Aspen* and *Kodak*, this means taking a close look at the economic incentives surrounding the decision to preannounce, as well as the economic effects the preannouncement is likely to have on the market. It is also important to note that “antitrust analysis must always be attuned to the particular structure and circumstances of the industry at issue.”<sup>103</sup> Therefore, legal consideration of preannouncements should center on their likely effect in dynamic market industries.

Some commentators have proposed that network industries should be legally different, that traditional doctrines should be adapted in the context of a network industry. In traditional antitrust jurisprudence, the effects on innovation have not been

---

<sup>103</sup> *Trinko*, 540 U.S. at \*8.

as important as effects on output or price.<sup>104</sup> On the other hand, in dynamic network industries, the principle consideration is whether a dominant network's strategies are designed to slow the pace of innovation to further insulate the network from rivals' innovations or entry.<sup>105</sup> Moreover, in dynamic network industries, the nexus between particular conduct and the harm that it causes is not as clear, and the products involved are often less familiar. Thus, numerous instances of conduct having an anticompetitive effect escape liability when committed in a dynamic network industry. Adding to this, network industries are riddled with characteristics such as tipping that make them particularly susceptible to monopoly.<sup>106</sup>

An effective rule addressing preannouncements needs to recognize the characteristics of network industries, but likewise it requires a delicate concern for the potential for reaching erroneous outcomes.<sup>107</sup> The line between exclusionary behavior and customary commercial activity is sometimes difficult to discern.<sup>108</sup> False condemnations and the costs of defending legitimate conduct could severely reduce the incumbent network's incentives, chilling "the very conduct the antitrust laws are

---

<sup>104</sup> Richard Gilbert & Willard Tom, *Is Innovation King at the Antitrust Agencies? The Intellectual Property Guidelines Five Years Later*, 69 ANTITRUST L.J. 43, 84 (2001).

<sup>105</sup> See Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 813 (postulating that it may be relevant to consider whether an incumbent network's actions are designed to delay the next product generation, and hence ensure that the incumbent emerges as the dominant player throughout future shifts in technology).

<sup>106</sup> See notes 11-29 *supra* and accompanying text. Some commentators even see monopoly in network industries as "inevitable." David Balto & Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583, 604 (1998).

<sup>107</sup> *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 217 (1993). See also Salop & Romaine, *Preserving Monopoly*, *supra* note 43, at 653.

<sup>108</sup> See *Microsoft III*, 253 F.3d at 78; *Spectrum Sports, Inc., v. McQuillan*, 506 U.S. 445, 458 (1993); HERBERT HOVENKAMP, MARK JANIS & MARK LEMLEY, 1 IP AND ANTITRUST § 10.3a (2003) ("The evaluation of a monopolist's conduct to determine whether it is anticompetitive (and therefore probably illegal) is an enterprise fraught with peril.").



designed to protect.”<sup>109</sup> And, such an impact on innovation could accordingly render entry by alternative networks a less attractive option.<sup>110</sup>

The courts must also be mindful of the possibility that the transitory nature of dominance in dynamic network industries may be sufficient to discipline the market.<sup>111</sup> The question of when the market needs discipline is also unsettled. When a single network dominates a market, it can establish valuable, uniform standards that encourage innovation and reduce costs.<sup>112</sup> As such, some markets “owe their very existence to the efficiencies made possible by monopolies ... in ‘network’ industries.”<sup>113</sup> Moreover, many courts recognize that “as long as a firm feels that its market power can be challenged, it will continue to seek efficiency gains even after it achieves monopoly.”<sup>114</sup> Finally, in dynamic network industries, litigation lags can be long compared to the speed at which market forces shape the industry, making antitrust enforcement at best superfluous, and at worst may actually harm competition.

On the other hand, while the courts should never ignore the need for business to be unencumbered from excessive regulation, the antitrust laws should not allow monopolies to use their power to artificially extend the period of their dominance.<sup>115</sup> While the courts have the potential to stifle innovation by second guessing business

---

<sup>109</sup> *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986).

<sup>110</sup> See Rubinfeld, *Antitrust Enforcement*, *supra* note 39, at 860 (advising that, because the path of innovation is highly uncertain, the potential costs of overzealous antitrust enforcement are huge). See also Evans, *Antitrust on Internet Time*, *supra* note 54, at 11.

<sup>111</sup> Teece & Coleman, *Meaning of Monopoly*, *supra* note 3, at 810.

<sup>112</sup> Paraino, *Illegal Conduct*, *supra* note 88, at 816.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 819.

<sup>115</sup> See Paraino, *Illegal Conduct*, *supra* note 88, at 824.

judgment, so too can innovation be stifled by the “misuse” of monopoly power.<sup>116</sup> To this end, the courts have aptly recognized that “behavior that might otherwise not be of concern to the antitrust laws—or that might even be viewed as procompetitive—can take on exclusionary connotations when practiced by a monopolist.”<sup>117</sup> Thus, holding a monopolist to a higher standard is consistent with the view that antitrust law is not a code of fair business conduct, but rather is concerned with the effects of firm behavior on social welfare.<sup>118</sup> Properly constraining harmful conduct can produce an enormous boost to social welfare.<sup>119</sup> Moreover, the inability of Section 2 to deal effectively with anticompetitive conduct in network markets could sometimes lead to “an excessive expansion of antimerger enforcement.”<sup>120</sup>

A rule that protects competition from anticompetitive preannouncements while preserving firms’ incentives to innovate will require limiting factors. The foregoing discussion indicates the first limiting factor: a plaintiff should show that the relevant product is in a dynamic network industry. For a preannouncement to be anticompetitive, it generally has to rely on the installed base in the monopoly’s product

---

<sup>116</sup> See *Caldera, Inc. v. Microsoft Corp.*, 72 F.Supp.2d 1295, 1323 (D. Utah 1999).

<sup>117</sup> *Kodak*, 504 U.S. at 488 (Scalia, J. dissenting) (citing 3 AREEDA & TURNER, ANTITRUST LAW ¶ 813, at 300-302 (1978)); See also *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 275 (CA2 1979) (discussing conduct that is “illegal when taken by a monopolist because it tends to destroy competition, although in the hands of a smaller market participant it might be considered harmless, or even ‘honestly industrial,’” citing *Alcoa*, 148 F.2d at 431 (CA2 1945)); *Ocean State Physicians Health Plan, Inc. v. Blue Cross & Blue Shield of Rhode Island*, 883 F.2d 1101, 1112 (CA1 1989).

<sup>118</sup> See David McGowan, *Innovation, Uncertainty, and Stability in Antitrust Law*, 16 BERKELEY TECH. L.J. 729, 801 (2001).

<sup>119</sup> See Ian Ayres, *Pushing the Envelope: Antitrust Implications of the Envelope Theorem*, 17 MISS. C. L. REV. 21 (1996) (showing that small reductions in a monopolist’s profit can result in very large reductions in deadweight loss).

<sup>120</sup> See Oliver Williamson, *Dominant Firms and the Monopoly Problem: Market Failure Considerations*, 85 HARV. L. REV. 1512, 1524-25 (1972) (citing Donald Turner, *The Scope of Antitrust and Other Economic Regulatory Policies*, 82 HARV. L. REV. 1207, 1217 (1969)).

as well as the switching costs that the announcement can affect. As such, showing that the industry exhibits network externalities is necessary because the requisite anticompetitive effect is not likely to exist in their absence.<sup>121</sup>

The second limiting factor involves defining what sort of preannouncement will be subject to scrutiny under the antitrust laws. A preannouncement strategy may be to promote product attributes that mirror those of an entrant's network product. Naturally, this may be little more than an indication that the attributes mirrored are valuable to consumers. However, the incumbent may want to "freeze" demand by preventing the entrant from developing network value, buying time to develop a competing product. The harm in doing this stems from the fact that, once demand is successfully frozen, the optimal behavior of the incumbent is to invest in the eventual product only enough to release a product that is a substitute for the entrant's, and not to match the quality or quality adjusted price of the entrant.<sup>122</sup> Therefore, a preannouncement must be defined in such a manner so as to capture instances where it is intended to freeze demand, while not chilling firms' ability to advertise valuable attributes, allowing consumers to both make product choices that better satisfy their desires and help them plan purchases in advance.

---

<sup>121</sup> See HOVENKAMP, JANIS & LEMLEY, 1 IP AND ANTITRUST § 12.4b (2003) (noting that the competitive effect predatory preannouncements "depends heavily on network effects"). As the Department of Justice pointed out in *Microsoft III*, the harm alleged was "in large measure due to network effects... ." Memorandum of the United States in Support of Motion for Preliminary Injunction, at \*145, *Microsoft III* (No. Civ.A.98-1232).

<sup>122</sup> As described above, the incumbent's product can fall short and still maintain its monopoly because switching costs and network effects will insulate it once the product is released.

A product announcement generally “showcases” attributes that help consumers decide whether it is a product they would want to consume. To be subject to scrutiny under Section 2, a preannouncement would promote a product or network that is reasonably interchangeable with the entrant’s. This involves showing first, that the incumbent’s preannouncement includes attributes that are the same or substantially similar to the entrant’s innovation, and second, that the attributes are likely to be a factor in the marketability of the entrant’s network. The first part separates out those attributes of the entrant’s network that represent a valuable innovation that the incumbent’s network does not currently possess, aiming the question at the relevant aspects of the incumbent’s preannouncement. The second part further hones the inquiry to whether the preannouncement is likely to have an effect on the entrant’s network. As such, the attributes considered could be as broad as the entire product or network itself, or as narrow as specific attributes that can have measurable value in a hedonic pricing sense.<sup>123</sup>

Once the court is focused on the relevant attributes, the courts must then determine from the available evidence whether the preannouncement serves to convey valuable information or, rather, to freeze demand and exploit network effects.<sup>124</sup> There are several potential sources for this evidence. Foremost, the court could engage in an

---

<sup>123</sup> See generally Sherwin Rosen, *Hedonic Prices and Hedonic Markets: Product Differentiation in Pure Competition*, 82 J. POL. ECON. 34 (1974).

<sup>124</sup> By defining clearly what types of conduct are likely to have an anticompetitive effect, and thus what types of conduct will fall within the scope of antitrust liability, this framework also passes First Amendment muster. That is, the prohibition against certain types of preannouncements would be proper under the standards for commercial speech regulation set forth in *Central Hudson Gas & Elec. Corp. v. Public Serv. Comm’n of N. Y.*, 447 U.S. 557 (1980), and as the least restrictive means for addressing adequately a nonspeech-related policy under *44 Liquormart Inc. v. Rhode Island*, 517 U.S. 484 (1996).

inquiry of whether the entrant's innovation is likely to be one the incumbent was already contemplating, or whether it was blindsided by the entrant innovation.<sup>125</sup>

Analogous to the nonobviousness inquiry in patent law, such a likelihood could be based on evidence of whether the entrant's innovation (and hence, the incumbent's announced attributes) would have been obvious to the incumbent at the time the incumbent became aware of the entrant's innovation.<sup>126</sup>

This inquiry is useful because it also allows the court to consider whether the incumbent, by virtue of having been in the market first, would have expertise or resources that would increase its likelihood of having developed the announced innovation independently.<sup>127</sup> Evidence that the incumbent has developed the innovation to a reasonably commercializable level could also help the court evaluate whether the incumbent monopoly may still be more efficient at bringing the innovation to market.<sup>128</sup>

---

<sup>125</sup> To the extent the innovation is not protectable intellectual property, antitrust still has an interest in preserving the incentives to innovate by extending antitrust liability to appropriation of an idea through anticompetitive means. *See, e.g.* Robert Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, Remarks Before the Antitrust, Technology and Intellectual Property Conference, Berkeley Center for Law and Technology, University of California, Berkeley (March 2, 2001) (transcript available at <http://www.ftc.gov/opa/2001/03/pitofskyberkeley.htm>).

<sup>126</sup> The event that would determine the appropriate time is determined by when the entrant would begin developing network value. It could be based on, for example, evidence of entrant's product announcement in a trade publication, in an advertisement to the general public, or it could be a product release.

<sup>127</sup> If a dominant firm makes commitments in the form of sunk investments to deter fringe innovation, for example by investing in R&D, courts should recognize the potential efficiencies. *See, e.g.* Jonathan Baker, *Promoting Innovation Search Term End Competition Through the Aspen/Kodak Rule*, 7 GEO. MASON L. REV. 495, 511 (1999).

<sup>128</sup> *Consider* Joshua Gans & Scott Stern, *Incumbency and R&D Incentives: Licensing the Gale of Creative Destruction*, 9 J. ECON. & MGMT. STRATEGY 485, 499-500 (2000). Note also that the entrant's event that triggers the preannouncement, especially if the event is a product release, could weigh in favor of entrant's increased efficiency.

The incumbent's marketing or strategy documents could also provide evidence that the preannouncement was not designed for an anticompetitive end.<sup>129</sup>

Having established what types of preannouncements will be actionable under Section 2, the facts surrounding a preannouncement can be applied to the rule established by the Supreme Court in *Aspen* and *Kodak*. As discussed above, this rule can be summarized as follows: a firm with monopoly power violates Section 2 if it excludes rivals from the relevant market without a "rational" business purpose. Therefore, the task before the courts is to identify actions with respect to the preannouncement that are not optimal, separating out the intended benefit derived from maintaining market power.

Most of the courts that have considered preannouncements looked to the timing of the announcement to find whether the action was optimal. For example, in *MCI v. AT&T*, the court held that the time interval between AT&T's announcement and implementation of its new product "could constitute a predatory act" if AT&T did not expect the product to be available when it announced that it would be.<sup>130</sup> Also, in *SPC v. AT&T*, the court considered the time length between AT&T's preannouncement and release.<sup>131</sup> By focusing on the time interval between preannouncement and release, the courts suggest that the monopolist's actions are not optimal for two reasons. First, the

---

<sup>129</sup> The veracity of defendant's own documents should be accorded appropriate weight

<sup>130</sup> *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1186 (CA7 1983).

<sup>131</sup> *Southern Pacific Communications Co. v. American Tel. & Tel. Co.*, 556 F.Supp. 825, 966 (DDC 1983). The court declined to adopt a doctrine that would use the time interval to infer an illegality threshold, analogous to the foreclosure rate as inferring anticompetitive effect in exclusive dealing cases. Since the plaintiff had not offered evidence supporting an anticompetitive effect, the court did not find liability.

announcement could bring more value to the monopolist if made at a time more proximate to release, arguably because more consumers would remember the advertisement when making a consumption decision, or because the information in the advertisement would be more valuable to consumers if closer to product release.

Second, if the monopolist does not anticipate releasing its product when announced, or with the same attributes as announced, it also anticipates avoidable loss of good will.

The timing of the preannouncement is also relevant to the extent it demonstrates the strategy as a means of preventing rivals from developing network value. If the interval between the entrant's emergence into the market<sup>132</sup> and the monopolist's preannouncement is short, then by virtue of a preannouncement mirroring the entrant's attributes, an inference can be drawn that the preannouncement was timed more for its effect on network effects than to optimize its value as an advertisement. On this point it is important to note the role of intent in the monopolization inquiry. While the Grinnell standard requires "willful conduct" designed to acquire or maintain market power, the courts regularly infer willfulness by reasoning that "no monopolist monopolizes unconscious of what he is doing."<sup>133</sup> Accordingly, intent has "not been a central focus of Section 2 monopolization cases."<sup>134</sup> Thus, by focusing on the timing of a

---

<sup>132</sup> *I.e.* the event that would begin the entrant's developing network value. *See* note 126 *supra*.

<sup>133</sup> *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 431-32 (CA2 1945).

<sup>134</sup> HOVENKAMP ET AL., 1 IP AND ANTITRUST § 10.3a. *See also Aspen*, 472 U.S. at 602 (stating that evidence of intent is merely relevant to the question of whether the challenged conduct is fairly characterized as exclusionary, anticompetitive, or predatory); *Xbridge Systems, Inc. v. I.B.M. Corp.*, 2002-1 Trade Cas. ¶ 73,702 (SDNY 2002). Even in attempted monopolization cases, intent can be inferred from conduct. *See Spectrum Sports, Inc., v. McQuillan*, 506 U.S. 445, 447 (1993) (holding that "predatory conduct may be sufficient to prove the necessary intent to monopolize."). HOVENKAMP ET AL.

preannouncement, both with respect to the entrant's conduct and the incumbent's eventual product release, application of the *Aspen/Kodak* rule can rely on readily observed conduct “without taking on the task of evaluating harm to competition.”<sup>135</sup> This is important for addressing conduct in dynamic network industries, since the harm to competition inquiry can be impractical when the effects would be mainly prospective.<sup>136</sup>

For their part, triers of fact are particularly qualified to determine the underlying motivations for anticompetitive conduct.<sup>137</sup> Judge Jackson proclaimed during the trial in *Microsoft*, “judging intent is what we do every day. Juries are called on to do it all the time.”<sup>138</sup> The Supreme Court has also recognized that the economic purpose of parties in antitrust cases “tends to show effect” of anticompetitive conduct.<sup>139</sup> And, Justice Stevens noted that “in antitrust, as in many other areas of the law, motivation matters and factfinders are able to distinguish bad from good intent.”<sup>140</sup>

Some cases have suggested that the proper test for preannouncements requires evidence that its claims are “knowingly false.”<sup>141</sup> Consistent with a disfavor for

---

generally find a monopolization standard problematic if it “substitutes evidence of intent for evidence of conduct.” See HOVENKAMP ET AL. at § 12.4.

<sup>135</sup> Jonathan Baker, *Promoting Innovation*, *supra* note 127 at 496. See also *American Tobacco Co. v. United States*, 328 U.S. 781, 810 (1946) (“neither proof of exertion of the power to exclude nor proof of actual exclusion ... is essential to sustain a charge of monopolization under the Sherman Act.”).

<sup>136</sup> *Id.*

<sup>137</sup> See Paraino, *Illegal Conduct*, *supra* note 88, at 846.

<sup>138</sup> Joel Brinkley, *Microsoft's Final Antitrust Case Witness Stumbles a Bit*, N.Y. Times, June 22, 1999, at C2.

<sup>139</sup> *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1, 19 (1979).

<sup>140</sup> *Business Electronics Corp. v. Sharp Electronics Corp.*, 472 U.S. 717, 754 (1985) (Stevens, J., dissenting).

<sup>141</sup> For a discussion of many of these cases, see Andrew Leventis & Michelle Appelrouth, *The Legal Viability of Vaporware Claims*, 15:2 ANTITRUST 82 (Spring 2001).



requiring intent in monopolization cases, however, many of these cases merely infer the preannouncements were knowingly false from other evidence.<sup>142</sup> Indeed, Hovenkamp *et al.* find it “worth noting that the market harm alleged can just as easily come from true as false preannouncements,”<sup>143</sup> and accordingly the courts have pointed out that even true preannouncements could violate Section 2.<sup>144</sup> In any event, by invoking a “knowingly false” standard, the cases actually appear to infer intent by determining whether the claims or timing are “objectively reasonable” based on evidence of motivation.<sup>145</sup> Additionally, if a plaintiff can meet the high standard of showing that a preannouncement was knowingly false, the conduct could be presumed conclusively illegal.<sup>146</sup> This arguably meets the standard in *Aspen* and *Kodak* because a monopolist “has no rational economic reason to make false or misleading preannouncements other than to perpetuate or extend its monopoly power.”<sup>147</sup>

Once the prima facie case is made out on a preannouncement allegation, the rule in *Aspen* and *Kodak* shifts the burden to the defendant to offer a “procompetitive

---

<sup>142</sup> See, e.g. *Caldera Inc. v. Microsoft Corp.*, 87 F.Supp.2d 1244, 1248 (D. Utah 1999) (holding that “a logical inference could be drawn that the statement was knowingly false”). While the Department of Justice in *Microsoft I* took the view that preannouncements would not violate Section 2 unless they were knowingly false, See Memorandum of the United States of America in Response to the Court’s Inquiries Concerning “Vaporware,” at <http://www.usdoj.gov/atr/cases/f0000/0050.htm>, Judge Jackson criticized this view as “rather narrow” and predicated on the wrong standard.

<sup>143</sup> HOVENKAMP ET AL. at § 12.4b.

<sup>144</sup> See, e.g., the D.C. Circuit’s opinion in *Microsoft I*, 56 F.3d 1448, 1453 (“even truthful product preannouncements would violate the securities laws, if not the antitrust laws”).

<sup>145</sup> That is, use of an “objectively reasonable” standard with respect to timing is equivalent to application of the “rational” standard of *Aspen* and *Kodak*.

<sup>146</sup> See Paraino, *Illegal Conduct*, *supra* note 88, at 878.

<sup>147</sup> *Id.*

justification” for its conduct.<sup>148</sup> This is the final limiting factor for the preannouncement cause of action. The principle utility of considering the defendant’s “business justification” is to temper the potential for the *Aspen/Kodak* rule to chill legitimate conduct. Adopting a “rational business purpose” test leaves open the possibility that liability could be found though the defendant’s rationality is bounded, that is, where the defendant doesn’t act optimally because it makes an error of business judgment.<sup>149</sup> By allowing evidence of a “nonpretextual” claim that the defendant’s conduct is indeed a form of “competition on the merits,”<sup>150</sup> the “rational” test perfectly captures the contours of the Supreme Court’s language in *Aspen* and *Kodak* to allow conduct with “valid business reasons” or a “normal business purpose.”

Finally, if the monopolist’s procompetitive justification stands unrebutted, then under the traditional rule of reason inquiry the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit.<sup>151</sup> This requirement also serves as a prophylactic against condemning vigorous competition on the merits by considering evidence of whether the entrant’s innovation provides a

---

<sup>148</sup> See *Kodak*, 504 U.S. at 483; *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1183 (CA1 1994) (defendant may “rebut such evidence by establishing a valid business justification for its conduct”); *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1209 (CA9 1997) (finding liability “absent a legitimate business justification”).

<sup>149</sup> See Herbert Simon, *A Behavioral Model of Rational Choice*, 69 Q. J. ECON. 99 (1955); James March, *Bounded Rationality, Ambiguity, and the Engineering of Choice*, 9 BELL J. ECON 587 (1978); PAUL MILGROM & JOHN ROBERTS, *ECONOMICS, ORGANIZATION, AND MANAGEMENT* 128-31 (1992).

<sup>150</sup> See *Microsoft III*, 253 F.3d at 59. Consistent with the “rational” test, the D.C. Circuit here defines “competition on the merits” as involving “greater efficiency or enhanced consumer appeal.” *Id.*

<sup>151</sup> *Standard Oil Co. v. United States*, 221 U.S. 1, 31 (1911). Again, the courts focus on the effect of the conduct rather than intent. See, e.g., *Microsoft III*, 253 F.3d at 60; *Chicago Bd. of Trade v. United States*, 246 U.S. 231, 238 (1918); *Aspen*, 472 U.S. at 603 (1985).

sufficient improvement over the incumbent's product in the context of network value and switching costs.

The precursor to a preannouncement cause of action must be the availability of an antitrust remedy. One of the central challenges in forging an effective remedy is that once the preannouncement has been made, expectations could drive the network market to respond very quickly. Since a preannouncement could irreparably prevent the entrant from building a network long before a complaint could be brought, a preliminary injunction followed by a truncated analysis may be required.<sup>152</sup> Where a measure of lost business can be determined due to consumers actually being diverted from the entrant's network, a finding of damages could also provide a deterrence and retributive function. This remedy would be especially important when the anticompetitive harm cannot be undone.<sup>153</sup> Additionally, the courts can fashion general injunctive decrees that can be administered with minimal oversight, and where competitive conditions evolve rapidly, decrees can expire at an appropriate time.<sup>154</sup> Finally, preannouncements may also be subject to liability as fraud, deceptive advertising, or unfair competition under the Lanham Act.<sup>155</sup>

---

<sup>152</sup> For discussion of when a truncated analysis is warranted, see J. Baker, *Promoting Innovation*, *supra* note 127, at 495-96. Baker notes that the key "to developing good truncated rules is to base them on readily observable conduct whose presence or absence is highly correlated with the conclusion a court would reach upon were it to conduct a full analysis." *Id.*

<sup>153</sup> A lawsuit against a monopolist could send a signal to the market that the monopolist is no longer the leading innovator.

<sup>154</sup> For example, the Federal Trade Commission's case against Xerox resulted in the defendant agreeing to curtail its preannouncement practices. *See In re Xerox Corp.*, 86 F.T.C. 364 (1975).

<sup>155</sup> HOVENKAMP ET AL. at § 12.4b. False advertising can be enjoined by the Federal Trade Commission pursuant to 15 U.S.C. §§ 45, 52, under state deceptive trade practices laws, or in a private action under section 43(a) of the Lanham Act, 15 U.S.C. § 1125(a).

## **6. Conclusion**

Many of the sensible assumptions that antitrust policy has made regarding the dynamics of competition have begun to prove themselves unreliable when network effects are strong. For almost as long as network effects have been studied, it has been clear that their presence can make it more likely that a network will be able to engage in anticompetitive conduct, yet many courts and commentators have been reluctant to condemn practices that have long been considered legitimate out of fear of overstepping the efficient bounds of antitrust enforcement and reducing incentives to innovate. In the mean time, each firm's strategies in the most dynamic sectors of the economy continue to draw on strong incentives to build up consumer expectations about its own network and tear down expectations about rival networks.

By increasing our understanding of how switching costs affect the dynamics of consumer expectations and adoptions in dynamic network industries, we can demonstrate that a network with a large installed base can wield market power through manipulating the switching costs of its installed base. Hence, market power can provide opportunities for a network to pursue strategies that effectively raise competitors' costs and shield the network from entry. In particular, I have attempted to illustrate that the use of strategic preannouncements can be an effective tool for restraining the pace of innovation and maintaining a dominant position in the markets of future product generations. Thus, strategic preannouncements are a serious concern for antitrust enforcement because they can enable a dominant network to inhibit innovation and

reduce the quality and variety of goods and services in the long run. As Shapiro noted, “the primary method by which today’s network monopolist can maintain its monopoly may well be to extend its control, at least in part, to the next generation of technology.”<sup>156</sup>

Although strategic preannouncements can rise to the level of constituting illegal monopolization in violation of Section 2 of the Sherman Act, identifying an appropriate remedy is difficult due to the alacrity with which a preannouncement can shift consumer adoptions back to a dominant firm. Therefore, an appropriate remedy must be able to strike a balance between deterring the use of anticompetitive preannouncements and preserving the dominant network’s incentives to invest in innovation. A growing body of empirical research is providing valuable insights into the dynamics of adoptions in network industries, but there is still much research to be done before we can fully appreciate how network effects and innovation interact.

---

<sup>156</sup> Shapiro, *Antitrust in Network Industries*, Address Before the American Law Institute & American Bar Association (Jan. 25, 1996) (transcript available at <http://www.usdoj.gov/atr/public/speeches/shapir.mar.htm>).

B. ECONOMIC INCENTIVES, MARKET IMPERFECTIONS, AND THE EFFICIENCY OF PACKAGE LIMITATIONS UNDER CARGO CARRIER CONVENTIONS.

*...the law ought always to trust people with the care of their own interest, as in their local situations they must generally be able to judge better of it than the legislator can do.*

-Adam Smith

*The Wealth of Nations*, IV.V.¶55

Package limitations are mechanisms built into shipping conventions that allocate the liability of cargo loss between cargo carriers and shipping customers. The package limitation has been a core provision of shipping conventions for as long as international law has governed disputes over cargo moving in international ocean commerce. However, these liability rules were crafted more out of tradition, legal formalism, or political compromise than for their effectiveness at attributing risk in an efficient manner.

As an example, we will consider Sections 3(8) and 4(5) of the Carriage of Goods by Sea Act (COGSA).<sup>157</sup> When a common carrier damages goods and cannot escape liability under section 4(2), the package limitation requires the carrier to accept liability for all packages worth less than \$500.<sup>158</sup> Furthermore, under the statute the carrier cannot contractually reallocate any of this liability to the cargo owner.<sup>159</sup> This means that the cargo owner is thus presumptively liable for the more valuable packages, but is not likewise precluded from reallocating some or all of this risk to the carrier.

---

<sup>157</sup> COGSA §§ 3(8), 4(5), 46 U.S.C. App. §§ 1303(8), 1304(5).

<sup>158</sup> See 46 U.S.C. App. § 1304(5) (1994); *infra* note 205.

<sup>159</sup> See 46 U.S.C. App. § 1303(8) (1994), *infra* note 206.

Thus, the package limitation functions as a cap on the carrier's liability, but the mechanism also serves as a floor below which carriers cannot set their liability.<sup>160</sup> Said another way, the carrier and shipper can create an agreement that allocates more than \$500 to the carrier, but the parties are not free to bargain in the other direction, allocating less than \$500 to the carrier.

This paper attempts to provide a conceptual framework for analyzing the economic function that the package limitation serves, and considers the central hurdles to developing a policy that reflects the optimal allocation of liability between common carriers and cargo interests. The discussion is limited to the class of cases where the carrier is liable,<sup>161</sup> and hence where the package limitation is likely to be an issue. Although the design of this analysis applies just as well to liability allocation rules under land and air transport regimes,<sup>162</sup> it focuses on COGSA and its international counterparts<sup>163</sup> primarily because they comprise the oldest of the international law conventions, because the largest volume of commerce moves under them, and also because COGSA's package limitation is the most litigated liability provisions, providing more guidance for predicting how the courts will interpret it.

---

<sup>160</sup> See Bryant Gardner, *The Fifth Circuit Clarifies the Application of COGSA's Prescriptive and Per-Package Limitations: Servicios-Expoarma, C.A. v. Industrial Maritime Carriers, Inc.*, 23 TUL. MAR. L.J. 249, 51 (1998) (explaining that this interpretation is consistent with the original purpose of the package limitation).

<sup>161</sup> Note thus that "deviation" and "global limitation" are anomalies outside of the scope of this paper.

<sup>162</sup> For example, the Warsaw Convention (Convention for the Unification of Certain Rules Relating to International Transportation by Air, opened for signature Oct. 12, 1929, 49 Stat. 3000, T.S. 876, 137 L.N.T.S. 11, reprinted in 49 U.S.C. § 1502 (1988)), the Hague Protocol (478 U.N.T.S. 371 (Sept. 28, 1955)), and the Montreal Protocols (ICAO Docs. 9145-9148, Sept. 25, 1975).

<sup>163</sup> The Hague Rules (International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Aug. 25, 1924, 51 Stat. 233, T.S. No. 931, 120 L.N.T.S. 157) and the Visby Protocol (Protocol to Amend the 1924 International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Brussels, Feb. 23, 1968, 2 U.N. Register of Texts Ch. 2, at 180).

The first part of the paper examines the rationales for the liability allocation rule. The next sections evaluate the economic effects and distortions of the package limitation, and then advance improvements to the current rule subject to the presence of moral hazard and coordination failures.

## 1. Justifications for the Package Limitation

Before we can embark upon a discussion of how the liability allocation rules in sections 3(8) and 4(5) lead to distortions in shipper and carrier incentives, it is helpful to understand the legal framework in which the package limitation has developed in over a century of case law.<sup>164</sup> The package limitation came out of a period of compromise around the end of the nineteenth century during attempts to create uniformity in maritime commercial law.<sup>165</sup> As various national and international policymaking bodies attempted to create rules that would be mutually acceptable to both carrier and cargo interests, the package limitation frequently became an important element of compromise. The proponents of a higher package limitation believed that it served many purposes,<sup>166</sup> chief among them: to act as a corrective against carriers' superior bargaining position, to provide an incentive for carriers to exercise care, and to allocate

---

<sup>164</sup> See Michael Sturley, *The History of COGSA and the Hague Rules*, 22 J. MAR. L. & COM. 1 (1991).

<sup>165</sup> For a comprehensive treatment of the background and history of the Hague Rules and COGSA, see Michael Sturley, *supra* note 164.

<sup>166</sup> See *International Law of Affreightment and Bills of Lading, Report of the Tenth Annual Conference at Liverpool 89-90 (1882)* [hereinafter "Liverpool Conference"], reprinted in 2 THE LEGISLATIVE HISTORY OF THE CARRIAGE OF GOODS BY SEA ACT AND THE *TRAVAUX PRÉPARATOIRES* OF THE HAGUE RULES 47-48 (Michael Sturley ed. 1990) [hereinafter "Legis. Hist."]; See also GRANT GILMORE & CHARLES BLACK, JR., *THE LAW OF ADMIRALTY* 145 (2d ed. 1975).



liability to the parties being in the best position to prevent damage to goods. We consider each of these purposes in turn.

The package limitation can be understood as a reaction to what came to be stark imbalances in bargaining power under the freedom of contract system that prevailed at the end of the nineteenth century.<sup>167</sup> At that time, carriers often used bills of lading that significantly limited or disclaimed their liability.<sup>168</sup> Indeed, much of the legislative history of the Hague Rules and COGSA suggests that the perceived need to remedy the injustice of carriers using their bargaining power to exculpate themselves was perhaps the most important justification for a rule that curbs parties' ability to change or bargain away the package limitation.<sup>169</sup> As such, it has been argued that the abridgement of freedom of contract embodied in Section 3(8) of COGSA serves to prevent carriers from overreaching.

---

<sup>167</sup> See, e.g., Bryant Gardner, *The Fifth Circuit Clarifies the Application of COGSA's Prescriptive and Per-Package Limitations: Servicios-Expoarma, C.A. v. Industrial Maritime Carriers, Inc.*, 23 TUL. MAR. L.J. 249, 250 (1998). See also *Relating to the Carriage of Goods by Sea: Hearings on H. R. 3830 Before the House Comm. on Merchant Marine & Fisheries*, 71<sup>st</sup> Cong., 2d Sess. 9 (1930) [hereinafter "1930 House Hearings"] (statement of Charles Haight) (the package limitation was the "first great step taken the world over to protect the shippers as against the old-fashioned idea of freedom of contract"), reprinted in 3 Legis. Hist., *supra* note 166, at 375.

<sup>168</sup> See, for example, *Liverpool & G.W. Steam Co. v. Phenix Ins. Co.*, 129 U.S. 397, 402 (1889) (carrier used bill of lading that wholly excluded its liability for negligence); GILMORE & BLACK, *supra* note 166, at 121 ("Bills came to include stipulations that the carrier was not liable even for the result of his own negligence or that of his ship's people").

<sup>169</sup> See *Relating to the Carriage of Goods by Sea: Hearings Before the House Comm. on Merchant Marine & Fisheries*, 67<sup>th</sup> Cong., 2d Sess. 21 (1923) [hereinafter "1923 House Hearings"] (statement of Charles Haight) (putting first among a list of "protests heard from all over the world during the last 30 years" the tendency for shipowners to limit liability in cases of admitted liability and fault to amounts "wholly disproportionate to the damage sustained"), reprinted in 3 Legis. Hist., *supra* note 9, at 27; *Relating to the Carriage of Goods by Sea: Hearings Before the House Comm. on Merchant Marine & Fisheries*, 68<sup>th</sup> Cong., 2d Sess. 3 (1925) [hereinafter "1925 House Hearings"] (statement of Charles Haight) (putting first among the long-standing list of grievances the tendency for carriers to disclaim significantly liability for package damage), reprinted in 3 Legis. Hist., *supra* note 166, at 127. See also 1930 House Hearings 9, *supra* note 167, reprinted in 3 Legis. Hist., *supra* note 166, at 375.

The admiralty bar's traditional justification for the package limitation is that a nontrivial floor on a carrier's liability is necessary to provide an incentive for the carrier to exercise due care.<sup>170</sup> The advocates of this view have argued that as long as the carrier's liability is more than *de minimis*, the exact amount of the package limitation is not particularly important.<sup>171</sup> Some commentators have questioned the economic logic of this justification by pointing out that a carrier does not employ a simple binary decision rule, deciding either to exercise care or not to exercise care. Rather, a carrier sets its level of care based on a number of factors regarding the nature and value of the goods.<sup>172</sup> Nonetheless, carrier decisions that reflect the level of care are often made while the carrier is *en route*, and the greater the expense or difficulty of calculating the marginal cost of a precaution or the expected loss, the more the choice whether to take a particular action will look like a binary choice.<sup>173</sup>

Another rationale for the liability allocation established in COGSA sections 3(8) and 4(5) rests on the assumption that carriers are (to some extent) in a better position to avoid or insure against smaller losses.<sup>174</sup> The early drafts and international legislation, designed to allocate liability in a way that corrected the freedom of contract injustices, favored placing all liability on carriers except under the extraordinary circumstances

---

<sup>170</sup> See, e.g., 2 INTERNATIONAL LAW ASSOCIATION, REPORT ON THE THIRTIETH CONFERENCE 176 (1921) [hereinafter "Hague Conference"], reprinted in 1 Legis. Hist. 282.

<sup>171</sup> Michael Sturley, *The Fair Opportunity Requirement Under COGSA Section 4(5): A Case Study in the Misinterpretation of the Carriage of Goods by Sea Act*, 19 J. MAR. L. & COM. 1, 191 & note 409 (1988).

<sup>172</sup> See *id.* at 192.

<sup>173</sup> See Michael Sturley, *Changing Liability Rules and Marine Insurance: Conflicting Empirical Arguments About Hague, Visby, and Hamburg in a Vacuum of Empirical Evidence*, 24 J. MAR. L. & COM. 119, 131 (1993); *cf. infra*, notes 207-211 and accompanying text.

<sup>174</sup> See 1923 House Hearings, *supra* note 169, at 41-2 (statement of M. Campbell), reprinted in 3 Legis. Hist., *supra* note 166, at 47-8.

that the cargo was “unusually valuable.”<sup>175</sup> To serve this function and to define what would be unusually valuable, the Hague Rules of 1922—the international predecessor to COGSA—set a package limitation at a relatively high £100 per package.<sup>176</sup>

Likewise, the package limitation enacted in COGSA § 4(5) in 1936 was set at \$500, a rough dollar equivalent to £100.<sup>177</sup> However, an important issue arises when we consider whether this allocation of liability continues to carry out its original function. In the sixty-four years since COGSA was enacted, factors such as the commercial importance of the \$500 limit and the average container size have experienced dramatic changes. When COGSA was adopted in 1936, \$500 was worth about \$6,700 in year 2004 U.S. dollars. Put another way, \$500 in 2004 was worth only about \$37 in 1936.<sup>178</sup>

The current debate surrounding the package limitation centers on whether to return the package limitation to its original force or to diminish substantially its economic influence. Indeed, the recent Hague-Visby amendments significantly increase the package limitation in order to make it function more like it did sixty years ago. This is true in spite of years of evidence that suggests that the last sixty years has been a mistake.<sup>179</sup> In brief, “those that cannot remember the past are condemned to

---

<sup>175</sup> See, e.g., 1923 House Hearings, *id.* at 73-4 (statement of C. Heinemann), reprinted in 3 Legis Hist., *supra* note 166, at 79-80; Liverpool Conference, *supra* note 9, at 90 (statement of J. Alexander), reprinted in 2 Legis. Hist., *supra* note 166, at 47-8.

<sup>176</sup> See 1 Legis. Hist., *supra* note 166, at 63.

<sup>177</sup> *Id.* at 61.

<sup>178</sup> Calculated based on data from the Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers (CPI-U).

<sup>179</sup> That is, in the last sixty years, the distortions discussed in the next section have been gradually disappearing due to inflation. I argue that restoring the package limitation to its 1936 value would elevate the distortions to previous levels of harm.

repeat it.”<sup>180</sup> In deciding which route to take, the law should be guided by the package limitation’s effect on the industry and the international economy as a whole. Therefore, it is vital to understand the package limitation’s economic effects.

## 2. Economic Function of the Package Limitation

Although the package limitation may have been incorporated into COGSA in order to achieve specific results as described, it is not uncommon that a policy’s effect turns out to be quite different from that which was anticipated. Hence, it should not be surprising if, almost a century later, it turns out that the package limitation has acquired functions unrelated to its original economic justifications. As such, before moving on to address the efficiency of the package limitation, we must first consider the economic effect the package limitation has on carrier and shipper incentives.

The package limitation in Section 4(5) of COGSA allocates the first \$500 of per-package liability to the carrier, although the shipper can allocate a greater amount of liability to the carrier by declaring the full value of the goods on the bill of lading.<sup>181</sup> In practice, however, cargo interests rarely declare a value higher than \$500,<sup>182</sup> preferring instead to insure the balance of the risk through private insurance underwriters.<sup>183</sup>

Likewise, when a package has a value below \$500, the shipper has a clear incentive to

---

<sup>180</sup> George Santayana, *THE LIFE OF REASON* 284 (2d ed. 1929).

<sup>181</sup> See Michael Sturley, *Fair Opportunity*, *supra* note 171, at 195.

<sup>182</sup> See Hague Conference Report, *supra* note 170, at 53 (statement of Leopold Dor), reprinted in 1 *Legis. Hist.*, *supra* note 166, at 267. See also J. Peacock, *Deviation and the Package Limitation in the Hague Rules and the Carriage of Goods by Sea Act: An Alternative Approach to the Interpretation of International Uniform Acts*, 68 *TEX. L. REV.* 977, 994 (1990).

<sup>183</sup> The reasons why cargo interests prefer to insure through private underwriters rather than through a higher declaration on the bill of lading are discussed below, at notes 207-211 and accompanying text.

minimize the fees and taxes imposed through a valuation stated on a bill of lading. This section will consider first the economic incentives when a package is valued above \$500, and then the incentives that the parties have for packages valued below \$500.

As mentioned above, shippers rarely declare the full value of a package when the package is valued more than \$500. Although there may be many reasons for this, most commentators believe that shippers' preferences are driven by the fact that they can get a better price on insuring the full value of the package through a private insurance underwriter, that is, a price lower than the price that the carrier charges through its *ad valorem* rates.<sup>184</sup> In any event, the shipper's private information as to the value of the package is not conveyed to the carrier. The result is that the carrier does not face an incentive to exercise a level of care commensurate with the value of the package.<sup>185</sup>

Conversely, in the event that a package is valued below \$500, the package limitation provides no incentive for the shipper to disclose its private information on the nature and value of the package. To see this, consider a shipper that is motivated by the arbitrage profits that it makes due to the difference in the value of the package at the origin and the value at its destination. Clearly, the shipper would not enter into a transaction with a carrier if its profits did not exceed the transport costs. However, there are instances where the total profits are positive and the value of the package at

---

<sup>184</sup> See Michael Sturley, *Changing Liability Rules*, *supra* note 173, at 124; Samuel Mandelbaum, *Creating Uniform Worldwide Liability Standards for Sea Carriage of Goods Under the Hague, COGSA, Visby and Hamburg Conventions*, 23 *TRANSP. L.J.* 471 (1996).

<sup>185</sup> See Michael Sturley, *Changing Liability Rules*, *supra* note 173, at 130.

the destination is much lower than the package limitation. Under these conditions, the shipper can secure a higher level of care by not disclosing the actual value of the package, thus leaving the carrier to assume that the package is valued at \$500, while at the same time increasing the probability that the goods will reach the destination undamaged. This is particularly true since, in practice, shippers usually strictly prefer to have their goods delivered intact rather than collecting for damage to the goods.

Since a shipper would prefer to insure through private underwriters when its package is worth more than \$500, and since the shipper does not have an incentive to declare the value of a package that is valued below \$500, the package limitation in theory functions to induce the carrier to exercise the optimal level of care given an expected liability of \$500 per package.<sup>186</sup> Put another way, the package limitation's economic function is to purchase \$500 worth of care for every package. Whether it is efficient to allocate the first \$500 of liability to the carrier is the primary focus of this paper, and will be discussed in the next section. Another important point that this analysis demonstrates is that the package limitation creates incentives for the shipper not to reveal its information on the nature and value of the package, regardless of the value of the package. In practice, there may be circumstances under which the shipper will reveal this information when there are clear benefits for doing so, but the incentives to keep this information private may still push the situation away from the optimum.

---

<sup>186</sup> In practice carriers tend to know how much packages may be worth on average, and are concerned about the insurance rates they pay on average, rather than expending resources to determine optimal rates for each individual package.

### 3. Distortionary Effects of the Package Limitation

The conclusion that the package limitation secures some certain level of care, whatever it may be, does not determine whether this level of care is efficient in minimizing the total costs of cargo insurance.<sup>187</sup> It remains to be answered whether it might be more efficient to allocate the risk of cargo loss differently, either by changing the amount of the package limitation or by eliminating it entirely. The evidence provided by common practices in international ocean transport pursuant to bills of lading suggests that the package limitation does actually exert distortions on the behavior of carriers and cargo interests. This section discusses observable distortions that may be verified and evaluates the current need for a package limitation.

As demonstrated in the previous section, the package limitation induces the shipper not to reveal information about its package to the carrier. The carrier's lack of access to this information is likely to have an effect on the carrier's behavioral choices, and hence may influence both parties' insurance costs. Generally, an inability of the parties to access or use relevant information pushes the parties farther from their efficient actions.<sup>188</sup> In this case, although the package limitation induces a given level

---

<sup>187</sup> In analyzing the economic effect of the package limitation, efficiency will be measured by the total surplus of the two parties. In terms of a liability rule, this involves whether the package limitation allocates liability in such a fashion so as to reduce the costs of avoiding loss over time. See KENNETH ARROW, *INSURANCE, RISK, AND RESOURCE ALLOCATION*, IN *ESSAYS IN THE THEORY OF RISK-BEARING* (Markham ed., 1971). Therefore, the inquiry involves the relative abilities of both parties to provide precautions for preventing cargo damage. See STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* 206 (1987). Cf. *infra* note 188 and the accompanying text. The respective abilities will in turn determine the costs of cargo insurance for each party.

<sup>188</sup> This depends largely on the value and purpose of the information, such as when one party provides false information or misleading signals for strategic reasons. Without any loss in generality, this analysis will focus on the incentives surrounding non-strategic information. See Dennis Epple & Artur Raviv,

of care, there remains the more important question as to whether the package limitation induces both parties to an efficient level of investment in precautions for preventing cargo damage.<sup>189</sup>

The foregoing discussion suggests that the package limitation may have direct distortionary effects on the overall price of ocean transport. The package limitation regulates the parties' ability to allocate liability away from the carrier, but there is no complementary downward pressure on the carrier's price. Carriers maintain that the costs imposed on them by the package limitation fall back on the shippers, who would eventually pay the carriers' insurance premiums and liabilities through freight rates.<sup>190</sup> However, the net effect that the package limitation would thus have on the carrier's rates would most likely be small. This is true because the expected value of the loss that either party would anticipate is constrained by the relatively low probability of cargo damage. On the other hand, even though an increased recovery limit may be a gain for an individual shipper, it would not be a gain for shippers as a class.<sup>191</sup> That is, even if lowering or eliminating the package limitation would generally cause shippers' insurance premiums to go up, we can infer from the relative cost structures that the increase in insurance premiums would be outweighed by the decrease in carriers' rates. As a result, shifting liability has an effect, but in the end efficiency is a function of which party is in the better position to bear the costs of risk.

---

*Liability Rules, Market Structure, and Imperfect Information*, 68 AM. ECON. REV. 80 (1978). See generally R. DUNCAN LUCE & HOWARD RAIFFA, *GAMES AND DECISIONS* (1957)

<sup>189</sup> See *infra* note 64 and accompanying text.

<sup>190</sup> See, e.g., *Oversight Hearing Before the Subcommittee on Merchant Marine of the House Comm. on Merchant Marine & Fisheries*, 102d Cong., 2d Sess. 230 (1992).

<sup>191</sup> *Id.*



Additional evidence that weighs heavily on the suggestion that the package limitation has distortionary effects comes in the form of an absence of any correlation whatsoever between the incidence of cargo damage and the dramatic changes in the economic force of the package limitation. Since COGSA was enacted in 1936, the package limitation has remained at \$500 per package or customary freight unit.<sup>192</sup> However, in relative terms, the limit has decreased dramatically with inflation, as described above. Also, the limit of liability in terms of real values has always varied greatly among the countries that have ratified the Hague Rules, due to the fact that the nominal limit was set in many of these countries over 40 years ago, and have changed due to monetary developments since.<sup>193</sup> Furthermore, containerization has generally led to smaller packages,<sup>194</sup> and has greatly affected the actual limit that gets applied in particular cases.<sup>195</sup> Yet in spite of such dramatic changes in the tenor of the package limitation, there is no evidence of corresponding changes in cargo damage, and indeed

---

<sup>192</sup> The limitation was placed at \$500 in the 1924 Senate Bill. See 1 Legis. Hist., *supra* note 166, at 62. The \$500 was a rough equivalent in 1924 dollars to the £100 package limitation set in the 1922 Hague Rules. *Id.* at 63.

<sup>193</sup> The extremes are exemplified by Spain, with a low of \$62 per package, and Switzerland, with a high of \$1455. See C. W. H. Goldie, *Effect of the Hamburg Rules on Shipowners' Liability Insurance*, 24 J. MAR. L. & COM. 113 (1993). Note that this would affect the choice of forum in which claims are brought.

<sup>194</sup> See Comment, *Containerization, The Per Package Limitation, and the Concept of "Fair Opportunity"*, 11 MAR. LAW. 123 (1986).

<sup>195</sup> See Eun Sup Lee, *Analysis of the Hamburg Rules on Marine Cargo Insurance and Liability Insurance*, 4 ILSA J. INT'L & COMP. L. 153 (1997) (describing the method of defining the package as a smaller and smaller unit by ruling that each package in the container, rather than the container itself, is a package. "This legislative approach, which has been called the judicial response to an anachronistic law, is described in GUIDO CALABRESI, *A COMMON LAW FOR THE AGES* (1982) and by many other authors cited in WILLIAM TETLEY, *MARINE CARGO CLAIMS* 866-67 (3d ed. 1988)."). For a treatment of case law determinations of what constitutes a "package," see Michael Sturley, *An Overview of the Considerations Involved in Handling the Cargo Case*, 21 TUL. MAR. L.J. 263 (1997). Recent cases that are instructive include *Kirby v. Norfolk Southern Rwy.*, 300 F.3d 1300 (CA11 2002) (per container) and *Groupe Chegaray v. P & O Containers*, 251 F.3d 1359 (CA11 2001) (per pallet).

no evidence of a general increase.<sup>196</sup> This evidence suggests that the package limitation, rather than serving as an incentive for the carrier to exercise care, only works to distort both parties' efforts to achieve an optimal allocation of risk.

Finally, the package limitation exerts a detrimental force on the behavior of carriers and cargo interests in spite of their relative bargaining positions. As discussed above, the package limitation was deemed necessary to remedy a perception that carriers possessed superior bargaining power and could dictate the terms of liability to shippers.<sup>197</sup> The carrier's bargaining power is partially a function of the supply of carrying capacity relative to the demand from shippers.<sup>198</sup> Hence, an oversupply of carriers, or conversely, the existence of oligopoly in the industry, are likely to be the most significant determinants of carrier bargaining power. Commentators note that historically, "large fluctuations have existed between over-supply and under-supply of capacity,"<sup>199</sup> as well as in the number of common carriers.<sup>200</sup> Thus, the carrier is not generally guaranteed to hold a superior bargaining position at any given time. Also, as few as two firms can operate to bid the allocation of liability up to the most equitable

---

<sup>196</sup> There is some evidence that suggests that cargo damage has in fact decreased. However, this evidence must be tempered against advances in transport and packing technology. ALAN BRANCH, *ELEMENTS OF SHIPPING* 26-28 (6<sup>th</sup> ed. 1989).

<sup>197</sup> See note 166 *supra* and accompanying text. See also Michael Sturley, *Fair Opportunity*, *supra* note 171, at 193 & note 412 ("The carrier's superior bargaining power in an individual case was an underlying assumption of the Hague Rules.").

<sup>198</sup> See generally HOWARD RAIFFA, *CONFLICTING OBJECTIVES IN DECISIONS* (1977). Most models of bargaining power hinge on each party's discounting, and fewer carriers given a number of shippers would allow them to be more patient. See, e.g., Motty Perry & Philip Reny, *A Non-Cooperative Bargaining Model with Strategically Timed Offers*, 59 J. ECON. THEORY 50 (1993). Other bargaining power models employ asymmetric information. See, e.g., Ariel Rubinstein, *A Bargaining Model with Incomplete Information About Time Preferences*, 53 *ECONOMETRICA* 1151 (1985).

<sup>199</sup> David Peck, *Economic Analysis of the Allocation of Liability for Cargo Damage: The Case for the Carrier, Or Is It?*, 26 *TRANSP. L.J.* 77 (1998).

<sup>200</sup> *Id.*; ESRA BENNATHAN & A. A. WALTERS, *THE ECONOMICS OF OCEAN FREIGHT RATES* 43 (1969).

level.<sup>201</sup> In any event, even when the carrier is in a notably superior bargaining position, the package limitation is a crude solution at best. Moreover, the parties to an agreement are almost always sophisticated, and in practice virtually every conflict over cargo damage is between large, well-represented insurance companies.<sup>202</sup> Finally, whenever carriers and shippers have met on equal terms, the package limitation often surfaces as a default absent a mandatory allocation.<sup>203</sup>

That the package limitation distorts the economic behavior of carriers and shippers does not itself answer whether a package limitation should exist. Moreover, the above criticisms do not guide decisions on how a package limitation should function to bring about an efficient allocation of risk. Therefore, the remainder of this paper will seek to analyze how and if a regulatory regime can induce an efficient outcome.

#### **4. A Market-Driven Solution**

Several commentators note that, although the package limitation may be an imperfect method of allocating liability, the existence of a package limitation set at a constant rate can serve an important market function by creating certainty in

---

<sup>201</sup> Market forces may naturally keep the standard of care high. Since shippers generally prefer to capture arbitrage profits over recovering for damage to cargo, shippers are often willing to pay a premium for reliable carrier service. However, there is greater concern if there are not many carriers in the marketplace. Nonetheless, standard strategic models of competition predict that two firms are enough to bid the level of care to a competitive level, and there is empirical evidence that demonstrates the robustness of these models.

<sup>202</sup> See David Peck, *Economic Analysis*, *supra* note 199, at 95.

<sup>203</sup> See Michael Sturley, *Fair Opportunity*, *supra* note 171, at 195.

commercial relations.<sup>204</sup> Indeed, it may save on various costs by providing a consistent and predictable rule under which a shipper is responsible for more valuable packages or packages that require an “above average” level of care where the shipper has full information on the nature of such goods. Nonetheless, arguments that the package limitation distorts the parties’ economic behavior in allocating risk suggest that allowing the parties to agree freely on a package limitation below \$500 would be an improvement upon the current level.

Sections 3(8) and 4(5) of COGSA work in tandem to provide a mechanism under which the carrier is liable for the first \$500 per package,<sup>205</sup> and the carrier cannot reallocate any of this liability to the cargo owner.<sup>206</sup> The cargo owner is presumptively liable for the more valuable packages, but is not likewise precluded from reallocating some or all of this liability to the carrier. Thus, the carrier and shipper can create an

---

<sup>204</sup> See, e.g. Eun Sup Lee, *Analysis of the Hamburg Rules on Marine Cargo Insurance and Liability Insurance*, 4 ILSA J. INT’L & COMP. L. 153 (1997).

<sup>205</sup> 46 U.S.C. App. § 4(5) (1994). Section 4(5) states:

Neither the carrier nor the ship shall in any event become liable for any loss or damage to or in connection with the transportation of goods in any amount exceeding \$500 per package lawful money of the United States, or in the case of goods not shipped in packages, per customary freight unit, or the equivalent unit of that sum in other currency, unless the nature and value of such goods have been declared by the shipper before shipment and inserted in the bill of lading. This declaration, if embodied in the bill of lading, shall be prima facie evidence, but shall not be conclusive on the carrier.

By agreement between the carrier, master, or agent of the carrier and the shipper another maximum amount than that mentioned in this paragraph may be fixed; provided, that such maximum shall not be less than the figure above named. In no event shall the carrier be liable for more than the amount of damage actually sustained.

Neither the carrier nor the ship shall be responsible in any event for loss or damage to or in connection with the transportation of the goods if the nature or value thereof has been knowingly and fraudulently misstated by the shipper in the bill of lading.

<sup>206</sup> 46 U.S.C. App. § 1303(8) (1994). Section 3(8) states:

Any clause, covenant, or agreement in a contract of carriage relieving the carrier or the ship from liability for loss or damage to or in connection with the goods, arising from negligence, fault, or failure in the duties and obligations provided in this section, or lessening such liability otherwise than as provided in this Act, shall be null and void and of no effect. A benefit of insurance in favor of the carrier, or similar clause, shall be deemed to be a clause relieving the carrier from liability.

agreement that allocates more than \$500 to the carrier, but the parties are currently not free to bargain in the other direction, allocating less than \$500 to the carrier.

Although shippers are able to allocate more than the first \$500 to the carrier, they rarely do this, preferring instead to insure the balance of the risk through private insurance underwriters. There are various reasons why shippers favor insurance underwriters. First and foremost, the underwriters' premiums are generally cheaper compared with the charges that carriers impose in *ad valorem* rates for declarations above \$500.<sup>207</sup> This is because carriers may be less efficient insurers of excess valuation.<sup>208</sup> Indeed, setting a rate for bearing a certain risk is a highly specialized task requiring detailed information,<sup>209</sup> and carriers usually do not expend the resources to enter competitively into this industry.<sup>210</sup> As mentioned above, the package limitation creates incentives for shippers to withhold from the carrier information on the nature and value of a package. This information could be vital to a carrier's ability to insure efficiently,<sup>211</sup> and thus the package limitation itself may be partially to blame for the emergence of a cargo insurance industry better situated to offer shippers a better deal.

Shippers also favor insurance from underwriters because of better service.

Underwriters usually provide compensation on claims more quickly. Also, underwriters

---

<sup>207</sup> See Michael Sturley, *Fair Opportunity*, *supra* note 171, at 194 (“[A]d valorem rates are still higher than cargo insurance premiums”); See also Michael Sturley, *Changing Liability Rules*, *supra* note 173, at 145 (pointing out that P&I insurance, being mutual, is less expensive because there is no need to make profits for shareholders.).

<sup>208</sup> Michael Sturley, *Changing Liability Rules*, *supra* note 173, at 145.

<sup>209</sup> *Id.*

<sup>210</sup> *Id.* Nor has the marketplace managed to find ways to construct joint ventures or mergers between common carriers and insurance underwriters.

<sup>211</sup> *Id.* at 131.

provide broader protection that is effective before and after the voyage, thus insuring the cargo at the times when it is most likely to be damaged. In addition, the insurance often protects against insolvency.

Assuming that carriers are not the most efficient insurers of packages valued above the limitation, it follows that carriers may also be less efficient at insuring packages valued at or below the limitation. Nonetheless, carriers might be more efficient at insuring against or spreading loss for packages up to some non-negative valuation. This efficiency could be attributed to, for example, better information on aspects of the carriage of goods. Let the maximum valuation for which the carrier is more efficient be denoted  $v_{\max}$ . Thus, the interval from zero to  $v_{\max}$  is where the carrier is more efficient, and at all levels above  $v_{\max}$  the shipper is more efficient.<sup>212</sup>

Given that shippers generally prefer to insure valuations above the package limitation through private underwriters, we can assume that shippers would also prefer to insure some valuation below the package limitation. Indeed, in practice shippers satisfy losses from the underwriter, to whom its rights against the carrier are then subrogated.<sup>213</sup> As such, we can assume the shipper will always prefer to insure through the most efficient means.

We can thus conclude that the shipper will only prefer to insure through a private underwriter for package valuations in excess of  $v_{\max}$ . This is true simply because the carrier is the most efficient insurer of packages valued up to  $v_{\max}$ , and the

---

<sup>212</sup> That is,  $v_{\max} \in [0, 500]$ .

<sup>213</sup> See Michael Sturley, *Changing Liability Rules*, *supra* note 173, at 144.

underwriter is the most efficient insurer of packages valued above  $v_{\max}$ . It follows from this discussion that the carrier and shipper, if left to negotiate freely over the allocation of liability, would minimize their expected costs by agreeing to set a package limitation at  $v_{\max}$ .<sup>214</sup>

This solution improves on the \$500 package limitation because it does not force the shipper to purchase less efficient insurance on the interval between  $v_{\max}$  and \$500.<sup>215</sup> The shipper essentially purchases this insurance through the price that the carrier sets given that COGSA's package limitation automatically allocates the first \$500 to the carrier. Furthermore, this solution remedies the informational distortions caused by COGSA's package limitation because the shipper no longer faces the incentives to withhold from the carrier information on the nature and value of the package. This is true because the market-driven solution always induces a level of care commensurate with the value of the package, and because the shipper would have an incentive to disclose the information in order to induce that level of care.

## 5. Improvements to the Market Solution

Removing a binding constraint on carriers' and shippers' ability to agree independently upon an arrangement that allocates liability efficiently is a fundamental

---

<sup>214</sup> This may depend on their relative bargaining positions absent a policy designed to ameliorate any meaningful imbalances in bargaining power. Note also that it may be less costly for the parties to agree on a constant rule much like COGSA's current package limitation rather than negotiating a package limitation on a case-by-case basis. This would push the upper limit of the interval down.

<sup>215</sup> Of course, the interval would have zero measure and the solution would thus be trivial if  $v_{\max}$  were equal to 500. However, in practice a vast majority of shipments are currently within Visby limits, and the fact that shippers almost never insure for packages valued above \$500 suggests that there is some breathing room below \$500.

step in reaching a more efficient outcome.<sup>216</sup> Although we have determined the existence of a deregulated solution that corrects for the economic distortions of COGSA's package limitation, our inquiry is not yet complete. Insurance markets famously suffer from the pervasiveness of moral hazard,<sup>217</sup> and the strategic aspects of entering into a contract for the carriage of cargo may very well entail a problem of coordination in allocating liability efficiently.<sup>218</sup> As we shall see, the dynamics of our analysis prescribes that an efficient allocation of liability will have to induce both parties to invest in precautions against cargo loss in a manner that minimizes their expected insurance costs over time. This efficient result is obtainable only by taking into consideration the effects of moral hazard and coordination failure.

When the parties enter into an agreement to transport cargo pursuant to a bill of lading, they will negotiate over the allocation of liability as one of the terms of the bill of lading when the market-driven solution is allowed. The allocation of liability will then be figured into the carrier's expected costs, which incorporate the probability of cargo damage, the general level of care, and the value of the package. Thus, the allocation of liability works by affecting an average by which the carrier exercises care. The carrier acts to maximize revenues minus its expected costs, and determines the freight rates that it is able to offer. The shipper likewise acts to minimize its costs, taking the carrier's rates as given. The shipper's costs are a function of the precautions

---

<sup>216</sup> See EUGENE SILBERBERG, *THE STRUCTURE OF ECONOMICS: A MATHEMATICAL ANALYSIS* 113-14 (2d ed. 1990).

<sup>217</sup> See Steven Shavell, *On Moral Hazard and Insurance*, 93 Q. J. ECON 541, 549 (1979); Avinash Dixit, *Trade and Insurance with Moral Hazard*, 23 J. INT'L ECON. 201, 204 (1987);

<sup>218</sup> See HAL VARIAN, *MICROECONOMIC ANALYSIS* 451 (3d ed. 1992); THOMAS SCHELLING, *THE STRATEGY OF CONFLICT* (1960).



that it takes against damage to its cargo, so costs are also determined by the arbitrage value of the package insofar as these profits will be lost in the event of cargo damage.

Moral hazard enters into the relationship because of the parties' own incentives to maximize profits.<sup>219</sup> Once an agreement is made, the carrier thereafter faces a continuing incentive to minimize costs, and hence will try to push its expected costs below the level by which the agreement was set.<sup>220</sup> This increases the probability of cargo loss, and in turn, shippers will want to insure at higher premiums. This effect is amplified by the gap between the shipper's expected arbitrage profits and the loss liability by which the carrier calculates its expected loss. Therefore, moral hazard increases the total insurance costs to both parties.<sup>221</sup> This suggests that the efficient allocation of liability is above the agreed upon level. However, in order to determine the efficient allocation, it would be necessary to determine the degree of moral hazard in the relationship.<sup>222</sup>

There is a corollary to the foregoing discussion: Because both parties are in a position to prevent cargo losses through investments in precautions, it is possible that a market-driven allocation of liability also does not induce the levels of investments that

---

<sup>219</sup> See Bengt Holmström, *Moral Hazard and Observability*, 10 BELL J. ECON. 74 (1979).

<sup>220</sup> For example, the carrier could cut corners to lower costs once the shipper is locked in to a price under the contract.

<sup>221</sup> Although this model predicts that the carrier's insurance costs may not increase, but the shipper's insurance premiums will. That is, the partial derivative of the carrier's expected costs with respect to the allocation of liability is only weakly positive.

<sup>222</sup> The literature on estimation of moral hazard in insurance markets can provide tools to determine this. See John M. Marshall, *Moral Hazard*, 66 AM. ECON. REV. 880 (1976); David Sappington, *Limited Liability Contracts between Principal and Agent*, 29 J. ECON. THEORY 1 (1983). The healthcare literature provides many useful tools. See, e.g., Ching-To Albert Ma & Michael Riordan, *Health Insurance, Moral Hazard, and Managed Care*, 11 J. ECON. & MGMT. STRATEGY 81 (2002).

would minimize total insurance costs. A coordination failure thus occurs when the parties act in their own self interests in a way that does not maximize the “size of the pie” that they are dividing.<sup>223</sup> For example, in the short run, shippers balance the cost of adequate packing with the probability of damage, and the carrier likewise calculates its level of care. Hence, all parties make optimized investments in protecting from the most common causes of cargo damage. In the long run, all parties may invest in technology to improve upon their short run goals. It is easy to see that, at the extremes, allocating all liability to the carrier leads each shipper to underinvest in precautions, and allocating all liability to shippers leads to carrier underinvestment.<sup>224</sup> More importantly, there may be an interval in between these extremes in which the parties do not invest in precautions in a manner that minimizes total insurance costs. Thus, irrespective of any particular package limitation, a failure to coordinate investments in precautions will push the parties away from the efficient state of affairs.

## **6. Conclusions and Topics for Further Research**

The slow and stepwise process through which the law becomes more perfect for responding to society’s needs strongly depends on the fact that a policy’s flaws will become more pronounced with time. In recent years, maritime law scholarship has

---

<sup>223</sup> See generally the pie-dividing bargaining models in Ariel Rubinstein, *Perfect Equilibrium in a Bargaining Model*, 50 *ECONOMETRICA* 97 (1982), John Nash, *Two-Person Cooperative Games*, 21 *ECONOMETRICA* 128 (1953), John Nash, *The Bargaining Problem*, 18 *ECONOMETRICA* 155 (1950).

<sup>224</sup> Note that there may be an interval in between these extremes in which both parties do not invest in precautions in a manner that minimizes total insurance costs, although it is more likely that the optimum could occupy the entire interval. That is, there may be multiple efficient levels of investment by each party, the allocation within the interval being bargained by the parties.

witnessed an increase in scrutiny of the liability allocation rule in COGSA sections 3(8) and 4(5), yet this trend cannot be blamed on fashion alone. Indeed, not only has the package limitation ceased to function as envisioned, but its distortionary effects have become amplified in the years since the international conventions adopted it.

The basic economic function of the allocation of liability in sections 3(8) and 4(5) is to induce a constant level of care on the part of the carrier. While this might be a desirable mechanism for creating certainty in commercial transactions, evidence suggests that changing the value of the package limitation can lead to an economic improvement. Although allowing the parties to negotiate over the allocation of liability would seem to be a move in the right direction, problems may arise due to moral hazard and possible coordination failures. This paper proposes that the market driven solution is somewhere below COGSA's \$500 per package limitation, but a presence of moral hazard or coordination failure suggest that the efficient allocation is somewhere above the market-driven allocation.

Therefore, in order to design an optimal policy that would correct for the effects of moral hazard, empirical work would need to be done to measure the significance and degree of moral hazard. The good news is that there is now a growing literature that is developing econometric models for estimating moral hazard in insurance markets. However, the outlook is grim that much useful data on the shipping industry will be collected or made readily available. A more promising field of research could center on formulating a mechanism for overcoming coordination failure. The state of economic theory is in a good position to provide insights as to how to devise a mechanism that,

for example, could put the shipper's optimization problem into the carrier's decision problem. Analogous models may include commitment solutions to manufacture hold-up problems and incentive compatible contract design in principal-agent relationships. Nevertheless, in the end a regulated package limitation (or similar liability allocation rules) may be easy, effective and administratively cheaper.

C. THE INFLUENCE OF ECONOMIC RHETORIC AND PRINCIPLES ON THE EVOLUTION OF EXCLUSIVE DEALING DOCTRINE

*Our aim must be to make our successive mistakes  
as quickly as possible. To speed up evolution.*

-Karl Popper,  
*The Logic of Scientific Discovery*

The law of exclusive dealing developed out of antitrust fundamentals established over a century ago. As the courts confronted new and interesting cases that lent themselves to clear legal rules, they began to establish practical doctrines. However, in the last fifty years, exclusive dealing doctrine has been taken on a bumpy ride. The courts introduced broad concepts based on economic rhetoric, but limiting factors were notably missing and desperately needed. This in turn led to the evolution of a formalistic doctrine incapable of addressing many instances where anticompetitive harm could be discerned. However, Industrial Organization as a field—the economics of antitrust—developed more detailed tools for analyzing strategic interactions and firm incentives, and the courts have begun to evolve an exclusive dealing doctrine that can better account for the effects of firms’ incentives on market structure.

Generally, in recent years commentators and courts have observed that exclusive dealing cases often lose. While so few plaintiffs have been successful, a close reading of the case law reveals that many of the plaintiffs lost due to a failure to define the relevant market properly, or due to an insufficient showing of a likelihood of harm, rather than because of a high bar for liability or a strict and unforgiving standard of proof. Indeed, in some of the cases, the courts reflected on what looked to them like

restrained competitive circumstances, yet seemed resigned merely to wonder whether the plaintiffs might have established liability if only they had launched an adequate proof.

Some cases look like their facts suggest a genuine danger of competitive harm, but the courts nevertheless held that the agreements involved did not meet the requirements for illegality. This has happened because the law of exclusive dealing is confusing. The major cases lay down a broad doctrine founded upon the Supreme Court's last exclusive dealing case over forty years ago, but the lower courts are wildly inconsistent on the details of how the doctrine should operate, or what matters for proving an exclusive dealing case. Most of the cases enumerate relevant factors such as market share and the foreclosure rate, contract length and terminability, difficulty of entry, growth trends, or changes in concentration. However, each case has picked its own set of factors, and each court emphasizes them differently.

To make matters worse, courts have refused to find liability with foreclosure rates as high as 75%, while other courts have found liability with less than 2%. Some courts held that 5-year contracts are fine, whereas other courts have held exclusive agreements to be illegal even though they were terminable at will. Some find liability even though entry was easy, others allow exclusives where entry seems difficult. As a result, the cases provide little guidance as to how the factors should be applied. For any given set of circumstances, one factor will be most relevant for analyzing how an arrangement has succeeded in foreclosing entry, while the other factors that have been considered historically may not matter at all. At the end of the day, the case law has

become little more than a minefield of factors, welcoming defendants to list each one of them out of context, pointing out for each individual factor some case that declined to find liability under even worse circumstances. The cumulative effect works very well for defendants, and even when a plaintiff can show actual competitive effects.

It was not uncommon for cases in the 1980's and 1990's to focus on factors such as the rate of foreclosure, and sometimes rest their entire decision on a factor. However, legal scholars have suggested that the courts have begun to shift from a formalistic application of factors to a broader and more detailed analysis of the relevant market and competitive effects. Cases in the last few years consider the traditional factors as relevant evidence to be weighed in with all the circumstances of an industry or a market. In particular, they focus on whether the arrangement challenged, within the properly defined relevant market, poses a credible threat that a firm would be able to foreclose entry or expansion to such a degree that it could exercise market power. As such, the courts would appear to be more open to finding liability where they did not before, especially with regards to the "de facto" exclusivity of market share discounts, rebates, and other incentive-based conduct.

This paper describes the drivers behind recent developments in exclusive dealing doctrine. The first part describes the current framework established by the Supreme Court, while the second part discusses how this framework has been applied in particular cases. Part three demonstrates how economic rhetoric has had a strong influence on exclusive dealing law. In particular the rhetoric upon which developments in the doctrine were based had such conceptual appeal and force that it took on the

appearance of settled law in virtually every circuit in the federal court system. Nonetheless, due to the doctrine's inability to address many instances of competitive harm, the introduction of incentive-based economic principles have driven further evolution in the doctrine. Part four describes this process, while part five discusses how the more refined approach is being applied in the courts with increasing frequency. Finally, part six summarizes and discusses remaining issues that suggest the next steps in the evolutionary process.

### **1. Exclusive Dealing Law**

The Supreme Court's last word on exclusive dealing was in *Tampa Electric Co. v. Nashville Coal Co.*<sup>225</sup> In 1955, the Tampa Electric Company built its first coal-burning electricity generating plants in peninsular Florida. It entered into a 20-year requirements contract with Nashville Coal, but just before its first delivery, Nashville refused to perform, claiming the contract violated the antitrust laws. Tampa sued to enforce the contract and for a declaration that the contract was valid. The district court granted summary judgment on the ground that the undisputed facts showed that the contract violated Section 3 of the Clayton Act,<sup>226</sup> and the appeals court agreed.

The Supreme Court stated that an exclusive dealing arrangement “does not violate the section unless the court believes it probable that performance of the contract

---

<sup>225</sup> 365 U.S. 320 (1961).

<sup>226</sup> 15 U.S.C. § 14. This section makes it unlawful to condition the sale or lease of goods on the buyer's or lessee's agreement not to deal with competitors of the seller or lessor, where the effect of the sale, lease, or conditioned arrangement “may be to substantially lessen competition or tend to create a monopoly in any line of commerce.”



will foreclose competition in a substantial share of the line of commerce affected.”<sup>227</sup>

In order to determine substantial foreclosure, the Court established a three-part test.

First, the “line of commerce” must be determined, and second, the “area of effective competition” in the line of commerce must be charted. Finally, “the competition

foreclosed by the contract must be found to constitute a *substantial share* of the relevant market.”<sup>228</sup> Most of the lower courts have noted that the focus of this test is to define

the relevant market and then to assess whether competition has been foreclosed in “enough” of the relevant market.<sup>229</sup>

The Court continues by instructing that “to determine substantiality in a given case, it is necessary to weigh the probable effect of the contract on the relevant area of effective competition, taking into account the relative strength of the parties, the proportionate volume of commerce involved in relation to the total volume of commerce in the relevant market area, and the probable and immediate and future effects which pre-emption of that share of the market might have on effective competition therein.”<sup>230</sup> This language indicates that the purpose of the test in *Tampa* is thus to determine the anticompetitive effects of exclusive dealing arrangements.<sup>231</sup>

In applying this test, the Court in *Tampa* directed the weight of its attention to defining the relevant market properly. Within Florida and Georgia, Tampa Electric’s requirements were 18% of total coal consumption. However, most of the 700 producers

---

<sup>227</sup> *Id.* at 327.

<sup>228</sup> *Id.* at 328, emphasis added.

<sup>229</sup> See, e.g., *Twin City Sportservice Inc. v. Charles O. Finley & Co., Inc.*, 676 F.2d 1291, 1302 (CA9 1982).

<sup>230</sup> *Tampa* at 329.

<sup>231</sup> *Twin City* at 1302.

that served the area were in the Appalachian coal region. Taking into account the area in which the suppliers to peninsular Florida actually compete, Tampa Electric's requirements made up only 0.77%, which it held did not clear the hurdle for "substantial foreclosure."

While the Supreme Court has not addressed exclusive dealing since *Tampa*, it provided context to the doctrine in dicta in *Jefferson Parish Hospital Dist. No. 2 v. Hyde*.<sup>232</sup> Justice O'Connor's concurring opinion for four Justices instructed that "in determining whether an exclusive dealing contract is unreasonable, the proper focus is on the structure of the market," and that "exclusive dealing is an unreasonable restraint on trade only when a significant fraction of buyers or sellers are frozen out of a market by the exclusive deal."<sup>233</sup> Building on *Tampa*, the Court then enumerated a list of considerations, including "the number of sellers and buyers in the market, the volume of their business, and the ease with which buyers and sellers can redirect their purchases or sales to others," adding that when "the sellers of services are numerous and mobile, and the number of buyers is large, exclusive dealing arrangements of narrow scope pose no threat of adverse economic consequences."<sup>234</sup>

---

<sup>232</sup> 466 U.S. 2 (1984).

<sup>233</sup> *Jefferson Parish* at 1575-76. Justice Stevens delivered the opinion of the court, holding that an illegal tie-in is subject to the *per se* rule. Justices O'Connor, Burger, Powell, and Rehnquist concurred, though felt that the facts should be analyzed as an exclusive dealing arrangement analyzed under the Rule of Reason. Moreover, they advocated abandoning the *per se* rule to "refocus the inquiry on the adverse economic effects, and the potential economic benefits, that the tie may have." Justices Brennan and Marshall noted that Congress had not changed the rule by amending the Sherman Act, and joined Justice Stevens.

<sup>234</sup> *Id.*

## 2. Application of *Tampa* and *Jefferson Parish* Factors

Spurred on by the words “taking into account” in *Tampa*, and “the proper focus” from *Jefferson Parish*, the lower courts began to generate lists of factors for evaluating exclusive dealing agreements. Because the points enumerated after these words had an air of generality about them, the lower courts raised them to the level of doctrine, rather than considering how the Supreme Court may have wanted to confine them to the facts and market circumstances of these cases. Each of the lower courts cited the lists from *Tampa* and *Jefferson Parish*, and each court interpreted them to suggest its own list of factors. Unfortunately, few of the lower courts’ lists look the same, leaving behind a glut of factors with little guidance as to which ones matter in a given case. In any event, some factors appear more frequently on the courts’ lists:

### a. *Foreclosure*

Some courts read the factors as suggesting that the inquiry can be distilled down to a simple calculation: the proportion of buyer or seller outlets that have been foreclosed from competitors by the contracts in question, or a “baseline foreclosure rate.” Nearly every exclusive dealing case has at least considered the foreclosure rate, and some courts have even based their decision entirely upon the number.<sup>235</sup>

Foreclosure becomes an important factor due to the unquestionable correlation between higher levels of foreclosure and the scarcity of distribution channels left over

---

<sup>235</sup> See, e.g., *American Motor Inns, Inc. v. Holiday Inns, Inc.*, 521 F.2d 1230 (CA3 1975); *Magnus Petroleum Co. v. Skelly Oil Co.*, 599 F.2d 196 (CA7 1979). The Antitrust Division attempted unsuccessfully to rely solely on a 49% foreclosure rate in *United States v. Dairymen, Inc.*, 758 F.2d 654 (CA6 1985), arguing that the court should “infer anticompetitive effect in the market as a whole from the substantial percentage of the market foreclosed.”

for others. As such, courts in the Eighth Circuit have gone so far as to assert that when the foreclosure rate is so high that it “invariably indicates market power,” it is proper to rely on foreclosure alone.<sup>236</sup> It is increasingly rare, however, for a court to invoke this rule to decide a case solely on the foreclosure rate alone. Surprisingly, the Eighth Circuit articulated this rule in a case involving foreclosure less than 10%. While another Eighth Circuit case cited this rule with facts indicating 67% foreclosure, the court relied on many other factors while denying the defendant’s motion for summary judgment.<sup>237</sup>

The other side of this coin is that smaller foreclosure rates in a relevant market should be interpreted as a lower likelihood that exclusive arrangements could have an adverse effect in that market. For this reason, some courts have begun to suggest that when exclusive arrangements affect a small fraction of the market, the foreclosure rate can serve as a useful screening function for summarily disposing of matters.<sup>238</sup>

The usefulness of the foreclosure rate is gradually becoming more limited. This is principally due to the fact that the cases are increasingly inconsistent with respect to what the foreclosure rate means. Courts have found liability with as little as 2%, yet have also upheld agreements with a foreclosure rate of 75%; the numbers in between have yielded decisions going either way with nearly equal frequency. Most of the cases regard the foreclosure rate as just one factor to be considered with others.

---

<sup>236</sup>*Ryko* 1233, followed by *Appleton Papers*, 35 F.Supp. 2d 1138, 1143 (D. Minn. 1999).

<sup>237</sup>See *Appleton Papers*, at 1142-45.

<sup>238</sup>*United States v. Microsoft*, 253 F.3d 34, 69 (CADDC 2001) (“*Microsoft III*”) (“Because an exclusive deal affecting a small fraction of a market clearly cannot have the requisite harmful effect upon competition, the requirement of a significant degree of foreclosure serves a useful screening function.”).

Therefore, in most instances a case cannot be made on the numbers alone, and most courts treat the numbers as relevant in the context of other circumstances that indicate the actual competitive state of the market.<sup>239</sup>

**b. *Contract Length and Terminability***

Exclusive arrangements with long contract durations can provide very potent facts for proving an exclusive dealing case. However, the contract length is rarely dispositive, and is probably so only when both the contract term is unusually long and when the length of the contract itself is central to the effectiveness of the arrangement for achieving an anticompetitive result. In the only case in which a district court based liability largely on the length of the contract, the circuit court upheld the lower court's decision, but went on to cite other factors.<sup>240</sup> And, though one case noted that contract duration is "the most important among the factors," the court in that case actually put more weight on other factors.<sup>241</sup>

Reflecting the same inconsistency as application of the foreclosure rate, the courts have held agreements with long, multi-year contracts to be lawful, yet have struck down as illegal arrangements with short contract terms or contracts that were terminable at will. Strikingly, most of the cases in which the courts found unlawful exclusive dealing involved contracts that were terminable at will, or even arrangements

---

<sup>239</sup>See, e.g., *Barr v. Abbott Laboratories*, 1991-2 Trade Cas. ¶ 69,675, 79 (D.N.J. 1991). Referring to the stated foreclosure rate, the court noted that it "is wary of relying on numerical conclusions drawn within different factual contexts."

<sup>240</sup>*Twin City*, at 1302. The court noted that it affirmed "for all the reasons expressed by the district court, not simply that the contracts were too long." The contracts involved were for 10 years or more.

<sup>241</sup>*Appleton*, at 1143. Furthermore, the court went on to find liability where the contracts involved were terminable at will.

for which there was no written contract.<sup>242</sup> This has led to the confounding pattern that many of the cases in which the exclusive arrangements were held to be lawful involved contracts with longer duration than those that were held to violate Section 3 of the Clayton Act.

Generally, with respect to contract duration and the terms under which termination can be accomplished, the courts have begun to focus on whether the length or terminability—and especially the incentives surrounding them—are the very thing that makes the exclusivity work. Courts are more apt to recognize that even when contract duration is short or terminable at will, switching to an entrant could be impractical for a number of reasons, such as an expectation that the entrant would have to achieve economies of scale or to develop a network in order to satisfy customer needs. Entry could therefore be prevented by a collective action problem, where only a large number of distributors switching together would make entry feasible.

**c. *Other Factors***

The courts have identified many other factors for analyzing exclusive dealing cases. Among the more common are whether there is an industry-wide practice of exclusive dealing, trends in growth or decline in industry concentration, the dominance of the defendant, the proportion of the affected commerce in comparison to the entire market, whether consumers show loyalty to their existing distributors, and trends in growth or decline in the industry.

---

<sup>242</sup> See, e.g., *SmithKline, Appleton, Dentsply, and Microsoft*.

While some courts rely on many of these factors, others focus on just one or two. The courts are also inconsistent about how to apply the factors, or how much weight to put on each of the factors. Hence, the cases provide few useful thresholds. For any set of facts, some of the factors are useful in analyzing how exclusive dealing may have succeeded in preventing entry, while other factors yield no insights at all. Such is the case, for example, regarding contract length when the parties have not entered into a written contract, but have only a practice of dealing with each other.

The importance of the factors in the case law for an exclusive dealing plaintiff is their ability to reveal common pitfalls in staging an effective proof. Inconsistent application of these factors provides a valuable resource for defendants for clouding the issues and for distracting the courts away from allegations of competitive harm. For any individual factor, the case law is rich with stories of plaintiffs who lost with proof of worse circumstances as to that factor. Furthermore, in many instances the facts contained within the factors have probative value only in combination with each other, so while being able to separate them out may be analytically attractive, doing so could also confuse courts as to what the evidence explains. It is therefore invaluable to read the application of the factors in each case carefully in order to determine why plaintiffs lost, even with a strong set of facts.

### 3. Laying Foundations for Formalism: Sixteen Years of Losing Cases

Judge Posner's decision in *Roland Mach. Co. v. Dresser Indus.*<sup>243</sup> ushered in a long period in which virtually no exclusive dealing case prevailed beyond the district court level. This period would last from 1984 until the 2001 *Microsoft* decision in the D.C. Circuit.<sup>244</sup> Over this period, courts became increasingly dependent upon a formalistic application of a growing list of factors.

Roland Machinery was the exclusive dealer of Dresser's construction equipment for the middle third of Illinois.<sup>245</sup> Roland signed a dealership agreement with Dresser that allowed either party to terminate without cause on 90 day's notice. When Roland signed a dealership agreement with another manufacturer of construction equipment, Dresser exercised its termination right. Roland then sought and obtained a preliminary injunction from the district court, claiming Dresser violated Section 3. On appeal, Judge Posner decided the case on contract principles, holding that there was not a mutual understanding that the contract was exclusive; however, the court went on to provide an analysis of how to determine whether the agreement was anticompetitive. This analysis inquired whether the agreement could likely keep the other manufacturer, Komatsu, out of central Illinois. Komatsu happened to be the second largest construction equipment manufacturer in the world, with four times the sales volume of Dresser. Hence, the court suggested that it would take much more than one exclusive

---

<sup>243</sup>749 F.2d 380 (CA7 1984).

<sup>244</sup>*United States v. Microsoft*, 253 F.3d 34 (CADC 2001).

<sup>245</sup>Roland was a dealer for International Harvester. International Harvester sold its construction equipment line to Dresser Industries in 1982, so Roland needed to sign a new agreement with Dresser.



contract to keep Komatsu out of central Illinois, and acknowledged that the reason was because Roland's dealership agreement was terminable on short notice.<sup>246</sup> Furthermore, Roland had not made even a minimal showing to support its prima facie case.

Many other losing exclusive dealing cases resemble *Roland* in that they involve exclusive arrangements that foreclose only a small geographic part of a relevant antitrust market. Another case in which a distributor wanted to maintain an exclusive territory is *Ryko Manufacturing Co. v. Eden Services*.<sup>247</sup> Ryko manufactured automatic car wash equipment and marketed them nationally through a network of distributors. Eden signed an agreement with Ryko to be the exclusive distributor in Maryland and the District of Columbia, and as part of the deal, Eden was prevented from selling products that competed with Ryko's. Growing out of a dispute over Eden's attempts to gain territory in northern Virginia, Ryko attempted to terminate Eden's contract, and Eden asserted antitrust claims along with a suit for injunction against termination.

The court in *Ryko* listed a number of factors—each one different from the factors in *Tampa*—that need to be considered in determining whether an exclusive arrangement has a “probable adverse affect” on competition.<sup>248</sup> These factors include: “the willingness of consumers to comparison shop and their loyalty to existing distributors; the existence of entry barriers to new distributors; the availability of alternative methods of distribution; and any trend toward growth (or decline) in the level of competition.”

---

<sup>246</sup>The court reinforced the rule that exclusive dealing contracts terminable in less than a year are presumptively legal under § 3, citing *Antitrust Law Developments* 98 (2d ed. 1984).

<sup>247</sup>823 F.2d 1215 (CA8 1987).

<sup>248</sup>*Id.* at 1234.

The court noted that Eden failed to produce any evidence that the exclusive arrangements prevent other manufacturers from finding effective distributors. The court also found that Eden's contract had more restrictive exclusivity provisions than any other of its distributors, principally due to its ongoing dispute over the Virginia territory. Thus, one exclusive contract in a small region would not likely inhibit entry or competition in a nationwide market.

In *U.S. Healthcare, Inc. v. Healthsource, Inc.*,<sup>249</sup> a group of doctors started up an HMO in New Hampshire that grew to serve about 5% of the state's population. This HMO, Healthsource, offered to pay its panel doctors an average of about 14% more if they agreed not to serve any other HMO, and 87% of Healthsource's doctors opted for exclusivity. U.S. Healthcare, one of the largest publicly held HMO's in the country, wanted to expand into New Hampshire, so it brought a suit challenging Healthsource's exclusivity clauses.

Like *Ryko*, the court in *U.S. Healthcare* relied on a number of factors. Regarding contract duration, the court indicated that Healthsource's 30-day terminability provisions were "*de minimis*," but nonetheless stated that 30 days may be long enough to have a foreclosing effect.<sup>250</sup> Likewise, the court conjectured that the foreclosure rate may even be high enough to meet the standards under *Tampa*. In any event, U.S. Healthcare had not defined the relevant market and had not made a showing of a foreclosure effect. Exasperated, the court noted "we are handicapped in appraising

---

<sup>249</sup>986 F.2d 589 (CA1 1993).

<sup>250</sup>*Id.* at 596.

the extent and impact of the foreclosure wrought by Healthsource because U.S. Healthsource has not chosen to present its argument in [the proper] terms. *Tampa* is not even cited in the opening or reply briefs.”<sup>251</sup>

But *Roland*, *Ryko*, and *U.S. Healthcare* are fairly easy cases, having narrow geographic markets and unconcentrated industries. It is usually when the cases involve larger, even nationwide, markets and dominant firms that a question genuinely exists on the ability to prevent entry. It is in these cases that the formalistic application of factors has abstracted the “substantial foreclosure” inquiry away from a market power analysis.

For example, the court in *Omega Environmental, Inc. v. Gilbarco, Inc.*<sup>252</sup> appears to employ a methodology of starting with a base foreclosure rate, and then it chips away at the weight of the foreclosure rate, step by step, through application of as many factors as it could mine from the case law. The court begins by assuming away the need for a detailed relevant market inquiry,<sup>253</sup> instead proclaiming, as if invoking settled doctrine, that “exclusive dealing arrangements imposed on distributors rather than end-users are generally less cause for anticompetitive concern.” Like the cases before it, the *Gilbarco* court also refers to short duration and easy terminability, but does little more than to cite the rule from *Roland* that contracts terminable in less than a year are presumptively legal. As such, the court sidesteps inquiry into the actual effect of the contracts. In addition, the court cited trends of increasing industry output and

---

<sup>251</sup>*Id.* at 595. See also *Omega Envtl., Inc. v. Gilbarco, Inc.*, 127 F.3d 1157, 1174 (“The First Circuit rejected the appeal, in part, because the appellant in that case failed to discuss factors listed by the Supreme Court in *Tampa*.”)

<sup>252</sup>127 F.3d 1157 (CA9 1997).

<sup>253</sup>*Id.* at 1162. It appears the plaintiffs had not properly defined the relevant market themselves.

increasing market share of another competitor (from 6% to 8%, compared to Gilbarco's 55%) as precluding a finding of substantial foreclosure.<sup>254</sup> As will be discussed below, Judge Pregerson issued a thorough dissent criticizing the majority's approach.

*Barr Laboratories v. Abbott Laboratories*<sup>255</sup> also provided its own set of relevant factors. *Barr* involved entry of generic antibiotics after Abbott's patents on certain antibiotics expired. Barr Laboratories claimed that Abbott was trying to maintain its market share through illegal contracts with warehouse chain drugstores. After noting that foreclosure is "only one of the factors involved in determining the legality of an exclusive dealing arrangement,"<sup>256</sup> the Third Circuit upheld the lower court's consideration of three additional factors: the fact that Abbott's market share only increased 2%, the fact that market concentration increased only 1%, and the fact that other firms successfully entered. In the context of these factors, the court could then conclude that the asserted 15% foreclosure rate was not sufficient to show liability.

A close examination of these cases yields insights into why these exclusive dealing claims did not prevail, and what precedential principles they leave for us. Easily the most common reason an exclusive dealing case lost was for failure to offer adequate proof. In many of these cases, the courts could dispose of the matters easily since the plaintiffs did not define the relevant antitrust market, but instead merely stated

---

<sup>254</sup> *Gilbarco* at 1164.

<sup>255</sup> 978 F.2d 98 (CA3 1992).

<sup>256</sup> *Id.* at 111.

the claim that the arrangement was exclusive.<sup>257</sup> This makes many of the cases easy to distinguish. In other cases, plaintiffs themselves relied too heavily on a factor or set of factors, believing that such reliance alone would meet their burden of persuasion. This strategy, however, left too much untold for the court. Nonetheless, as the amount of foreclosure necessary to find illegality moved higher and higher, it was the defendant rather than the plaintiff that focused increasingly on factors, namely as a basis for quick dismissal of a claim.

The courts moved to an application of factors probably because they provided a simple alternative to a more detailed and complicated economic analysis. Though application of factors tends to distill the facts down to such a level that significant detail on market incentives is lost, many of the factors can shed light on whether the arrangements in a particular case were effective at foreclosing a substantial part of the market. The problem with the formalistic approach is that the factors are largely limited to the particulars of the case from which they sprung, and do not always apply well to other exclusive dealing cases. Often, the factors do little more than push the court in the right direction, but do not complete the journey by providing the court with all the relevant market information needed to make a robust decision. Now-Justice Breyer articulated this eloquently when he was on the First Circuit: “Rules that seek to embody every economic complexity and qualification may well, through the vagaries of

---

<sup>257</sup>See, e.g., *Tri-State Rubbish Inc. v. Waste Management, Inc.*, 998 F.2d 1073 (CA1 1993) (stating that a complaint that did no more than to allege exclusive dealing “with *nothing* more specific might well be susceptible to dismissal for failure to state a claim”).

administration, prove counterproductive, undercutting the very economic ends they seek to serve.”<sup>258</sup>

In many of the cases, the courts probably came to the right decision. However, since the legal reasoning does not transfer well to other exclusive dealing cases, it nonetheless can serve to confuse courts. In the last few years, courts have encountered matters that challenge the formalistic approach. For its part, the Supreme Court in *Eastman Kodak Co. v. Image Technical Servs., Inc.* responded to this challenge by pronouncing that “[l]egal presumptions that rest on formalistic distinctions rather than actual market realities are generally disfavored in antitrust law.”<sup>259</sup> The lower courts have responded similarly by refining the inquiry under Section 3 to focus on the practical effects of exclusive arrangements in creating, enhancing, or preserving market power.

#### **4. Evolution to an Economic Inquiry**

Judge Pregerson’s dissent in *Gilbarco* seems to be the pivotal moment in the lower courts’ shift away from a formalistic use of factors. The dissent pushes for a more thorough rule of reason inquiry that looks into the actual competitive effect of exclusive arrangements. First, Judge Pregerson sharply criticizes both the majority and the case law for their reliance on legal presumptions. Judge Pregerson denounced Judge

---

<sup>258</sup>*Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 234 (CA1 1983).

<sup>259</sup>504 U.S. 451, 466-67 (1992).

Posner’s rule from *Roland* that exclusive dealing arrangements that are terminable in less than a year are presumptively legal:

The court in *Roland* cited to no case law . . . . I know of no Ninth Circuit precedent that supports [this presumption] . . . . In addition, I believe that this presumption . . . is contrary to the Supreme Court’s instructions in *Tampa*, which call for the trier of fact to make an individualized determination of the anticompetitive effects of an exclusive dealing arrangement in the particular relevant market.<sup>260</sup>

The court asserts that “[t]he majority shortchanges the analysis required by *Tampa*, *Jefferson Parish*, and *Twin City* when it states that ‘exclusive dealing arrangements imposed on distributors rather than end-users are generally less cause for competitive concern.’”<sup>261</sup>

Second, the *Gilbarco* dissent emphasizes the importance of defining the relevant market properly. A reading of the cases in the fourteen years prior to *Gilbarco* reveals that many of the plaintiffs failed because they did not define the market,<sup>262</sup> did not define it properly,<sup>263</sup> or did not make a showing sufficient to allow the court itself to discern or approximate a relevant market to get beyond summary judgment.<sup>264</sup>

Throughout the dissent, Judge Pregerson criticizes the majority’s approach for failing “to consider the context of the relevant market in which the elusive dealing arrangements are used.” This case instructs that the market definition is important not

---

<sup>260</sup>*Omega Envtl., Inc. v. Gilbarco, Inc.*, 127 F.3d 1157, 1172 (CA9 1997).

<sup>261</sup>*Id.* at 1171. The majority cited the Eighth Circuit’s *Ryko* decision in support of this presumption.

<sup>262</sup>*See, e.g., Ryko; see also CDC Technologies, Inc. v. IDEXX Laboratories, Inc.*, 186 F.3d 74 (CA2 1999).

<sup>263</sup>*See, e.g., Barr, Roland, and Barry Wright.*

<sup>264</sup>*See, e.g., U.S. Healthcare; Holiday Inns* at 1248 (insisting that “the cases make it clear that such a market definition is fundamental,” the delineation of the relevant product market was so deficient that the appellate court could not determine for itself the effect of an exclusive arrangement.

only because the foreclosure rate itself depends on it, but also because it is required for a market power inquiry under Section 2 of the Sherman Act. Accordingly, the *Gilbarco* dissent and later cases suggest that “substantial foreclosure” asks whether it is credible that a firm would be able to foreclose entry or expansion to such a degree that it could exercise market power.<sup>265</sup>

The dissent in *Gilbarco* cites many instances of the majority’s improper application of precedent. Not only did the majority rely on presumptions not supported by the case law, but it also cited cases that do not stand for the proposition the majority claims they support.<sup>266</sup> The problem with the majority’s approach, the dissent suggested, was that it drew the analysis away from the Supreme Court’s admonition to consider “the *totality* of the circumstances” in a case, to support findings on a case-by-case basis as to whether exclusive dealing arrangements have anticompetitive effects.<sup>267</sup>

Judge Pregerson’s dissent in *Gilbarco* instead discourages a formalistic application of factors, asserting that the substantial foreclosure determination “requires more than a review of individual considerations.”<sup>268</sup> Adding to his calling for “an individualized determination of the anticompetitive effects of an exclusive dealing arrangement in the particular relevant market,” Judge Pregerson notes that the proper

---

<sup>265</sup>*Cf. CDC*, 186 F.3d at 81 (suggesting that the preliminary burden of showing substantial foreclosure can be satisfied by establishing that the defendant possesses “the requisite market power and thus the capacity to inhibit competition market-wide.”)

<sup>266</sup>*Gilbarco* at 1173. Judge Pregerson asserted that the majority misapplied *Barry Wright*, *U.S. Healthcare*, *Roland*, and *Ryko*, and addresses each case individually.

<sup>267</sup>*Id.*, citing *FTC v. Motion Picture Adver. Serv. Co.*, 344 U.S. 392 (1953).

<sup>268</sup>*Id.* at 1170. There is irony, however, in Pregerson’s suggestion of his own list of factors. He asserted that *Tampa* and *Jefferson Parish* suggest “general considerations” that include the dominance of the seller, the existence of an industry-wide practice of exclusives, and the proportion of affected commerce to the entire market.



inquiry should consider “the probable effect immediately and in the future of the exclusive dealing, including effects on the ability of the consumer to change products.”<sup>269</sup>

Later cases have begun to follow suit in inquiring into the “practical effect” of the exclusive arrangements in question, and in focusing on the likelihood that the arrangements will confer the ability to exercise market power. This approach has ample support in cases that precede *Roland* in which exclusive dealing plaintiffs prevailed. For example, the Third Circuit in *SmithKline Corp. v. Eli Lilly & Co.*<sup>270</sup> considered the effect of the arrangements in the context of a number of characteristics that define the relevant market. Lilly, a leading manufacturer of pharmaceuticals, had patents on four forms of cephalosporin antibiotics. SmithKline entered into the cephalosporin market with a fifth form, cefazolin, and staged an extensive research and market program. Cefazolin was essentially equivalent to the other cephalosporins, but could be administered at a lower cost per patient. To the extent that cefazolin was accepted as a substitute for Lilly’s patented products, Lilly faced the loss of monopoly profits. The court acknowledged that Lilly “would stand to preserve the market position of [its patented cephalosporin] by discouraging widespread acceptance [of cefazolin].”<sup>271</sup>

Lilly instituted a program that awarded buyers a 3% rebate if they met targets on three of Lilly’s five cephalosporins. Since two of Lilly’s cephalosporins had particular

---

<sup>269</sup>*Id.*, citing *Tampa* at 329, and *Jefferson Parish* at 30.

<sup>270</sup>575 F.2d 1056 (CA3 1978).

<sup>271</sup>*Id.* at 1061. The court noted that Lilly wanted to preserve sales of its own patented products over its own cefazolin equivalent as well.

therapeutic uses, and were by far the largest products in the market, the court emphasized that the rebate was tailored to focus the buyer's decision on the combined purchases of Lilly's two products and cefazolin. Thus, to meet the rebate offered by Lilly, SmithKline would have to match the rebate based on total purchases of three products, including the leading sellers. The court noted that although buyers "were free to purchase SmithKline's [cefazolin] with their [cephalosporin] orders with Lilly, ... the *practical effect* of that decision would be to deny the [purchaser of SmithKline's cefazolin] the 3% bonus rebate on *all* its cephalosporin purchases."<sup>272</sup> The court found that SmithKline would have to offer rebates of between 16% and 35% to be able to match Lilly's rebate.

In order to weigh the economic effect of Lilly's rebates, Judge Aldisert's opinion in *SmithKline* employed an in-depth analysis of the market circumstances, including Lilly's "entrenched position" bestowed by patents in other cephalosporins, cross-elasticities of other antibiotics, and high research and marketing costs. The court's attention to the market definition was key in evaluating the practical effect of the arrangements in a dynamic and complex market.

The decision in *Twin City Sportservice, Inc. v. Finley & Co., Inc.*<sup>273</sup> clearly illustrates an emphasis on a properly defined relevant market and the practical effect of an exclusive dealing arrangement. In *Twin City*, the owner of a baseball club asserted

---

<sup>272</sup>*Id.* at 1061-62, emphasis added. The court acknowledged that SmithKline had to compete "three-on-one." Note that this is not a tie-in because Lilly did not condition the availability of any of its products on the purchase of any other of its products. Although analyzing this case under Section 2 of the Sherman Act, the court treated this as an instance of *de facto* exclusivity by focusing on the "practical effect" of the rebate.

<sup>273</sup>676 F.2d 1291 (CA9 1982).

an exclusive dealing counterclaim against a stadium concessions company. The court underscored that the first two parts of *Tampa*'s three-part test "basically outline a determination of the relevant market,"<sup>274</sup> and devoted most of the opinion to the importance of market definition in assessing an antitrust claim. Furthermore, the court noted that the purpose of the *Tampa* test is "to determine the anticompetitive effects of exclusive-dealing arrangements," and that the test serves to identify anticompetitive influence generally, without regard to whether arrangements are literally exclusive, or whether incentives are at play in procuring an exclusive effect rather than the literal precepts of the contracts.<sup>275</sup> Although the arrangements in *Twin City* involved ten year contracts, the court reiterated that their reasons for affirming were "not simply that the contracts were too long," but for "all of the reasons" involved in assessing the practical effect of arrangements in a properly defined relevant market.<sup>276</sup>

## 5. Recent Cases

Cases in the last four years demonstrate a distinct movement away from the formalistic application of factors toward an incentive-based focus on the practical and anticompetitive effects of exclusive dealing arrangements. The courts are expressly

---

<sup>274</sup>*Id.* at 1301.

<sup>275</sup>*Id.* at 1302. As part of a general rule of reason analysis, Justice O'Connor's concurrence in *Jefferson Parish* teaches that under the rule of reason, the trier of fact must determine whether an exclusive dealing arrangement's effect is reasonable. *Twin City* went on to indicate that the "reasonableness inquiry asks whether the restraint in question is one that promotes competition or one that suppresses competition." 1304.

<sup>276</sup>The court cited a "continuing pattern of conduct that produced market share" as contributing to an unreasonable restraint of trade, including special market-share related incentives and "predatory" use of bargaining position to obtain agreements of long duration. *Id.* at 1301. A foreclosure rate of 24% was mentioned, but did not play a key part of the decision.

more interested in answering whether the arrangements convey the ability to exercise market power. To this end, the courts are demanding more detail in the market definition to allow them to make a market power determination. Following the Supreme Court's instruction to consider the "totality of the circumstances," they are inviting more proof of industry characteristics in order to be able to establish the practical effect of exclusive arrangements on rivals' incentives. Because the courts are increasingly going beyond mere factors or the literal words of exclusive arrangements, the courts seem to be more open to finding instances of liability where they may not have before.

After *Gilbarco*, the first case to take this approach was *3M Co. v. Appleton Papers Inc.*<sup>277</sup> Appleton was a manufacturer of carbonless paper. Carbonless roll products made up about 87% of the U.S. market, while carbonless sheet products comprised the remaining 13%. Due to the emergence of non-impact printing, the carbonless sheet industry was in decline, and was becoming highly concentrated. Appleton saturated local markets with sole-source agreements, and 3M sued, claiming these agreements blocked competitors from finding distribution. Appleton cited most of the regular factors to defend its conduct, hoping to convince the court that the agreements were comfortably within the safe zone of most of the factors. For example, Appleton emphasized that its agreements were terminable at will, that competitors could

---

<sup>277</sup>35 F.Supp.2d 1138 (D. Minn.1999).

win over distributors whenever they chose, and hence, that the agreements froze out nobody.<sup>278</sup>

The court in *Appleton* was the first expressly to focus on the economic practicality rather than the literal meaning of the agreements. The court asked “whether *Appleton*’s agreements were *actually* terminable at will.”<sup>279</sup> To answer this question, the court read *Tampa* as requiring that “courts look to the ‘practical effect’ of the agreement, not merely to its form.”<sup>280</sup> Abandoning sixteen years of applying the factors, the court invoked the Supreme Court’s broad proposition that “[legal] presumptions that rest on formalistic distinctions rather than actual market realities are generally disfavored in antitrust law.”<sup>281</sup> The court found that the agreements included incentives that had the “practical effect” of tying up distribution for several years even though the agreements were terminable at will. Rather than relying on a bare foreclosure rate, the court also pointed to distribution characteristics in the industry, including credit arrangements, distributor loyalty and inertia, trends in consolidation, and other sources of switching costs to ask “whether there are *practical* alternative methods of distribution.”<sup>282</sup>

Reinforcing *Appleton*, the court’s decision in *U.S. v. Dentsply Int’l, Inc.*<sup>283</sup> further demonstrated that the mere availability of alternative means of distribution and

---

<sup>278</sup> *Appleton* cited *Roland* and *Gilbarco* for the premise that at-will agreements are presumptively valid, and cited the many factors from *Ryko*, *Barry Wright*, *Roland*, and *Beltone*.

<sup>279</sup> *Appleton* at 1144, emphasis added.

<sup>280</sup> *Id.*, citing *Tampa* at 328.

<sup>281</sup> *Kodak*, 504 US at 466-67.

<sup>282</sup> *Id.* at 1145, emphasis added.

<sup>283</sup> 2001-1 Trade Cas. ¶ 73,247 (D. Del. 2001).

short contract length are not conclusive defenses. Dentsply is the nation's largest manufacturer of false teeth. It published distributor criteria that stated that its distributors could not offer competitors' products, and entered into arrangements with around 10% of distributors in the market. Dentsply did not have any written contracts with its distributors, and accordingly the court recognized that they could switch to another manufacturer at any time. To this end, Dentsply cited a number of factors that it argued would conclusively establish that it had not substantially foreclosed the market.<sup>284</sup> The court, however, found all of the cases Dentsply had cited to be easily distinguishable, relying upon them only to the extent that "general principles may be distilled."<sup>285</sup>

Instead, the court instructed that the proper inquiry is on the "probable effect" of exclusive arrangements and their ability to prevent competitors from finding "effective" or "viable" distributors.<sup>286</sup> First, the court felt that Dentsply had not provided a market definition sufficient to support its claims, and noted that it had not presented enough evidence to allow the court to assess all methods of distribution. Furthermore, the Division had presented evidence that the exclusive arrangements had actually enabled Dentsply to raise prices, restrict output, and reduce market quality.

---

<sup>284</sup>Dentsply cited *Roland, Ryko, U.S. Healthcare, Gilbarco, and CDC* for support on each factor.

<sup>285</sup>*Dentsply* at footnote 11. Like many courts before it, the court also dismissed the rule in *U.S. Healthcare* limiting the illegality of *de facto* exclusive arrangements, where facts such as arrangements that do not literally prohibit dealing with competitors or that withhold a financial incentive would not be cognizable under the antitrust laws.

<sup>286</sup>*Id.* at 73,253-56 passim.

The D.C. Circuit’s en banc decision in *Microsoft*<sup>287</sup> solidified the abandonment of the formalistic analysis and the move to a “practical effect” approach. The court began with an extensive discussion of the proper definition of the relevant market, as it is clear that both parties recognized its importance in evaluating the effects of the complex arrangements involved.<sup>288</sup> The court avoided the formalistic application of factors played out at the district court level, and instead emphasized that liability could be found even when the facts surrounding particular factors are much weaker than in cases where the defendants had prevailed. In addressing the foreclosure rate, the *Microsoft* court reduced this factor to little more than a “screening function” for cases involving what seems like a small fraction of the market.<sup>289</sup>

The court’s analysis, therefore, delved into the details of the industry, weighing the effects of Microsoft’s intellectual property licensing and software design, its contracts with distributors of its various products, network effects, and other conduct. The court recognized that Microsoft had entered into exclusive arrangements with virtually all of its distributors of all of its products, and also assessed the viability of other channels of distribution in the context of Microsoft’s financial inducements.<sup>290</sup> Thus, the court employed an approach that focused on the practical effect of exclusive

---

<sup>287</sup>253 F.3d 34 (DC Cir. 2001).

<sup>288</sup>The *Microsoft* court repeatedly emphasized the importance of the market definition for the proper application of *Tampa*. *Microsoft* at 69.

<sup>289</sup>*Id.*

<sup>290</sup>Microsoft’s 1994 consent decree also involved an allegation of *de facto* exclusivity, where Microsoft’s “per processor” license required computer manufacturers to pay Microsoft a license fee for each computer sold, whether a Microsoft operating system was used or not.

arrangements in the context of a properly defined market, and questioned the extent to which the arrangements allowed Microsoft to exercise market power.

The Eighth Circuit in *Concord Boat Corp. v. Brunswick Corp.*<sup>291</sup> also illustrates the shift towards a market power inquiry. The court reversed a trebled award of over \$130 million premised on claims of *de facto* exclusive dealing resulting from an allegedly coercive discount program. Brunswick, the leading seller of “inboard and stern drive marine engines” used in recreational motor boats, initiated a pricing program under which buyers taking 60% of their requirements from Brunswick obtained a 1% discount. The discount increased to 2% for a 70% commitment and 3% for an 80% commitment. Commitments were of one year’s duration, but discounts amounting to an additional 1% to 2% were available for commitments of two to three years. Volume discounts of up to 5%, based on total quantities purchased, also were available. Concord, a competing engine supplier, charged that the discount program effectively coerced customers into obtaining the dominant portion of their requirements from Brunswick. Focusing on whether the commitments would give Concord the ability to exercise market power, the court held that Brunswick was entitled to judgment as a matter of law because the discount program did not confer or enhance any ability to raise prices.<sup>292</sup>

---

<sup>291</sup>207 F.3d 1039 (CA8 2000).

<sup>292</sup>Although the court recognized that a discount program could be sufficiently coercive to amount to *de facto* exclusive dealing, it did not feel the evidence sufficient to show that it was in fact economically difficult for customers to switch, but rather noted there was considerable evidence of switching. The court also emphasized that some customers purchased more than they needed to in order to qualify for the maximum discounts. It is not clear to what extent the plaintiff’s loss can be attributed to the fact that the court refused to admit plaintiff’s expert testimony. Defendants employed two experienced competition



Most of the cases since *Gilbarco* follow the same method. Just as *Appleton* and *Microsoft* moved away from the formalistic approach of the prior sixteen years, courts have been relying on them less and less, and some respond to them as being little more than a distraction.<sup>293</sup> Instead, courts increasingly focus on the practical effect of the exclusive arrangements.<sup>294</sup> In doing so, courts are placing a greater emphasis on defining the relevant market.<sup>295</sup> Within the context of that market, the courts therefore have found the key question to be whether exclusive arrangements are such that it is credible that a firm would be able to foreclose entry or expansion to such a degree that it could exercise market power.<sup>296</sup>

In summary, the formalistic approach established in *Roland* left exclusive dealing case law in disarray, with a wildly inconsistent application of the factors that

---

economists, Frederick Warren-Boulton and Richard Rapp, while Plaintiffs relied on Robert Hall, a well-credentialed Stanford economist, albeit a macroeconomist with virtually no publication record in Industrial Organization. The court devoted a substantial portion of its opinion to discussing the shortcomings of Dr. Hall's testimony.

<sup>293</sup>See, e.g., *Surgical Care Center of Hammond v. Hospital Service Dist. No. 1*, 309 F.3d 836 (CA5 2002).

<sup>294</sup>See, e.g., *Fraser v. Major League Soccer*, 284 F.3d 47 (CA1 2002). Note also *United Air Lines, Inc. v. Austin Travel Corp.*, 867 F.d 737 (CA2 1989) and *Taggart v. Rutledge*, 852 F.2d 1290 (CA9 1988) for earlier cases that cited *Tampa* not to enumerate factors, but rather to consider whether the arrangements had a practical effect of foreclosing.

<sup>295</sup>See, e.g., *United Parcel Express v. United Parcel Service, Inc.*, 190 F.3d 974 (CA9 1999) (indicating that the plaintiff "failed either to establish the proper boundaries of the relevant market or to demonstrate [UPS's] market share in that relevant market"); *Hammond, supra*, 309 F.3d at 842 (holding that the exclusive dealing allegations fail for plaintiff's failure sufficiently to define the relevant market); *Morales-Villalobos v. Garcia-Llorens*, 316 F.3d 51 (CA1 2003) (emphasizing the importance of market definition, and noting that there is "no mechanical rule—the issue depends on circumstances").

<sup>296</sup>See, e.g., *Avery Dennison Corp. v. Acco Brands, Inc.*, 2000-1 Trade Cas. ¶ 72,882 (C.D. Cal. 2000). Avery concerned cash payments and rebates paid for exclusivity. Citing significant barriers to entry and other industry characteristics, the court denied the defendant's motion for summary judgment based on plaintiff's showing that defendant had market power. See also *R. J. Reynolds Tobacco Co. v. Philip Morris Inc.*, 199 F.Supp.2d 362 (M.D. N.C. 2002). The court in *R. J. Reynolds* noted that although contracts were terminable at will, it questioned the ease to terminate "as a practical matter." *Id.* at 392. The court cited *Microsoft* to support its holding that there is no substantial foreclosure without an adverse competitive effect. *Id.* at 393.

have been considered. The courts responded by evolving to a more detailed inquiry into firms' incentives. In the early days of exclusive dealing, plaintiffs lost because the wording of the challenged contracts did not literally exclude. First, courts began to recognize that requirements contracts can have the same effect as terms that exclude, and correspondingly cases held that they could be illegal. More recently, courts began to realize that rebates and incentives can have a foreclosure effect, and they have found liability for *de facto* exclusivity. The cases in the last few years complete the next step in this evolution: the courts are looking beyond the foreclosure rate, contract length and terminability, and other factors relating to the literal terms of arrangements, and instead focus on the actual economic effect of arrangements as a whole, regardless of the literal particulars.

As the analysis under Section 3 of the Clayton Act has moved to a question of market power, the proof needed to prevail under Section 3 more closely resembles the rule of reason analysis under Section 1 of the Sherman Act.<sup>297</sup> Although some courts interpreted the Supreme Court as standing for different standards under Section 3 and Section 1 of the Sherman Act,<sup>298</sup> the cases in the last few years show a move away from this view.<sup>299</sup> Notably, the court in *CDC* could not reach the exclusive dealing claim through Section 3 since the distributor agreements did not involve the sale of goods, so

---

<sup>297</sup> 15 U.S.C. § 1.

<sup>298</sup> This trend started with *Standard Fashions*, as it addressed Congress's intent in passing the Clayton Act to reach circumstances that the Sherman Act did not proscribe. After *Tampa* referred to the "broader proscriptions of § 3," many courts' holdings reflected a belief that the burden required under § 1 was higher than under § 3. See, e.g., *Roland*; *Barr* at 110; *CDC*.

<sup>299</sup> See, e.g., *Appleton* at 1145 (questioning the extent to which § 3 was broader as to exclusive dealing), and again at footnote 2. Thus, the court find "substantial foreclosure" to be an "unreasonable" restraint of trade; See also *Roland* at 393.

it simply used the same analysis under Section 1.<sup>300</sup> While commentators claim that the choice of which statute to use “no longer really matters,”<sup>301</sup> the Supreme Court in *Jefferson Parish* suggests that the two statutes may have never been divergent as to exclusive dealing.<sup>302</sup> While there are complicated reasons why the standard may be different, in brief it suffices to say that the courts are likely to attempt to treat similar instances of competitive harm in a similar fashion.

## 6. Where is Evolution Taking Us?: Remaining Questions

The leading question remaining in the current state of evolution of exclusive dealing doctrine is how exclusive dealing should be interpreted when the arrangements under consideration were designed to maintain market share of products coming off patent. The case law generally looks upon decreasing prices or expanding output as fatal to an exclusive dealing claim. For example, the court in *CDC* placed a lot of weight on the fact that output was expanding in spite of the exclusive arrangements, and especially that plaintiff’s profits were increasing.<sup>303</sup> The majority in *Gilbarco* held outright that increasing industry output “precludes a finding that exclusive dealing is an entry barrier of any significance.”<sup>304</sup> Similarly, in *Barr*, the court was swayed by the fact that the defendant’s market share increased only a little (i.e. by 2%), that market

---

<sup>300</sup>*CDC* at 79.

<sup>301</sup>See Jonathan Jacobson, *Exclusive Dealing, “Foreclosure,” and Consumer Harm*, 70 ANTITRUST L. J. 311, 327 (2002).

<sup>302</sup>*Jefferson Parish*, at footnote 39 (noting instances in which the standards used by the two statutes are the same).

<sup>303</sup>*CDC* at 81. See also *United Parcel Express* at 976 (considering plaintiff’s profits increased after exclusive arrangements were in place).

<sup>304</sup>*Gilbarco* at 1164, citing *United States v. Syufy Enterprises*, 903 F.2d 659 at 665 (CA9 1990).

concentration only went up a little (by 1%), and that the plaintiff actually increased sales to some distributors.<sup>305</sup>

Changes in prices, output, profits, or concentration are relevant factors not unlike the foreclosure rate or contract duration. They are not likely to be dispositive when a court is focusing instead on circumstances leading to the defendant's ability to exercise market power. To the extent these factors describe market conditions in particular cases, they are easily distinguishable. This will be especially so for matters that involve patents. Because a product coming off patent almost necessarily begins with a high market share or high price, the product invariably loses at least some market share, or experiences a drop in price or expansion of output as others enter the market.<sup>306</sup> Therefore, the key question with respect to exclusive dealing is whether prices dropped or capacity increased as much as it otherwise would have but for the exclusive arrangements.

There has been discussion in the courts in support of this position. To begin with, in *Roland* Judge Posner conceded that competitive harm may exist where exclusive arrangements would cause entry or expansion to happen "more slowly than it would otherwise have done, and at somewhat higher cost."<sup>307</sup> Nonetheless, he lamented that whether consumers were harmed in this manner "must be a matter of conjecture,"

---

<sup>305</sup> *Barr* at 105 and 111. Note also *In re Beltone Electronics Corp.*, 100 F.T.C. 68 (1982), in which the Federal Trade Commission found exclusive arrangements did not violate the FTC Act, emphasizing that the defendant's market share had dropped .

<sup>306</sup> Alternatively, the patent holder may expand output to dissuade profitable entry.

<sup>307</sup> *Roland* at 394.

since plaintiffs left the record too “scanty” for such a determination.<sup>308</sup> The dissent in *Gilbarco* asserted that in spite of evidence of increasing output or falling prices, a jury still could reasonably infer “probable injury to competition due to the substantial evidence of price distortion and entry barriers created by Gilbarco’s exclusive dealing arrangements.”<sup>309</sup> Judge Pregerson cited evidence showing that the arrangements prevented prices from falling “as much as they would have.”<sup>310</sup>

The Department of Justice prevailed on an exclusive dealing claim in the face of the defendant’s drastically falling market share in *Dairymen*. In this case, the defendant tried to rely on the fact that its market share had fallen from 60% to 48% since it instituted exclusive contracts. The court held that because *Dairymen* executed the contracts “at the peak of its market share,” the timing itself rendered the contracts in violation of Section 3.<sup>311</sup>

With respect to patents in particular, liability has been found in spite of falling prices. This was especially the case with *SmithKline*’s entry into the manufacture of cefazolin, where introduction of its generic caused prices to drop, though prices for Lilly’s other cephalosporins saw no comparable erosion.<sup>312</sup> The court placed

---

<sup>308</sup>*Id.*

<sup>309</sup>*Gilbarco* at 1176.

<sup>310</sup>*Id.*

<sup>311</sup>*Dairymen* at 659. Interestingly, the defendant claimed that the trial court erred in holding against it on Section 3 because it should have employed a market power inquiry. The Sixth Circuit disagreed, pointing to the fact that the lower court properly followed *Tampa* by applying a number of factors. However, the court held for *Dairymen* as to the monopolization claim under Section 2 of the Sherman Act.

<sup>312</sup>*SmithKline* at 1063.

considerable emphasis on both Lilly’s “entrenched position” as a supplier due to its prior patent monopoly, as well as high entry costs.<sup>313</sup>

---

<sup>313</sup>*Id.* at 1065.

## TABLE OF CASES

- 44 Liquormart Inc. v. Rhode Island, 517 U.S. 484 (1996)
- American Motor Inns, Inc. v. Holiday Inns, Inc., 521 F.2d 1230 (CA3 1975)
- American Tobacco Co. v. United States, 328 U.S. 781 (1946)
- Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985)
- Avery Dennison Corp. v. Acco Brands, Inc., 2000-1 Trade Cas. ¶ 72,882 (C.D. Cal. 2000)
- Barr v. Abbott Labs., 1991-2 Trade Cas. ¶ 69,675 (D.N.J. 1991)
- Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227 (CA1 1983)
- Berkey Photo, Inc. v. Eastman Kodak Co. 603 F.2d 263 (CA2 1979)
- Broadcast Music, Inc. v. Columbia Broad. Sys., Inc., 441 U.S. 1 (1979)
- Brooke Group Ltd. V. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993)
- Business Elecs. Corp. v. Sharp Elecs. Corp., 472 U.S. 717 (1985)
- Caldera, Inc. v. Microsoft Corp., 72 F.Supp.2d 1295, 1323 (D. Utah 1999)
- Caldera, Inc. v. Microsoft Corp., 87 F.Supp.2d 1244, 1248 (D. Utah 1999)
- Caribbean Broad. Sys., Ltd. v. Cable & Wireless PLC, 148 F.3d 1080 (CADDC 1998)
- CDC Technologies, Inc. v. IDEXX Laboratories, Inc, 186 F.3d 74 (CA2 1999)
- Cent. Hudson Gas & Elec. Corp. v. Public Serv. Comm'n of N. Y., 447 U.S. 557 (1980)
- Chicago Bd. of Trade v. United States, 246 U.S. 231 (1918)
- Concord Boat Corp. v. Brunswick Corp. 207 F.3d 1039 (CA8 2000)
- Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147 (CA1 1994)
- Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992)
- Fraser v. Major League Soccer, 284 F.3d 47 (CA1 2002)
- FTC v. Motion Picture Adver. Serv. Co., 344 U.S. 392 (1953)

Groupe Chegaray v. P & O Containers, 251 F.3d 1359 (CA11 2001)

Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (CA9 1997)

In re Beltone Electronics Corp., 100 F.T.C. 68 (1982)

In re Xerox Corp, 86 F.T.C. 364 (1975)

Jefferson Parish Hospital Dist. No. 2 v. Hyde, 466 U.S. 2 (1984)

Kirby v. Norfolk Southern Rwy., 300 F.3d 1300 (CA11 2002)

LePage's Inc. v. Minn. Mining & Mfg. Co., 324 F.3d 141 (CA3 2003)

Liverpool & G.W. Steam Co. v. Phenix Ins. Co., 129 U.S. 397 (1889)

Magnus Petroleum Co. v. Skelly Oil Co., 599 F.2d 196 (CA7 1979)

Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574 (1986)

MCI Communications Corp. v. American Tel. & Tel. Co., 708 F.2d 1081 (CA7 1983)

Minn. Mining & Mfg. Co. v. Appleton Papers Inc., 35 F.Supp. 2d 1138 (D. Minn. 1999)

Morales-Villalobos v. Garcia-Llorens, 316 F.3d 51 (CA1 2003)

Ocean State Physicians Health Plan, Inc. v. Blue Cross & Blue Shield of R. I., 883 F.2d 1101 (CA1 1989)

Omega Envtl., Inc. v. Gilbarco, Inc., 127 F.3d 1157 (CA9 1997)

R. J. Reynolds Tobacco Co. v. Philip Morris Inc., 199 F.Supp. 2d 362 (M.D. N.C. 2002)

Roland Mach. Co. v. Dresser Indus., 749 F.2d 380 (CA7 1984)

Ryko Mfg. Co. v. Eden Services, 823 F.2d 1215 (CA8 1987)

Southern Pacific Communications Co. v. American Tel. & Tel. Co., 556 F.Supp. 825 (D.D.C. 1983)

Spectrum Sports, Inc., v. McQuillan, 506 U.S. 445 (1993)

Standard Oil Co. v. United States, 221 U.S. 1 (1911)

Stearns Airport Equip. Co., Inc. v. FMC Corp., 170 F.3d 518 (CA5 1999)



Surgical Care Ctr. of Hammond v. Hospital Serv. Dist. No. 1, 309 F.3d 836 (CA5 2002)

Taggart v. Rutledge, 852 F.2d 1290 (CA9 1988)

Tampa Elec. Co. v. Nashville Coal Co., 365 U.S. 320 (1961)

Tri-State Rubbish Inc. v. Waste Management, Inc., 998 F.2d 1073 (CA1 1993)

Twin City Sportservice Inc. v. Charles O. Finley & Co., Inc., 676 F.2d 1291 (CA9 1982)

U.S. Healthcare, Inc. v. Healthsource, Inc., 986 F.2d 589 (CA1 1993)

United Air Lines, Inc. v. Austin Travel Corp., 867 F.2d 737 (CA2 1989)

United Parcel Express v. United Parcel Serv., Inc., 190 F.3d 974 (CA9 1999)

United States v. Aluminum Co. of America, 148 F.2d 416 (CA2 1945)

United States v. American Tel. & Tel., 552 F. Supp. 131 (D.D.C. 1982)

United States v. Dairymen, Inc., 758 F.2d 654 (CA6 1985)

United States v. Dentsply Int'l, Inc., 2001-1 Trade Cas. 73,247 (D. Del. 2001)

United States v. E. I. du Pont de Nemours & Co., 351 U.S. 377 (1956)

United States v. Grinnell Corp., 384 U.S. 563 (1966)

United States v. IBM, No. 69 Civ. 200 (DNE), 1973 U.S. Dist. LEXIS 11002 (1973)

United States v. Microsoft Corp., 253 F.3d 34 (CADC 2001)

United States v. Microsoft Corp., 56 F.3d 1448 (CADC 1995)

Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. \_\_\_ (2004)

William Inglis & Sons Baking Co. v. ITT Continental Baking Co., 668 F.2d 1014 (CA9 1981)

Xbridge Systems, Inc. v. I.B.M. Corp., 2002-1 Trade Cas. ¶ 73,702 (S.D.N.Y. 2002)

## REFERENCES

Alexander, Laurence, *Containerization, The Per Package Limitation, and the Concept of "Fair Opportunity"*, 11 MAR. LAW. 123 (1986)

American Bar Association, Antitrust Section, Monograph No. 18, *Nonprice Predation Under Section 2 of the Sherman Act* (1991)

Areeda, Phillip & Donald Turner, ANTITRUST LAW (1978)

Areeda, Phillip, *Monopolization, Mergers, and Markets: A Century Past and the Future*, 75 CALIF. L. REV. 959 (1987)

Arrow, Kenneth, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS (1962)

Arrow, Kenneth, *Insurance, Risk, and Resource Allocation*, in ESSAYS IN THE THEORY OF RISK-BEARING (Markham ed., 1971)

Arthur, Brian, *Positive Feedbacks in the Economy*, 262 SCIENTIFIC AMERICAN 92 (Feb. 1990)

Ayres, Ian, *Pushing the Envelope: Antitrust Implications of the Envelope Theorem*, 17 MISS. C. L. REV. 21 (1996)

Azcuenaga, Mary, *Network Externalities and Other Internet Antitrust Issues*, 564 PLI/PAT. 333 (1999)

Baker, Jonathan, *Promoting Innovation Search Term End Competition Through the Aspen/Kodak Rule*, 7 GEO. MASON L. REV. 495 (1999)

Baker, Jonathan, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSP. 27 (2003)

Balto, David & Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583 (1998)

Balto, David, *Payment Systems and Antitrust: Can the Opportunities for Network Competition be Recognized?*, FED. RESERVE BANK OF ST. LOUIS REV. at 19 (Nov/Dec 1995)

Balto, David, *Networks and Exclusivity: Antitrust Analysis to Promote Network Competition*, 7 GEO. MASON L. REV. 523 (1999)

Barton, John, *Patents and Antitrust: A Rethinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L. J. 449 (1997)

Baumol, William, *THE FREE-MARKET INNOVATION MACHINE: ANALYZING THE GROWTH MIRACLE OF CAPITALISM* (2002)

Bennathan, Esra & A. A. Walters, *THE ECONOMICS OF OCEAN FREIGHT RATES* (1969)

Besen, Stanley & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 J. ECON. PERSP. 117 (1994)

Bork, Robert, *THE ANTITRUST PARADOX* (1978)

Branch, Alan, *ELEMENTS OF SHIPPING* (6<sup>th</sup> ed. 1989)

Brinkley, Joel, *Microsoft's Final Antitrust Case Witness Stumbles a Bit*, N.Y. TIMES, June 22, 1999, at C2

Burton, Mark, David Kaserman, & John Mayo, *Modeling Entry and Barriers to Entry: A Test of Alternative Specifications*, 44 ANTITRUST BULL. 387 (1999)

Calabresi, Guido, *A COMMON LAW FOR THE AGES* (1982)

Choi, Jay Pil & Marcel Thum, *Market Structure and the Timing of Technology Adoption with Network Externalities*, 42 EUR. ECON. REV. 225 (1998)

Choi, Jay Pil, *Brand Extension as Informational Leverage*, 65 REV. ECON. STUD. 655 (1998)

Choi, Jay Pil, *Herd Behavior, the "Penguin Effect," and the Suppression of Informational Diffusion: An Analysis of Informational Externalities and Payoff Interdependency*, 28 RAND J. ECON. 407 (1997)

- Chu, Wujin, *Demand Signaling and Screening in Channels of Distribution*, 11 *MARKETING SCIENCE* 327 (1992)
- Cohen, Joel & Arthur Burke, *An Overview of the Antitrust Analysis of Suppression of Technology*, 66 *ANTITRUST L.J.* 421 (1998)
- Crandall, Robert & Clifford Winston, *Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence*, 17 *J. ECON. PERSP.* 3 (2003)
- Dixit, Avinash, *Trade and Insurance with Moral Hazard*, 23 *J. INT'L ECON.* 201 (1987)
- Dranove, David & Neil Gandal, *The DVD-vs.-DIVX Standard War: Empirical Evidence of Network Effects and Preannouncement Effects*, 12 *J. ECON. & MGMT. STRATEGY* 363 (2003)
- Epple, Dennis & Artur Raviv, *Liability Rules, Market Structure, and Imperfect Information*, 68 *AM. ECON. REV.* 80 (1978)
- Evans, David, *Antitrust on Internet Time: Whatever Happened to the Government's Case in United States vs. Microsoft?*, N.E.R.A. Working Paper, September 17, 1999
- Farrell, Joseph & Carl Shapiro, *Dynamic Competition with Switching Costs*, 19 *RAND J. ECON.* 123 (1988)
- Farrell, Joseph & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 *AM. ECON. REV.* 940 (1986)
- Farrell, Joseph & Michael Katz, *The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation*, 43 *ANTITRUST BULL.* 609 (1998)
- Gandal, Neil, *Competing Compatibility Standards and Network Externalities in the PC Software Market*, 77 *REV. ECON. & STAT.* 599 (1995)
- Gandal, Neil, Michael Kende & Rafael Rob, *The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players*, 31 *RAND. J. ECON.* 43 (2000)
- Gans, Joshua & Scott Stern, *Incumbency and R&D Incentives: Licensing the Gale of Creative Destruction*, 9 *J. ECON. & MGMT. STRATEGY* 485 (2000)

- Gardner, Bryant, *The Fifth Circuit Clarifies the Application of COGSA's Prescriptive and Per-Package Limitations: Servicios-Expoarma, C.A. v. Industrial Maritime Carriers, Inc.*, 23 TUL. MAR. L.J. 249 (1998)
- Gilbert, Richard & Willard Tom, *Is Innovation King at the Antitrust Agencies? The Intellectual Property Guidelines Five Years Later*, 69 ANTITRUST L.J. 43 (2001)
- Gilmore, Grant & Charles Black, Jr., THE LAW OF ADMIRALTY (2<sup>nd</sup> ed. 1975)
- Goldie, C. W. H., *Effect of the Hamburg Rules on Shipowners' Liability Insurance*, 24 J. MAR. L. & COM. 113 (1993)
- Greenstein, Shane, *Did Installed Base Give and Incumbent Any (Measurable) Advantages in Federal Computer Procurement?*, 24 RAND J. ECON. 19 (1993)
- Holmström, Bengt, *Moral Hazard and Observability*, 10 BELL J. ECON. 74 (1979)
- Hovenkamp, Herbert, FEDERAL ANTITRUST POLICY (1994)
- Hovenkamp, Herbert, Mark Janis & Mark Lemley, IP AND ANTITRUST (2003)
- Hovenkamp, Herbert, *The Monopolization Offense*, 61 OHIO ST. L.J. 1035 (2000)
- Jacobson, Jonathan, *Exclusive Dealing, "Foreclosure," and Consumer Harm*, 70 ANTITRUST L. J. 311 (2002)
- Johnston, Stuart, *Vaporware Tactics Elicit Mixed Views*, COMPUTERWORLD, May 1, 1995
- Katz, Michael & Carl Shapiro, *Antitrust in Software Markets*, in COMPETITION, INNOVATION, AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE (Jeffrey Eisenach & Thomas Lenard eds., 2000)
- Katz, Michael & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985)
- Katz, Michael & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93 (1994)

- Klemperer, Paul, *Competition When Consumers Have Switching Costs: An Overview*, 62 REV. ECON. STAT. 515 (1995)
- Kolasky, William, *Network Effects: A Contrarian View*, 7 GEO MASON L. REV. 577 (1999)
- Kovacic, William & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSP. 43 (2000)
- Lee, Eun Sup, *Analysis of the Hamburg Rules on Marine Cargo Insurance and Liability Insurance*, 4 ILSA J. INT'L & COMP. L. 153 (1997)
- Lemley, Mark & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 ANTITRUST BULL. 715 (1998)
- Lemley, Mark & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998)
- Leventis, Andrew & Michelle Appelrouth, *The Legal Viability of Vaporware Claims*, 15:2 ANTITRUST 82 (Spring 2001)
- Levy, Stephan, *Should "Vaporware" be an Antitrust Concern?*, 42 ANTITRUST BULL. 33 (1997)
- Lopatka, John & William Page, *Microsoft, Monopolization, and Network Externalities: Some Uses and Abuses of Economic Theory in Antitrust Decision Making*, 40 ANTITRUST BULL. 317 (1995)
- Lopatka, John, *United States v. IBM: A Monument to Arrogance*, 68 ANTITRUST L.J. 145 (2000)
- Luce, R. Duncan & Howard Raiffa, GAMES AND DECISIONS (1957)
- Ma, Ching-To Albert & Michael Riordan, *Health Insurance, Moral Hazard, and Managed Care*, 11 J. ECON. & MGMT. STRATEGY 81 (2002)
- March, James, *Bounded Rationality, Ambiguity, and the Engineering of Choice*. 9 BELL J. ECON 587 (1978)

- Marshall, John, *Moral Hazard*, 66 AM. ECON. REV. 880 (1976)
- McGowan, David, *Innovation, Uncertainty, and Stability in Antitrust Law*, 16 BERKELEY TECH. L.J. 729 (2001)
- Menell, Peter, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 STAN. L. REV. 1045 (1989)
- MICROSOFT PRESS COMPUTER DICTIONARY (1991)
- Milgrom, Paul & John Roberts, *ECONOMICS, ORGANIZATION, AND MANAGEMENT* (1992)
- Muris, Timothy, *Looking Forward: The Federal Trade Commission and the Future Development of U.S. Competition Policy*, 2003 COLUM. BUS. L. REV. 359 (2003)
- Muris, Timothy, *The FTC and the Law of Monopolization*, 67 ANTITRUST L.J. 693 (2000)
- Nash, John, *The Bargaining Problem*, 18 ECONOMETRICA 155 (1950)
- Nash, John, *Two-Person Cooperative Games*, 21 ECONOMETRICA 128 (1953)
- North, Douglas, *INSTITUTIONS, INSTITUTIONAL CHANGE, AND ECONOMIC PERFORMANCE* (1990)
- Ohashi, Hiroshi, *The Role of Network Effects in the US VCR Market, 1978-1986*, 12 J. ECON. & MGMT. STRATEGY 447 (2003)
- Padmanabhan, Vijay, Surendra Rajiv & Kannan Srinivasan, *New Products, Upgrades, and New Releases*, INSEAD Working Paper 97/06, January 1997
- Papows, Jeff, *Software Business Practices Improving, But Not Fixed Yet*, COMPUTERWORLD, Apr. 20, 1992
- Paraino, Thomas, *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 N.Y.U. L. REV. 809 (2000)

- Peacock, J., *Deviation and the Package Limitation in the Hague Rules and the Carriage of Goods by Sea Act: An Alternative Approach to the Interpretation of International Uniform Acts*, 68 TEX. L. REV. 977 (1990)
- Peck, David, *Economic Analysis of the Allocation of Liability for Cargo Damage: The Case for the Carrier, Or Is It?*, 26 TRANSP. L.J. 77 (1998)
- Perry, Motty & Philip Reny, *A Non-Cooperative Bargaining Model with Strategically Timed Offers*, 59 J. ECON. THEORY 50 (1993)
- Pitofsky, Robert, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, Remarks Before the Antitrust, Technology and Intellectual Property Conference, Berkeley Center for Law and Technology, University of California, Berkeley (March 2, 2001)
- Porter, Michael, COMPETITIVE STRATEGY (1980)
- Prentice, Robert, *Vaporware: Imaginary High-Tech Products and Real Antitrust Liability in a Post-Chicago World*, 57 OHIO ST. L.J. 1163 (1996)
- Raiffa, Howard, CONFLICTING OBJECTIVES IN DECISIONS (1977)
- Rosen, Sherwin, *Hedonic Prices and Hedonic Markets: Product Differentiation in Pure Competition*, 82 J. POL. ECON. 34 (1974)
- Rubinfeld, Daniel, *Antitrust Enforcement in Dynamic Network Industries*, 43 ANTITRUST BULL. 859 (1998)
- Rubinstein, Ariel, *A Bargaining Model with Incomplete Information About Time Preferences*, 53 ECONOMETRICA 1151 (1985)
- Rubinstein, Ariel, *Perfect Equilibrium in a Bargaining Model*, 50 ECONOMETRICA 97 (1982)
- Salop, Steven & Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 GEO. MASON L. REV. 617 (1999)
- Samuel Mandelbaum, *Creating Uniform Worldwide Liability Standards for Sea Carriage of Goods Under the Hague, COGSA, Visby and Hamburg Conventions*, 23 TRANSP. L.J. 471 (1996)



- Santayana, George, *THE LIFE OF REASON* (2<sup>nd</sup> ed. 1929)
- Sappington, David, *Limited Liability Contracts between Principal and Agent*, 29 J. ECON. THEORY 1 (1983)
- Schelling, Thomas, *THE STRATEGY OF CONFLICT* (1960)
- Schumpeter, Joseph, *CAPITALISM, SOCIALISM AND DEMOCRACY* (1942)
- Scotchmer, Suzanne, *Incentives to Innovate*, in *NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* (Peter Newman ed., 1998)
- Shapiro, Carl & David Teece, *Systems Competition and Aftermarkets: An Economic Analysis of Kodak*, 39 ANTITRUST BULL. 135 (1994)
- Shapiro, Carl & Hal Varian, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* (1999)
- Shavell, Steven, *ECONOMIC ANALYSIS OF ACCIDENT LAW* (1987)
- Shavell, Steven, *On Moral Hazard and Insurance*, 93 Q. J. ECON 541 (1979)
- Shepherd, William, *Antitrust Repelled, Inefficiency Endured: Lessons of IBM and General Motors for Future Antitrust Policies*, 39 ANTITRUST BULL. 203 (1994)
- Sheremata, Willow, *“New” Issues in Competition Policy Raised by Information Technology Industries*, 43 ANTITRUST BULL. 547 (1998)
- Shy, Oz, *THE ECONOMICS OF NETWORK INDUSTRIES* (2001)
- Silberberg, Eugene, *THE STRUCTURE OF ECONOMICS: A MATHEMATICAL ANALYSIS* (2<sup>nd</sup> ed. 1990)
- Simon, Herbert, *A Behavioral Model of Rational Choice*, 69 Q. J. ECON. 99 (1955)
- Smiley, Robert, *Empirical Evidence on Strategic Entry Deterrence*, 6 INT’L J. INDUS. ORG. 167 (1988)

Sturley, Michael, *An Overview of the Considerations Involved in Handling the Cargo Case*, 21 TUL. MAR. L.J. 263 (1997)

Sturley, Michael, *Changing Liability Rules and Marine Insurance: Conflicting Empirical Arguments About Hague, Visby, and Hamburg in a Vacuum of Empirical Evidence*, 24 J. MAR. L. & COM. 119 (1993)

Sturley, Michael, ed., *THE LEGISLATIVE HISTORY OF THE CARRIAGE OF GOODS BY SEA ACT AND THE TRAVAUX PRÉPARATOIRES OF THE HAGUE RULES* (1990)

Sturley, Michael, *The Fair Opportunity Requirement Under COGSA Section 4(5): A Case Study in the Misinterpretation of the Carriage of Goods by Sea Act*, 19 J. MAR. L. & COM. 1 (1988)

Sturley, Michael, *The History of COGSA and the Hague Rules*, 22 J. MAR. L. & COM. 1 (1991)

Teece, David & Mary Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries*, 43 ANTITRUST BULL. 801 (1998)

Tetley, William, *MARINE CARGO CLAIMS* (3<sup>rd</sup> ed. 1988)

Turner, Donald, *The Scope of Antitrust and Other Economic Regulatory Policies*, 82 HARV. L. REV. 1207 (1969)

*Twenty First Century Department of Justice Appropriations Authorization Act*, Pub. L. No. 107-273, 116 Stat. 1758 (2002)

Varian, Hal, *MICROECONOMIC ANALYSIS* (3<sup>rd</sup> ed. 1992)

Williamson, Oliver, *Dominant Firms and the Monopoly Problem: Market Failure Considerations*, 85 HARV. L. REV. 1512 (1972)

## VITA

Douglas Bartram Rathbun was born on November 11, 1970 in Liberal, Kansas, the son of Edwin and Suzanne Rathbun. After graduation from Liberal High School in 1989, he entered Loyola University in New Orleans, Louisiana, studying jazz on the saxophone, orchestral performance on the contrabass viol, music composition, and coursework for the University Presidential Scholar program. He wrote his undergraduate thesis on works from the later period of Gustav Mahler, and earned a Bachelor of Arts, Musicology, in 1993. After working for two seasons as an orchestral musician, he entered the Graduate School of The University of Texas at Austin in economics in 1995, and the School of Law in 1997. He completed a Juris Doctor in 2000 and entered service as a trial attorney at the United States Department of Justice Antitrust Division under the Attorney General's Honor Program.

Permanent Address: 1628 Beekman Place, N.W., Washington, DC 20009-4084

This dissertation was typed by the author.