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Injecting Innovation into The Rule of Reason: A Comment on Evans and Hylton

*Richard Gilbert**

The Evans and Hylton paper on *The Lawful Acquisition and Exercise of Monopoly Power and its Implications for the Objectives of Antitrust*[1] arrived in my in-box at about the same time as the U.S. Department of Justice's report on *Competition And Monopoly: Single-Firm Conduct Under Section 2 Of The Sherman Act* ("DOJ Report").[2] The two documents have much in common. Both place the historical development of the legal treatment of monopoly in an historical context and consider appropriate tests to evaluate when single-firm conduct should run afoul of the Sherman Act.

The DOJ Report generated considerable controversy. The Federal Trade Commission co-organized hearings on Section 2 enforcement with the Department of Justice, but did not endorse the final report.[3] Among other criti-

1. David Evans & Keith Kylton, *The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust*, 4(2) Competition Pol'y Int'l (Autumn, 2008) [hereinafter Evans & Hylton].

2. U.S. Dep't of Justice, Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act (2008), [hereinafter DOJ Report], *available at* http://www.usdoj.gov/atr/public/reports/236681.htm.

3. *See* P. Harbor, J. Liebowitz, & J.T. Rosch, *Statement of Commissioners Harbor, Liebowitz, and Rosh on the Issuance of the Section 2 Report by the Department of Justice*, Federal Trade Commission (September 8, 2008), available at http://www.ftc.gov/opa/2008/09/section2.shtm, last accessed October 7, 2008.

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cisms, Commissioners Harbour, Leibowitz, and Rosch faulted the DOJ Report for relying too heavily on economic theory in the consideration of applying antitrust law.[4] Evans and Hylton would appear to agree with this critique if economic theory is interpreted to be a static analysis of competitive effects. The authors fault economists for a "… focus on issues that pertain to static competition, not because they are more important than dynamic competition, but because that is what they are able to work out mathematically."[5] This leads to a "tractability bias" that emphasizes static competition concerns at the expense of potentially more important dynamic effects.

I AM SYMPATHETIC WITH THE CONCERN THAT DYNAMIC CONSIDERATIONS ARE OFTEN NEGLECTED IN COMPETITION ANALYSIS.

I am sympathetic with the concern that dynamic considerations are often neglected in competition analysis. Dynamic competitive effects, while complex to analyze, are too important to ignore and I have emphasized dynamic competition in my own evaluations of the state of competition policy.[6] Dynamic considerations influence competition policy in two general ways. The first is the role of dynamic competition in identifying the *types of conduct* that should raise antitrust concerns under the antitrust laws. The second is the role of dynamic competition in evaluating the *effects of conduct* that is challenged under the antitrust laws.

Evans and Hylton recognize that competition analysis is a two-stage evaluation in which the law seeks boundaries for the competitive game in the first stage (the types of conduct that raise antitrust concerns) and analyzes the effects of the conduct in the second stage. As an illustration, they note that the antitrust laws in both the United States and the European Community treat harshly the acquisition of market power through collusion by competitors, yet neither legal system challenges market power attained by a single firm through industry, foresight, or sheer luck, even though the market power that is attained can be similar in both cases. Collusion, they observe, adversely distorts the dynamic process of the competitive market, while competition to win a market and acquire market power is part and parcel of a well-functioning economy.[7]

4. *Id.*

5. Evans & Hylton, *supra* note 1, at 233.

6. See, e.g., Richard Gilbert & Steven Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 (2) Antitrust L.J. 569-602 (1995) and Richard Gilbert, *Competition and Innovation*, Issues in Competition Law and Policy (Wayne D. Collins, ed.) (2008), [hereinafter Gilbert].

7. Antitrust law distinguishes market power from monopoly power, although my comments in this paragraph relate to both. According to the U.S. Supreme Court, monopoly power is "the ability to control prices or exclude competition". Market power is the ability to price profitably above marginal cost. See, e.g., Thomas G. Krattenmaker, Robert H. Lande, & Steven C. Salop, *Monopoly Power And Market Power In Antitrust Law*, 76 Geo. L.J. 241, December, 1987.

The collection of conduct that is suspect under the antitrust laws has evolved largely from legislation and legal precedent. While economics has helped to sharpen our understanding of why certain types of conduct may or may not raise antitrust concerns, economic theory has not articulated a scientific epistemology to explain why conduct should be put in the suspect category in the first place. The primary focus of economic analysis regarding the acquisition and exercise of monopoly power has been to analyze the effects of conduct that is exposed to antitrust review. Evans and Hylton note this limited role of economists, but they too devote most of their article to the evaluation of the effects of conduct that is challenged under the antitrust law rather than evaluating the types of conduct that should raise antitrust concerns.

Evans and Hylton advocate a rule of reason approach that balances likely competitive effects against likely efficiencies from the challenged conduct. They promote a rule of reason standard that measures the effects of conduct on total economic welfare, measured by the sum of consumer benefits and producer profits. Debate over the appropriate welfare standard has long raged in antitrust circles, with some arguing that antitrust policy should focus solely on consumer welfare, while others have argued that antitrust policy should recognize total economic welfare or, at a minimum, place a positive weight on producer profits.[8] This is not the place to settle this debate, but only to note that it remains an open issue.

A central argument in the Evans and Hylton paper is that the rule of reason balancing should not be limited to a static analysis of the effects of conduct on economic welfare, but should also include a dynamic analysis of the effects of the conduct on product development and investment in productive efficiencies. They use the example of conduct associated with a monopolized new product to illustrate their argument. The monopoly price imposes a consumer cost T and a deadweight loss D from restriction of output. Under a purely static analysis, with all costs and benefits localized to the market in which the firm operates, a penalty levied on the monopolist equal to $T+D$ would provide incentives for the monopolist to choose conduct that maximizes total economic welfare. The firm would engage in the conduct only when the deadweight loss exceeds the value of any firm-specific cost savings that the conduct may achieve. If E is the profit derived from the efficiencies, the monopolist would engage in the conduct only if $T+E > T+D$, or if $E > D$. This is the correct static test under a total economic welfare standard.

8. Examples of positions in this debate are Kenneth Heyer, *Welfare Standards and Merger Analysis: Why Not the Best*, 2(2) Competition Pol'y Int'l 29 (2006) (arguing for a total economic welfare standard) and Steven C. Salop, *Exclusionary conduct, effect on consumers, and the flawed profit-sacrifice standard*, 73(2) Antitrust L.J. 311, 336 (2006) (asserting that antitrust law focuses on consumer welfare). Joseph Farrell and Michael Katz express a more ambivalent position. Joseph Farrell & Michael Katz, *Welfare Standards in Competition Policy*, 2(2) Competition Pol'y Int'l 3, 28 (2006) (economic justification for total welfare standard, but a consumer welfare standard can lead to more efficient enforcement in some instances). A further complication is that consumer welfare may include some or all of producer surplus to the extent that consumers benefit from firm-specific profits or efficiencies.

Evans and Hylton astutely point out that this is not the correct calculation if the firm would not have developed the product in the absence of the challenged conduct. The new product generates a residual consumer welfare W at the monopoly price, measured by the area between the demand curve and the monopoly price. If the conduct is pivotal to the creation of the product, the correct penalty under a total economic welfare standard is $T+D–W$. The conduct is socially desirable if and only if $E+W > D$. Under the optimal penalty, the firm would engage in the conduct if and only if $T+E > T+D–W$, or if $E+W > D$. Note that the optimal penalty can be negative (meaning that no liability is incurred) even though the conduct may incur a static welfare loss.

The utility of the Evans and Hylton rule depends on whether the conduct at issue is pivotal to the creation of the new product. If the product would have been created with or without the conduct, then society would suffer the loss of consumer surplus from the conduct with no offsetting dynamic benefits. Furthermore, the monopoly that the conduct helps to create may have other potentially adverse effects on innovation. Monopoly profits can be a disincentive for a firm to invest in new and improved products that might make its existing monopoly obsolete. And monopolizing conduct may erect artificial barriers to competition from rival firms that are potential sources of innovative products and production techniques.

THE UTILITY OF THE EVANS AND HYLTON RULE DEPENDS ON WHETHER THE CONDUCT AT ISSUE IS PIVOTAL TO THE CREATION OF THE NEW PRODUCT.

Evans and Hylton argue that static evaluations of competitive effects have dominated the economic analysis of conduct that is suspect under the antitrust laws, because that is what economists do best, despite the fact that "static economic models . . . provide, at best, incomplete information to those who are designing competition rules."[9] Certainly, conduct can have dynamic effects that swamp the consequences for static economic efficiency. But Evans and Hylton underestimate the challenge of subjecting firm conduct to a thorough rule of reason analysis, even one that is limited to static competitive effects. The DOJ Report considers a rule of reason test that inquires whether challenged conduct "reduces competition without creating a sufficient improvement in performance to fully offset these potential adverse effect[s] on prices and thereby prevent consumer harm."[10] The DOJ Report notes that "The effects-balancing (rule of reason) test confronts a court with the administrative challenge of conducting an open-ended measuring of effects that includes comparing the existing world with a hypothetical world that is subject to debate. These administrability problems include limitations on both the ability of economists accurately to measure the net consumer-welfare effects

9. Evans & Hylton, *supra* note 1, at 236.

10. DOJ Report, *supra* note 2, at 37. (footnote omitted)

of particular conduct and the ability of judges and juries to evaluate this evidence."[11] The DOJ Report concludes that "The Department does not believe that the effects-balancing test should be the general test for analyzing conduct under section 2"[12] because, in plain language, it is too hard to do.

While I am not as pessimistic as the DOJ Report about the ability of economists to balance competitive effects and efficiencies, Evans and Hylton are perhaps too confident about the practicality of such balancing, particularly when the exercise includes dynamic competitive effects. Indeed, some of the participants in the hearings that led to the DOJ Report testified that courts have never engaged in an actual quantitative balancing of competitive harms and efficiencies in a Section 2 case, even when the evaluation has been limited to static impacts.[13]

A prominent example of the application of the rule of reason to alleged monopolizing conduct is the antitrust case brought by the DOJ and several states against Microsoft.[14] Among other inquiries, the appellate court considered whether three elements of the Windows operating system and Internet Explorer browser harmed competition. The Court evaluated the product design conduct by applying the following steps:[15]

- The plaintiff must demonstrate that the conduct harmed consumers (an anticompetitive effect);
- if a plaintiff successfully demonstrates anticompetitive effect, then the monopolist may proffer a pro-competitive justification for its conduct; and
- the plaintiff can rebut the proffered pro-competitive justification or, if the justification stands unrebutted, then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the pro-competitive benefit.

The third step implies a rule of reason type of balancing of benefit and harm. But the *Microsoft* Court did not balance benefits and harms because it never got to the third step. For two of the three design elements, the Court concluded that Microsoft's conduct harmed competition and Microsoft had not demonstrated

11. *Id.* (footnote omitted).

12. *Id.* at 37.

13. *Id.* at 38, footnote 38.

14. U.S. v. Microsoft, U.S. Court of Appeals for the DC Circuit, 253 F.3d 34 (2001).

15. The Court described five principles. I have condensed the first two principles into one principle dealing with competitive effects.

any pro-competitive benefits. Therefore its conduct failed the test without the need for a quantitative balancing. For the third element the Court concluded that Microsoft offered a pro-competitive justification, which the plaintiff neither rebutted nor demonstrated was outweighed by the harm to competition.

I have argued elsewhere that a rule of reason standard for product innovation would be difficult to implement with an acceptable degree of accuracy.[16] New products have spillover effects that can advantage or disadvantage other firms. Conduct that enhances market power can increase or decrease incentives to invest in new or improved products or production methods. Dynamic innovation incentives depend on technological opportunities, the nature of the new product or method, the ability of the firm to appropriate the benefits of the new product or method, and possibly many other market, technological, and human factors. Moreover, it is possible that a dynamic analysis would lead to systematic errors because some effects, such as spillovers that benefit firms or consumers in other industries or at future points in time, are inherently difficult to measure.

Evans and Hylton suggest that an explicit consideration of dynamic effects would lead antitrust enforcers to excuse conduct that they might otherwise challenge if they limit their analysis to static impacts. They illustrate their argument in Figure 3, which shows that a positive dynamic effect of conduct on costs can outweigh negative effects on static total welfare. They describe a stylized version of the Dentsply case, in which the DOJ successfully argued on appeal that Dentsply had monopolized the market for artificial teeth by requiring dental supply dealers to refrain from distributing competing teeth as a condition to accepting Dentsply's premium teeth products.[17] Evans and Hylton observe that Dentsply's exclusive dealing arrangements can adversely affect static welfare by raising prices, but also can promote welfare by enabling Dentsply to profit from lower supply costs from its exclusive dealer network. The Court considered both of these effects in its verdict that Dentsply's conduct was anticompetitive.

Evans and Hylton introduce a new wrinkle, which is an assumption that Dentsply had invested to develop a new and improved type of artificial tooth. They note that Dentsply's incentive to make this investment is its expected profit, which depends on whether Dentsply is permitted to engage in exclusive dealing and particularly on any penalties assessed for its conduct.[18] At a minimum, they argue that any antitrust penalty should take into account potential adverse effects on incentives to create new products, such as the new artificial tooth.

16. Richard Gilbert, *Holding Innovation to an Antitrust Standard*, 3(1) Competition Pol'y Int'l 3 (2007).

17. United States v. Dentsply International, Inc., 277 F.Supp. 2d 387 (D.Del. 2003), 399 F.3d 181 (3d Cir. 2005), cert. denied, 126 S. Ct. 1023 (2006).

18. "The anticipation of an antitrust penalty would diminish its incentive to invest in the activity that creates the market—the new artificial tooth."

In this hypothetical, the firm's investment creates the market. The anticipation of an antitrust penalty would diminish the firm's incentive to invest in the activity that creates the market—the new artificial tooth. More generally, an antitrust penalty has dynamic welfare consequences because it can reduce the incentives to create new products that may incur antitrust liability. Evans and Hylton stop far short of a conclusion that there should be no antitrust penalties for monopolization. However, they argue that "the optimal penalty must consider the dynamic consequences."[19]

I do not question the importance of including dynamic incentives for innovation in an analysis of the competitive effects of monopolizing behavior, even if one might question the scope for innovation in artificial teeth. But the quantification of dynamic incentives is a formidable task. Furthermore, in many market situations, dynamic competitive effects are likely to reinforce static concerns about monopolizing conduct.

FURTHERMORE, IN MANY MARKET SITUATIONS, DYNAMIC COMPETITIVE EFFECTS ARE LIKELY TO REINFORCE STATIC CONCERNS ABOUT MONOPOLIZING CONDUCT.

The authors focus on the example in which firms compete for a durable monopoly. In a winner-take-all or winner-take-most competitive environment, increasing the reward to the winner is likely to strengthen incentives for investments such as research and development that make victory more likely. The canonical example is a patent race.[20] Because a larger reward may generate more innovation, the authors suggest that allowing a firm such as Dentsply to engage in monopolizing behavior could increase welfare by encouraging Dentsply to invest in better artificial teeth to improve the odds that it will enjoy the benefits of a profitable monopoly.

In addition to the difficulties of quantifying these effects, there are two basic reasons to question this logic. First, it goes too far. If increasing rewards generates more innovation in artificial teeth, then why limit the rewards to the monopoly profit that a firm can earn from artificial teeth? Why not permit the firm to engage in conduct that monopolizes other markets as an inducement to invest in more R&D?

A more basic objection to an innovation defense for monopolization is that there is no reason to believe that monopoly encourages innovation in many market environments. At the most general level, there are two basic forces that affect incentives for innovation: the reward to an innovator and the reward to incumbency. Joseph Schumpeter emphasized the innovator's reward in his theory of creative destruction and in his argument that competition is not necessari-

19. Evans & Hylton, *supra* note 1 at 235.

20. *See*, e.g., Jennifer F. Reinganum, *Dynamic games of innovation*, 25 J. ECON. THEORY 21 (1981).

ly the most efficient institution to promote technical progress.[21] Schumpeter emphasized the value of monopoly and large scale as a means to promote investment in research and development and to reap its benefits. The arguments presented in Evans and Hylton reflect a Schumpeterian view of market incentives.

Kenneth Arrow articulated the argument that Schumpeter overlooked the benefits from incumbency.[22] The incentive to innovate is the difference between a firm's profits if it is a successful inventor and its profits if it does not invest in R&D. A monopolist's flow of profits from existing businesses reduces the increase in profit that the firm can earn by innovating. This incumbency or obsolescence effect is a potential drag on the incentive to innovate.

There are many variations on the central themes in Schumpeter and Arrow. These variations can produce incentives for innovation that differ from the pure Schumpeterian or Arrow constructs or that combine elements of the two. Which theory best describes the effects of monopoly power on the incentives to innovate depends on many factors, such as the ability of inventors to appropriate the values of their innovations, whether innovations create new products or lower the costs of producing existing products, and whether innovations increment or drastically change the competitive landscape.

Both economic theory and empirical studies reinforce a conclusion that one cannot presume that monopoly promotes innovation. Many innovations are valuable, but incremental improvements for which Arrow's theory of obsolescence likely would apply.[23] Most empirical studies find little or no support for the proposition that highly concentrated markets invest more in research in development or produce more innovations.[24] One cannot be confident of these conclusions without a comprehensive assessment of market conditions and technological opportunities that affect the opportunities and incentives to invest in innovative effort. But there is little basis in economic theory or empirical research to justify a presumption that monopoly necessarily is good for innovation.

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21. Joseph A. Schumpeter, The Theory of Economic Development. (Oxford University Press 1961) (1912) and Joseph A. Schumpeter, Capitalism, Socialism and Democracy (Harper Colophon 1976) (1942).

22. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources to Invention*, *in* The Rate and Direction of Economic Activity, (R. R. Nelson ed., 1962).

23. *See*, e.g., V. Kadiyali, N. J. Vilcassim, & P. K. Chintagunta, *Product line extensions and competitive market interactions: an empirical analysis*, 89(1-2) J. Econometrics 339-63 (1998), Ernst R. Berndt, Iain M. Cockburn, & Karen A. Grépin, *The Impact of Incremental Innovation in Biopharmaceuticals*, 24(2) Pharmacoeconomics 69 (2006), and Morris A. Cohen, Jehoshua Eliashberg, & Teck H. Ho, *An Anatomy of a Decision-Support System for Developing and Launching Line Extensions*, 34(1) J. Marketing Res. 117-29 (1997).

24. For a review of the economic theory of research and development and empirical studies of the relationship between market structure and innovation, see Gilbert, *supra* note 6.

Evans and Hylton fault the economics profession for not rewarding those stalwart researchers who study dynamic competition and attempt to incorporate dynamic effects in competition policy. Instead, they argue that the profession rewards those who search under the lamppost, because that is where the tools of static competition theory shed the most light. The complexities of dynamic competition are sufficiently daunting to limit most econometric studies of market competition to static models. But I disagree that professional rewards pose a barrier to innovation for the analysis of dynamic competition.

BUT I DISAGREE THAT PROFESSIONAL REWARDS POSE A BARRIER TO INNOVATION FOR THE ANALYSIS OF DYNAMIC COMPETITION.

Most economists would agree with the basic premise in the Evans and Hylton paper that dynamic incentives for innovation are critical to market performance and, where feasible, evaluation of the antitrust consequences of monopolizing conduct should account for these incentives. My impression is that the economics profession looks favorably on research in this area. To test my view of professional incentives, I conducted a simple JSTOR search of recent publications in major economics journals. From 1995 to 2005, the *American Economic Review*, *The Journal of Political Economy*, *Econometrica*, and *The RAND Journal of Economics* published 1,775 articles that mentioned dynamic competition, innovation, or research and development in the abstract. Over the same period, these journals published 641 articles that mentioned merger, monopoly, or monopolization in the abstract. While hardly a definitive study, the evidence suggests that there are significant rewards to those who can unlock the secrets of dynamic competition.