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The Anticompetitive Effect of Passive Investment

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THE ANTICOMPETITIVE EFFECT OF PASSIVE INVESTMENT

David Gilo*

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INTRODUCTION

There are many cases in which a firm passively invests in its competitor.¹ For example, Microsoft passively invested in \$150 million worth of the nonvoting stock of Apple, its historic rival in the operating systems market.² Also, in November 1998, Northwest Airlines, the nation's fourth-largest airline, purchased 14%³ of the common stock of Continental Airlines Inc., the nation's fifth-largest (and fastest growing) airline.⁴ Northwest competes with Continental on seven routes, serving 3.6 million passengers per year.⁵ In another example, TCI, the nation's largest cable operator, became a passive investor with a 9%

1. Passive investment refers to a situation in which the investing firm does not seek to gain influence over the competitor's activities or to access the competitor's sensitive information.

2. John Markoff, *Microsoft Comes to the Aid of a Struggling Apple*, N.Y. TIMES, Aug. 7, 1997, at A1. It should be noted that, despite Apple's difficulties and small market share, it was on the route to recovery and growth. Steve Jobs, Apple's co-founder, returned to have an active role in running the company and introduced a new strong board with top managers from the computer industry, including Lawrence Ellison, the chairman of the Oracle Corporation and an old enemy of Microsoft. In addition, Apple was developing a new and promising operating system and hardware manufacturers introduced upgrades for use with Apple's Macintosh computers. Robert X. Cringely, *Apple's Worst Enemy No More*, N.Y. TIMES, Aug. 7, 1997, at A31; Steve Lohr, *Jobs's Team and Name Are on the Line*, N.Y. TIMES, Aug. 7, 1997, at D1; *Shares of Apple Computer Rise Sharply*, N.Y. TIMES, Jan. 3, 1998, at D11. In this light, it is plausible to view Apple as one of Microsoft's potentially viable competitors. Accordingly, investment by Microsoft in Apple, as shown in this Article, might be explained by anticompetitive strategic motivations.

3. Although the stock acquisition was originally meant to grant Northwest a controlling interest, Northwest later agreed to place the stock in a voting trust for ten years following the acquisition. This arrangement allegedly limited Northwest's voting power to matters such as the approval of a merger with a third firm. To settle an antitrust suit filed by the Department of Justice, Northwest recently agreed to sell back to Continental nearly one-half of its stake in that airline, leaving Northwest with 7% of the outstanding shares of Continental. Nonetheless, Northwest retained limited veto privileges, giving it the power to block any merger or change of control involving Continental and another airline. Laurence Zuckerman, *2 Airlines Make Deal in Attempt to End Their Antitrust Trial*, N.Y. TIMES, Nov. 7, 2000, at C1; *see infra* note 9.

4. Laura Goldberg, *Airlines Proceed with Alliance*, HOUS. CHRON., Nov. 21, 1998, at A1; Frank Swoboda, *Airlines Complete Deal Despite Suit; Northwest, Continental in 'Virtual Merger'*, WASH. POST, Nov. 21, 1998, at G1; Bob von Sternberg, *The NWA-Continental Deal; It's Not All Smooth Flying for Deal; Continental, NWA alliance likely to mean higher fares*, STAR TRIB. (Minneapolis, Minn.), Jan. 27, 1998, at 1D; Dean Yellin, *Northwest, Continental Forge Alliance; \$519m Deal Would Link Routes*, REC. (Bergen County, N.J.), Jan. 27, 1998, at B1. As mentioned above, Northwest recently reduced its stake in Continental to 7% of shares outstanding. Zuckerman, *supra* note 3.

5. These include the routes from Newark to Detroit, from Minneapolis to New York and Cleveland, and from Houston to Detroit, Memphis and Minneapolis, among others. Although the stock acquisition would have a relatively modest effect on the overall market, it has raised great concerns with regard to competition and airfares in these markets due to the small number of airlines serving them. *See, e.g.*, David Ivanovich, *GAO Sees Flaws in Alliance; Report: Continental-Northwest Not Good for All*, HOUS. CHRON., Feb. 4, 1999, at 1 (Business); *Justice v. Northwest; Continental alliance deserves scrutiny*, STAR TRIB. (Minneapolis, Minn.), Dec. 6, 1998, at 32A.

stake (which can be increased, under the terms of a settlement with the Federal Trade Commission, to a 14.99% stake) in Time Warner, the nation's second-largest cable operator.⁶ Gillette, the international and U.S. leader in the wet-shaving razor blade market acquired, as a passive investment, 22.9% of the nonvoting stock and approximately 13.6% of the debt of Wilkinson Sword, one of its largest competitors.⁷ There are also several cases in which one firm's controlling shareholder invests in the firm's competitor. A striking example existed, for several years, in the car rental industry: National Car Rental's controller, General Motors ("GM"), acquired a 25% stake of Avis, National's competitor. In the very same industry, Hertz's controller, Ford, had acquired \$324 million worth of Budget's nonvoting stock.⁸

6. This occurred pursuant to the merger between Turner Broadcasting and Time Warner. Time Warner and TCI together reach nearly half of America's cable households. Mark Landler, *Turner to Merge into Time Warner; a \$7.5 Billion Deal*, N.Y. TIMES, Sept. 23, 1995, at A1; *Misgivings Over a Media Merger*, N.Y. TIMES, Sept. 19, 1996, at A26. TCI's passive stake in Time Warner was approved by the Federal Trade Commission. Time Warner, Inc., 61 Fed. Reg. 50,301 (Sept. 25, 1996). This transaction will be further discussed *infra* Section II.C.

7. *United States v. Gillette Co.*, 55 Fed. Reg. 28,312 (July 10, 1990). Gillette's passive stake in Wilkinson Sword was approved by the Department of Justice Antitrust Division. See *infra* text accompanying notes 94-97.

8. See Devavrat Purohit & Richard Staelin, *Rentals, Sales and Buybacks: Managing Secondary Distribution Channels*, 31 J. MARKETING RES. 325, 326 (1994); Karen Talley, *Avis Advertisements Fuel Questions*, 49 BUS. NEWS 1 (1990). TCI's above-mentioned stake in Time Warner also constitutes a similar type of passive investment, since TCI controls programming networks that compete with Time Warner's programming networks. See *infra* text accompanying notes 98-103. Additionally, Medtronic Inc. holds a passive stake in SurVivaLink Corporation. Medtronic also acquired Physio-Control International Corporation, one of SurVivaLink's only two substantial competitors in the market for automated external defibrillators. The acquisition, coupled with the passive stake, was approved in a consent decree with the Federal Trade Commission. *Medtronic, Inc.*, 63 Fed. Reg. 53,919 (Oct. 7, 1998). For a detailed analysis of this case, see *infra* Section II.C, notes 106-109 and accompanying text.

Similar transactions exist in the market for on-line computer services: Paul Allen, controller of a group of high-tech companies offering on-line services, purchased a minority stake in Stats Inc., which disseminates sports statistics electronically. Allen contemporaneously held a passive 18% stake in America Online Inc., another on-line service company. Allen also holds a minority stake in Metricom Inc, a wireless network concern. *America Online Shareholder Said to Consider Sale*, WALL ST. J., Mar. 28, 1994, at A3; *Paul Allen Buys Stake in Provider of Data for Sports Statistics*, WALL ST. J., Apr. 13, 1994, at B7. In another striking example of passive investment among competitors, Rupert Murdoch's News Corp., controlling 65% of the newspaper market in Australia, passively invested around \$42 million (more than a 2% stake) in John Fairfax Holdings Ltd., Australia's second-largest newspaper publisher. A passive 15% stake of Fairfax is held by Kerry Packer, Australia's biggest magazine publisher. S. Karen Witcher, *News Corp. Buys 12 Million Shares of John Fairfax*, WALL ST. J., July 7, 1994, at B8. Birtcher Commercial Development Group, a fast-growing firm in the market for commercial, retail, and industrial buildings, holds a passive 20% stake in MBK Real Estate, Ltd., its competitor and one of the largest commercial builders on the West Coast. John O'Dell, *Birtcher Returns to Commercial Construction*, L.A. TIMES (Orange County ed.), May 21, 1996, at D11. Additionally, LVMH Moët Hennessy Louis Vuitton, Gucci Group N.V.'s biggest rival in the fashion industry, held a passive 20% stake in Gucci. John Tagliabue, *Court Rules Against LVMH in Battle Over Gucci*, N.Y. TIMES, May 28, 1999, at C1. Passive and minority interests held among competitors are also abundant in the automobile industry. Wilson A. Alley, *Partial Ownership Arrangements and Collusion in the*

Surely if Microsoft were to merge with Apple, Northwest with Continental, TCI with Time Warner, Gillette with Wilkinson Sword, National Rent-a-Car with Avis, or Hertz with Budget, antitrust courts and agencies would acknowledge that such mergers may substantially lessen competition. But how should we treat the seemingly different situation where Microsoft is merely a passive investor in Apple, where Northwest merely holds a passive stake in Continental, where TCI merely holds a passive stake in Time Warner, where all Gillette does is passively invest in Wilkinson Sword, where GM (National's controller) merely purchases Avis stock as a passive investor, or where Hertz's controller (Ford) passively invests in Budget? Recent cases of passive investment in a competitor have gone unchallenged by antitrust agencies.⁹ Moreover, this Article shows that the leading antitrust decisions grant a de facto exemption from antitrust liability for passive investment, by interpreting expansively the "solely for investment" exception in section 7 of the Clayton Act,¹⁰ the antitrust merger provision.

This Article shows that these decisions on the part of antitrust agencies, as well as the leading cases' interpretation of the "solely for investment" exemption, are not in accord with sound policy considerations. For even totally passive investment by a firm in its competitor (or by a firm's controller in the firm's competitor, as in the car rental examples), in an industry where only a few firms operate,¹¹ may substantially lessen competition. The main reason, in a nutshell, is that such passive investment causes the investor to compete less vigorously with the firm in which the investment was made because such aggressive¹² competition would lower the value of the investor's investment.

Automobile Industry, 45 J. INDUS. ECON. 191 (1997). Several additional examples exist on file with the author.

9. The Federal Trade Commission approved TCI's stake in Time Warner, after being assured that this stake would be completely passive. Time Warner, Inc., 61 Fed. Reg. at 50,301. The Federal Trade Commission also agreed to a consent decree approving Medtronic Inc.'s above-mentioned passive stake in SurVivaLink. Medtronic, Inc., 63 Fed. Reg. at 50,301. The Department of Justice, for its part, assured that Gillette's stake in Wilkinson Sword would be passive, approved the investment. *United States v. Gillette Co.*, 55 Fed. Reg. at 28,312. These matters are discussed *infra* Section II.C. The Department of Justice's suit against Northwest's acquisition of Continental stock was based on concerns that despite voluntary agreements temporarily restraining Northwest's control over Continental, Northwest would nevertheless be able to substantially influence Continental's competitive activity. See Amended Complaint ¶¶ 37-41, *U.S. v. Northwest Airlines Corp.*, (No. 98-74611) (D. Mich. 1998). Microsoft's passive investment in Apple has not been challenged by antitrust agencies to the best of the author's knowledge.

10. 15 U.S.C. § 18 (1994).

11. The anticompetitive effects identified in this Article are particularly relevant in oligopolies — markets with only a few substantial competitors. Even if there are numerous small firms, which take the price their larger competitors set as given, however, the anticompetitive effects identified here remain relevant.

12. The terms "aggressive competition" or "vigorous competition" will be used interchangeably to refer to procompetitive actions such as undercutting a supracompetitive price.

Passive investment in a competitor, when there are only a few firms in the market, will almost always reduce quantities and raise prices, even when there is no ongoing cartel (tacit or explicit) in the industry.¹³ Furthermore, passive investment in a competitor facilitates tacit or explicit collusion. "Tacit collusion" refers to a situation in which firms are able to charge cartel-like prices even without communicating with each other. Each firm refrains from undercutting the supracompetitive price out of fear that its price cut would trigger a price war that would harm all firms, including the price cutting firm, in the long run. To be sure, passive investment also facilitates *express* collusion and cartels, not only tacit collusion. Express collusion, however, is quite easily detected and deterred by antitrust courts and agencies. Tacit collusion, on the other hand, which involves no communication between the firms involved, is very hard to detect and to prove in court. Thus, it is all the more important to address the facilitating effect of passive investment on tacit collusion. Unlike tacit collusion, passive investment among competitors, in and of itself, is an express transaction that is very easy to detect.

In particular, a firm that is inherently a more aggressive competitor than its rivals (such as a firm with a cost advantage, or a firm better-situated to make secret price cuts), would want to invest in a competing firm in order to commit to competing less vigorously. Such a commitment would reassure the investor's rivals and induce them to compete less aggressively themselves.¹⁴ Thus, when the investing firm is one of the more aggressive competitors in its industry, the potential anticompetitive harm is particularly strong. As Section II.D describes in greater detail, antitrust agencies are accustomed to a similar inquiry in their examination of horizontal mergers: they inquire as to whether the merger involves the acquisition of a maverick (i.e., an inherently more aggressive) firm.

Even the acquisition of a competitor's debt may, in certain cases, facilitate collusion. The case law dealing with the acquisition of a competitor's debt has consistently overlooked this potential anticom-

They do not refer to predatory behavior, that is, to behavior aimed at driving rivals out of the market.

13. As illustrated in Section I.B *infra*, this price-increasing effect of passive investment will exist even if only one firm in the industry unilaterally invests in a competitor. Moreover, this effect exists even where the motivation behind the investment was not anticompetitive (e.g., where passive investment was motivated by an expected positive return on the investment.)

14. As Section I.C shows in detail, the rivals of an inherently aggressive competitor might compete aggressively just because they know that their more aggressive competitor will compete aggressively anyway. This is why a commitment on the part of the inherently aggressive competitor to become less aggressive will induce its rivals to compete less vigorously themselves. One of the implications of this result is that, even if only one firm in the industry passively invests in a competitor, such an investment might still facilitate collusion if the investing firm is an inherently more aggressive competitor.

petitive effect and has been concerned only with the possibility of the creditor using its position to influence the debtor's activities. In contrast, this Article shows how, even when the creditor cannot use its position to influence the debtor's activities, acquisition of a competitor's debt might harm competition. This anticompetitive effect is particularly troublesome when the debtor is financially weak.

Moreover, when it is a firm's controlling shareholder (whether a person or a parent corporation) who invests in the firm's competitor, as in the above-mentioned car rental examples, the investment raises special antitrust concerns. In particular, the controller can enhance the anticompetitive effect of such passive investment by diluting its stake in the firm it controls (e.g., by selling part of the firm's stock to public shareholders).¹⁵ The reason is that the lower the stake the controller holds in the firm it controls, the more weight the controller places on its stake in the competitor, and the stronger the controller's commitment to manage the firm under its control as a less vigorous competitor. This further implies that when it is a firm's controller that invested in the firm's competitor, even relatively small levels of passive investment can raise considerable antitrust concern. This is true in cases where the controller's stake in the firm it controls is small or might be diluted in the future.

Firms can replicate this anticompetitive effect by including components in their executive compensation packages that are positively linked to industry or competitors' profitability. Such compensation arrangements are analogous to the case in which a controller of a firm holds a stake in a competing firm. Accordingly, such arrangements induce the manager to manage the firm as a less vigorous competitor, since vigorous competition will tend to reduce components in the manager's compensation that are positively linked to industry or competitors' profitability. Therefore, this Article shows that including such components in executive compensation packages might substantially harm competition. The anticompetitive effect of such components will be greater the smaller the "stake" — stock, options, or components in the compensation package that are positively linked to the firm's profits — the manager holds in the firm she manages.

This Article claims that such executive compensation schemes should not be beyond the reach of antitrust law. If only passive in-

15. This result depends on the assumption that the controller will take its own interests into account while running the firm under its control. Interestingly, such behavior on the part of a controlling shareholder is normally seen as an "agency cost" or breach of the controller's fiduciary duty, which lowers the value of the minority's shares. This Article reveals, however, that when a firm's controller passively invests in a competing firm, such disregard by the controller of the interests of minority shareholders may be valuable to the firm as a whole, as well as to its minority shareholders because such behavior on the part of the controller enables the firm's commitment to become a less vigorous competitor. This result may induce the firm's rivals to compete less vigorously themselves, thereby enabling supracompetitive profits for all firms in the industry.

vestment by a firm in its competitor, or by a firm's controlling shareholder in the firm's competitor, were scrutinized, firms could then use such executive compensation packages to achieve an anticompetitive effect analogous to that of passive investment. As this Article shows, such compensation schemes cannot be banned through section 7 of the Clayton Act¹⁶ since they normally do not involve stock or asset acquisitions. Additionally, such executive compensation schemes cannot be banned through section 1 of the Sherman Act,¹⁷ due to the "intra-enterprise conspiracy" doctrine (asserting that an agreement within the firm, such as an executive compensation agreement, fails to satisfy the "agreement" requirement for the purposes of section 1 of the Sherman Act).¹⁸ Still, as this Article proposes, such executive compensation schemes should be banned, in appropriate cases, through section 5 of the Federal Trade Commission Act,¹⁹ which condemns "unfair methods of competition."

The rest of the Article is organized as follows: Part I includes an economic analysis illustrating the anticompetitive effects of passive investment in a competitor. Section I.A, through the analysis of a simple numerical example, portrays the basic reasoning behind the anticompetitive effect of passive investment. Section I.B illustrates the price-increasing effect of passive investment in a competitor where there is no ongoing collusion (tacit or explicit) in the industry. Section I.C shows how passive investment facilitates collusion and demonstrates how and when the acquisition of a competitor's debt may also facilitate collusion. Section I.D illustrates the special case where a firm's controlling shareholder invests in the firm's competitor. It further portrays the analogous anticompetitive effect of components in executive compensation packages that are positively linked to industry or competitors' profitability.

Part II examines the legal implications of the economic analysis pursued in Part I. First, Section II.A analyzes the leading cases' interpretation of the exemption for acquisitions "solely for investment" included in section 7 of the Clayton Act. This interpretation is the driving force behind these cases' treatment of passive investment in competitors. Section II.B demonstrates how the leading cases' treatment of passive investment grants it a de facto exemption. Then, Section II.C argues that antitrust agencies and courts can interpret the exemption of stock acquisitions "solely for investment" to take into account the anticompetitive effects of passive investment.

16. 15 U.S.C. § 18 (1994) (prohibiting acquisitions of "the whole or any part of the stock" or "the whole or any part of the assets" of another firm where "the effect of such acquisition may be substantially to lessen competition . . .").

17. 15 U.S.C. § 1 (1994) (prohibiting agreements that restrain trade).

18. See *infra* Section II.E.

19. 15 U.S.C. § 45(a) (1994).

Next, Section II.D examines the legal implications of passive investment by a maverick firm. Section II.E portrays the legal implications of the special case where it is a firm's controller that invests in the firm's competitor and considers how antitrust law should deal with anticompetitive executive compensation schemes. Then, Section II.F briefly discusses the question of welfare-enhancing benefits, or efficiencies, that passive investment or anticompetitive compensation schemes may involve. While passive investment does not involve efficiencies associated with joint control of facilities, more subtle efficiencies may exist. This section concludes, however, that welfare-enhancing benefits are less likely to exist in executive compensation packages with components that are positively linked to industry or competitors' profitability. Finally, Section II.G discusses appropriate remedies for cases in which passive investment, or executive compensation schemes, hinder competition. It concludes that divestiture of the stock (in the case of passive investment) and removal of the anticompetitive components in executive compensation schemes are the only effective remedies.

I. ECONOMIC ANALYSIS

A. *A Simple Example*

In a market where only a few firms operate, when a firm invests in its competitor's stock, the investing firm will tend to compete less vigorously. The reason is that if the investing firm competes vigorously thereby causing losses to its competitor, the value of the competitor's stock will fall. As a result, the value of the investing firm's investment falls as well.

Let us roughly illustrate this effect by using a simple hypothetical example. Suppose that there are only two firms in the U.S. car rental market: National and Avis.²⁰ Suppose further that a vigorous competitive action on the part of National (e.g., a price cut by National) will make National gain \$1 (say, due to an increased market share) and make Avis lose \$4 (say, due to a decreased market share and the possible price war that might follow National's price cut).²¹ Since National

20. As will be demonstrated *infra* Sections I.B and I.C.1, a similar analysis and result would exist for a market with more than two (although only a few) firms.

21. It is not unnatural to assume that Avis loses \$4 from National's price cut while National is making only \$1. Price cutting on a cartel is a good example of a case in which a firm usually makes less from competing vigorously than its rivals lose from this vigorous competition: when National cuts a cartel price, it makes a short-term profit from price cutting and stealing business, in the short run, from its rivals. Its rivals are expected to respond, however, by price cutting themselves, and a price war will follow. This reduces National's net gains from price cutting. Avis, on the other hand, loses from National's price cut in two ways: it endures a short-term loss from losing business to National, as well as a long-term loss due to the price war following the price cut. Therefore, it is reasonable to as-

does not take Avis's losses into account, it will elect to pursue the more competitive action (e.g., it will choose to price cut), thereby gaining \$1. But suppose now that National acquires 26% of Avis's stock. That is, National becomes a passive investor in Avis and shares 26% of Avis's profit flow. National will therefore incur 26% of Avis's losses. If National now decides on the price cut, it will earn \$1 (due to its own operations) but lose 26% of \$4, which is greater than \$1, due to its 26% stake in Avis. Because of its investment in Avis, National will now refrain from price cutting, and will choose the less competitive course of action.

Why would National want to acquire Avis's stock in the first place? Assuming that National does not receive extra benefits from such passive investment, such as a positive return on the investment, one might think that National would be better off if it hadn't acquired Avis's stock. Had National not acquired Avis's stock, it would have price cut and earned \$1. The stock acquisition caused it not to price cut and to forego the \$1 profit. With only this in mind, one might conclude that if National indeed decides to passively invest in Avis's stock, it is not due to anticompetitive motivations. This simple example, however, does not capture the whole story. A look at the big picture will demonstrate that National may decide to passively invest in Avis's stock for strategic, anticompetitive reasons.

In a more complex and realistic scenario, Avis, in the above-mentioned example, will anticipate National's vigorous competition. This anticipation may cause Avis to compete vigorously in the first place. If Avis knows that National will price cut anyway (or engage in other vigorous competitive behavior), it may well price cut itself (or engage in some other vigorous competitive behavior itself), thereby causing losses to National. Suppose Avis would indeed price cut (in order to "strike first," knowing that National will price cut anyway), and that this would cause National losses of \$4. The only way National can avoid these losses is to somehow commit itself not to price cut. If National were to make such a commitment, Avis, in this example, would not fear National's price cut, and would not price cut itself. Investment by National in Avis's stock serves as precisely such a commitment device. If National acquires 26% of Avis's stock, its incentives are realigned in a way that would make price cutting by National unprofitable. Avis, knowing this, would be reassured and would refrain from price cutting itself. Thus, by investing in Avis, National induces Avis to compete less vigorously, and avoids the losses from such vigorous competition.

This very simple example illustrates how passive investment in a competitor's stock can reduce competition. Moreover, it illustrates

sume that National's net gain from price cutting is smaller than Avis's total loss from National's price cut.

how such passive investment may be motivated by strategic anticompetitive concerns.²² Note that this competition-reducing effect remains intact even if the stock acquisition is totally passive (in our example, National was merely a passive investor in Avis.) This is because the effect stems from a realignment of incentives on the part of the investing firm. It does not depend in any way on the ability of the investing firm to influence the behavior of the firm in which the investment was made. Sections I.B through I.D will provide a more detailed economic analysis of this anticompetitive effect.

B. *The Price-Increasing Effect of Passive Investment — the Case Without Collusion*

The competition-reducing effect of passive investment has been shown in the economics literature to hold even if firms are not engaged in ongoing tacit collusion or in an explicit cartel. “Ongoing tacit collusion,” which will be discussed in detail shortly, refers to a situation in which firms charge cartel-like prices even in the absence of communication among them. Each firm refrains from undercutting the supracompetitive price out of fear that its price cut would trigger a price war that would harm all firms, including the price cutting firm, in the long run. Even if such ongoing tacit collusion does not occur, in a market with only a few firms, passive investment makes the market less competitive: it reduces the industry’s output and raises prices.²³

22. It should be stressed that, even when passive investment in a competitor’s stock stems from motivations other than the strategic anticompetitive ones mentioned in the text, the anticompetitive effect of such passive investment will remain intact. The example above shows how, after National invests in Avis’s stock, whatever National’s motivations for such stock acquisition, National will tend to compete with Avis less vigorously. In most industry settings with only a few firms, when one competitor becomes a less vigorous competitor, overall competition in the industry is reduced. *See infra* Section I.B.

23. This result was demonstrated, through the use of economic models, by Robert J. Reynolds & Bruce R. Snapp, *The Competitive Effects of Partial Equity Interests and Joint Ventures*, 4 INT’L J. INDUST. ORG. 141 (1986); *see also* Timothy F. Bresnahan & Steven C. Salop, *Quantifying the Competitive Effects of Production Joint Ventures*, 4 INT’L J. INDUST. ORG. 155 (1986); Daniel P. O’Brien & Steven C. Salop, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 ANTITRUST L.J. 559 (2000) (discussing briefly the above-mentioned effect on the investing firm’s unilateral pricing behavior while analyzing at length the effect of *non-passive* partial acquisition on the *acquired* firm’s behavior). It should be noted that, in markets with homogenous products (i.e., those that do not vary from firm to firm, such as cement), passive investment might not affect industry price or quantity if firms are not engaged in ongoing collusion. David Gilo, *Partial Ownership as a Strategic Variable to Facilitate Tacit Collusion*, at §§ 2.21, 3.1.1 (John M. Olin Discussion Paper No. 170, Program in Law, Economics, and Business, Harvard Law School) (1995) (unpublished manuscript, on file with author). In such cases, the anticompetitive impact of passive investment may be explained only through its effects on the facility of collusion. *See infra* Section I.C.

The only empirical work studying the effect of passive investment on industry prices is the recent study of Alley, *supra* note 8. The result of this study is that the U.S. automobile market is less competitive than the Japanese one, while there is more passive investment among competitors in the Japanese market than in the U.S. market. As Alley states, this re-

We saw similar reasoning in the numerical example of Section I.A above. In a market with only a few firms, even when there is no ongoing collusion, firms realize the impact of pricing and quantity decisions on their competitors' profits.²⁴ In such a market, if one firm invests in part of its competitor's stock, the investor competes less vigorously, since it incurs some of the competitor's losses from the investor's vigorous competition. The investor decides, *ceteris paribus*, to produce less and charge more than it would have but for the investment.²⁵

It should be noted that passive investment by a firm in a competitor, where there are only a few firms in the market, will cause industry prices to rise (and quantities to fall) even if there are firms in the industry that did not invest in a competitor. Suppose that in the example of Section I.A there are not two firms in the car rental industry but three: National, Avis, and Hertz. If National invests in Avis's stock, National, as illustrated in the preceding paragraph, becomes a less

sult is consistent with the theoretical economics literature's prediction that when a market is relatively more competitive (e.g., because it includes more competitors, as does the Japanese automobile market) there will be more passive investment among competitors, because they will want to soften the intense competition among them. *Id.* at 193; see also David Reitman, *Partial Ownership Arrangements and the Potential for Collusion*, 42 J. INDUS. ECON. 313 (1994).

Phillip Areeda and Donald Turner briefly state that, when a firm passively acquires the stock of its competitor, "the acquiring firm's market decisions might now be affected not only by their impact on its own operations but also by their impact on its investment . . . in its competitor. Competition on the borderline of profitability may be abandoned if it seems likely to result in an investment loss." PHILLIP AREEDA & DONALD F. TURNER, *ANTITRUSTLAW* ¶ 1203, 320 (1978). This statement captures the basic intuition according to which passive investment in a competitor causes the investor to become a less vigorous competitor. It is, however, too narrow a statement. It implies that only when firms do not earn much when they compete, will passive investment cause them to behave less competitively. In contrast, as the current section explains, passive investment will always tend to raise prices. This result does not depend on the firms' profits being particularly small when they compete. With respect to the case with collusion, as will be shown *infra* Section I.C, Areeda and Turner's basic intuition is not enough to conclude that passive investment facilitates collusion. A more subtle, case-specific analysis is needed.

24. The larger the passive investment levels and the fewer substantial competitors in the market, the larger the anticompetitive effect. "Substantial competitors," in this context, refers to firms that are large enough that their behavior (e.g., price cutting), affects competing firms' profits. In the same vein, if new entry of substantial competitors, or expansion of insubstantial competitors is likely to occur in the future, the anticompetitive threat of passive investment diminishes.

25. Stating the same reasoning differently, an oligopolistic firm's profit-maximizing price is constrained by the fear that raising the price drives some consumers into the hands of competitors. Passive investment in a competitor reduces this loss and therefore induces a higher profit-maximizing price. The same reasoning applies to nonprice competition, such as quality or service competition, or competition with regard to the development of new technology. A firm that has invested in its competitor's stock may also be less inclined to compete with the competitor over geographic markets or population segments served by this competitor. See AREEDA & TURNER, *supra* note 23, at 320. Moreover, a potential entrant that has invested in an incumbent firm's stock will be less inclined to enter the incumbent firm's market. See Reynolds & Snapp, *supra* note 23, at 150.

vigorous competitor and decreases output. Under reasonable assumptions regarding firms' costs and market demand, this will cause total industry output to fall, and prices to rise, even though Avis and Hertz did not invest in their competitors' stock. The result is the same even in cases where Avis and Hertz respond to National's reduction of output by themselves *raising* output. National's contraction of output can be shown to dominate,²⁶ so that total industry quantity indeed diminishes. Therefore, industry price will still rise.²⁷

This phenomenon can be explained by the fact that, in a market with only a few firms, these firms realize the impact of their behavior on industry price and quantities. When National, in our example, reduces output, Avis and Hertz might respond by raising their output levels, but only up to the level where an additional unit of output brings them revenue equal to the cost of producing this marginal unit. Hertz and Avis realize that each additional unit that they produce raises aggregate supply and thus lowers industry prices. Hence, the marginal revenue they derive from producing an additional unit gets lower and lower, until finally it is no longer worthwhile to produce an additional unit. This makes Avis and Hertz expand output by less than National's initial output reduction.²⁸

In many other cases, Avis and Hertz may themselves tend to reduce output and raise prices in response to National's contraction of output.²⁹ Here, obviously, investment by National in Avis's stock will raise industry prices and reduce industry output. Indeed, in these cases

26. Reynolds & Snapp, *supra* note 23.

27. To be sure, in the case where Avis and Hertz respond to National's contraction of output by themselves raising output, a form of interaction called "strategic substitutes" in the economics literature, see generally Jeremy Bulow et al., *Multimarket Oligopoly: Strategic Substitutes and Complements*, 93 J. POL. ECON. 488 (1985), National's passive investment in Avis could not be predicated on anticompetitive motivations. This is because National will expect to lose market share and profits to its rivals. See Reitman, *supra* note 23. Still, as explained in the text, if National indeed decides to passively invest in Avis (i.e., for other motivations, such as an expected positive return on the investment) prices will indeed rise and the anticompetitive effect remains.

28. Reynolds & Snapp, *supra* note 23. To illustrate this phenomenon, suppose there are initially two firms in the market (i.e., the market is a duopoly) and one of the firms exits the market (i.e., reduces its output to zero.) Thus, the market is served by a monopoly instead of a duopoly. Although the remaining firm will normally expand output after its competitor exits, it is well known that a monopoly's output is smaller than a duopoly's aggregate output. The monopolist will maximize its profits by expanding output only until the revenue produced by an additional unit equals the cost of producing this additional unit. Accordingly, the monopoly expands output by less than the output reduction which occurred upon the exit of the other firm. See generally JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 220 (1988); see also Reynolds & Snapp, *supra* note 23.

29. The question of whether, in a particular industry, firms respond to their rival's reduction of output by themselves reducing, or rather by expanding, their output might be difficult to answer in practice. For a formal presentation of the distinction between the two cases, known in the economics literature as the distinction between "strategic complements" and "strategic substitutes," see Bulow et al., *supra* note 27; TIROLE, *supra* note 28, at 323-28.

National may want to passively invest in Avis and commit to less vigorous competition in order to induce Avis and Hertz to compete less vigorously themselves.

C. *Passive Investment as a Facilitator of Collusion*

1. *Passive Stock Acquisition*

Section I.B discussed the case in which firms were not colluding over the industry price. But what happens when firms are colluding, whether tacitly or explicitly? What is the effect of passive investment on such collusion? “Tacit collusion” might occur where there are only a few firms in the market and they interact on an ongoing basis. In such a situation, as economic theory shows, it is possible that cartel-like pricing will be sustained. Each firm refrains from price cutting, because it understands that its price cut will trigger a price war that will make all firms, including the price-cutter, worse off in the long run.³⁰ Tacit collusion is not always possible, however. In particular, tacit collusion will not be sustainable when one or more firms find price cutting profitable in spite of the price war that would likely follow.

Passive investment facilitates the sustainability of collusion by making price cutting less profitable. When firms are tacitly colluding, each firm faces a tradeoff. Their dilemma involves the relative costs and merits of short-term profit versus long-term loss. Short-term profit can be made by price cutting on the collusive price (consequently expanding the price cutting firm’s market share). However, the price-cutter will incur long-term loss if a price war is induced. When a firm’s profit from price cutting is larger than the expected loss from a price war, the firm will price cut, and collusion will not be sustainable.³¹ If a firm invests in its competitor’s stock, however, its profits from price cutting diminish. If it price cuts, the competitor’s profits will fall, and so will the value of the price cutting firm’s investment in the competitor.

Let us illustrate the effect of passive stock acquisition on the sustainability of collusion by modifying slightly the more general numerical example of Section I.A. Suppose National and Avis are tacitly

30. See TIROLE, *supra* note 28, ch. 6. Passive investment also facilitates *express* collusion and cartels, not only tacit collusion, in the same way as portrayed in the following discussion of tacit collusion. Still, as explained in the Introduction *supra*, the facilitating effect on tacit collusion raises particular policy concerns.

31. It is enough if one of the firms in the market finds price cutting profitable for collusion in this market to break down completely. If the other firms anticipate that their competitor will price cut, they will not want to tacitly collude in the first place. In addition, even assuming firms were indeed tacitly colluding over a supracompetitive price, if one of them is tempted to price cut this will induce a price war that will cause the supracompetitive price to break down.

colluding over a high price. Assume National would gain \$4 by price cutting and its expected future loss due to the price war such a price cut would trigger is \$3. Thus, without investing in Avis's stock, National will price cut (since \$4 is greater than \$3). Suppose now that National passively acquires 25% of Avis's stock. National will now share Avis's losses from National's price cut. If, for instance, Avis loses a total of \$8 from the price cut and the price war that follows it,³² National will lose \$5 from price cutting (it will lose \$3 from the price war following the price cut, due to its own operations, and 25% of \$8, which is \$2, due to its stake in Avis.) Thus, after investing in Avis's stock, National will not find price cutting profitable (since \$4 is less than \$5).

A few scholars have previously tackled the question of how passive investment might facilitate tacit or express collusion. Herbert Hovenkamp briefly states that, "[u]nder the rules of competition, A would like nothing better than to force B out of the market through A's greater efficiency. As a result of partial acquisition [by A of B], however, A suddenly has a strong financial interest in B's welfare. The risks of tacit or express collusion may increase dramatically."³³ Reynolds & Snapp³⁴ focused, in their economic model, on the effects of passive investment where there is no collusion. When discussing possible extensions of their economic model, however, they briefly discuss passive investment's possible collusion-facilitating effect. They point out that passive investment makes price cutting less profitable.

This basic intuition that passive investment might facilitate collusion is not enough, however, to draw a clear policy implication against passive investment among competitors. Even in industries with only a few firms, where tacit collusion is plausible, a few counterarguments could be made to rebut this basic reasoning. The first counterargument is that, even though passive investment caused price cutting to be unprofitable to National (the investing firm in the above-mentioned example), National's competitors, including Avis (the firm in which the investment was made), might still want to price cut. Their incentive to price cut is unaffected by National's passive investment in Avis, and their eagerness to price cut will cause collusion to break down, regardless of National's passive investment in Avis.

At first blush, it seems like this counterargument means that all firms in the industry need to passively invest in a competitor in order for collusion to be facilitated by passive investment. If this were true, it would significantly weaken the policy objection to passive invest-

32. Avis's losses from National's price cut include Avis's short-term loss (due to a temporary loss of market share) and Avis's long-term losses from the price war following the price cut.

33. HOVENKAMP, FEDERAL ANTITRUST POLICY 497 (1994).

34. *Supra* note 23.

ment, since it is seldom the case that all firms in an industry have passively invested in their competitors. As Section I.C.1.a illustrates below, however, this counterargument applies only to industries in which all firms are equally inclined to price cut. As will be shown, if some firms in the industry are more inclined to price cut (more “trigger-happy”) than others, it is enough if the more trigger-happy firms passively invest in competitors in order for collusion to be facilitated.

The second counterargument to the idea that passive investment facilitates collusion concerns a point made by David Malueg.³⁵ Malueg uses an economic model to show that an increase in passive investment levels could actually make collusion more *difficult*, and is therefore potentially procompetitive. As Section I.C.1.b discusses below, however, Malueg’s result turns out to be of little policy significance when one acknowledges that firms elect their passive investment levels and that these levels are not exogenously given, as Malueg assumed.

a. The Correct Focus: The Relative Trigger Happiness of the Investor. Is it true that in order for passive investment to facilitate collusion, all firms in the industry must passively invest in a competitor? As demonstrated below, this argument will be true only in cases where all firms in the industry are equally inclined to price cut. To illustrate, suppose National and Avis are the only firms in the industry and are equally inclined to price cut. In particular, suppose both make \$4 from price cutting and lose only \$3 in the price war following a price cut. Thus both firms would price cut on a collusive price and collusion is not sustainable in the industry. Here investment by only one firm in the other’s stock will not suffice to facilitate collusion. Suppose only National invests in 25% of Avis’s stock. Suppose further that Avis’s total losses from National’s price cut are \$8.³⁶ National would then gain \$4 and lose \$5 from price cutting (\$3 due to National’s own losses from a price war and 25% of \$8, which is \$2, due to National’s stake in Avis.) Thus, National loses more from a price cut than it gains, and would prefer not to price cut. Still, National may well know that Avis will price cut anyway, since Avis’s incentives are left unchanged by National’s investment in Avis.

The fact that Avis’s incentives are not changed by National’s passive investment in Avis can be illustrated as follows: It is clear that if Avis’s managers maximize Avis’s *total* profits, including National’s share in these profits, Avis would still want to price cut. This is because 100% of \$4 is greater than 100% of \$3 (Avis gains \$4 from price cutting and loses \$3 from a price war), and thus Avis’s managers

35. David A. Malueg, *Collusive Behavior and Partial Ownership of Rivals*, 10 INT’L J. INDUST. ORG. 27 (1992).

36. For example, assume that if National price cuts, Avis loses \$5 as a short-term loss (due to a temporary loss of market share) and \$3 from the price war that follows the price cut.

would find price cutting by Avis profitable. The same result holds, however, even if Avis's managers, while running Avis, disregard the profits that belong to National as a passive investor (i.e., Avis's managers take into account only 75% of Avis's total profits.) In such a case, Avis's managers would compare a gain of 75% of \$4 from price cutting to a loss equal to 75% of \$3 from the price war that would follow a price cut. Again, Avis's managers would make Avis price cut, since 75% of \$4 is greater than 75% of \$3.

We can see that even in the case where Avis's managers disregard the profits flowing to National as a passive investor, their disregard affects Avis's gains and losses from price cutting in equal proportions. It lowers the gains from price cutting, but also lowers (by the same proportion) the expected losses from the price war that would follow a price cut.

Accordingly, Avis will still find it profitable to price cut. If National knows that Avis will price cut anyway, National will refrain from tacitly colluding, and collusion will not be sustainable in the industry.³⁷ The same reasoning implies that if only Avis invests in National, collusion will remain unsustainable. Since National's incentives would remain unchanged, it would still be inclined to price cut.

The same result holds if there are additional firms in the industry that are equally inclined to price cut (e.g., they make \$4 from a price cut and lose \$3 from a price war) and have not invested in a competitor. Their eagerness to price cut is left unchanged by National's investment in Avis, meaning that collusion is not sustainable in the industry regardless of National's investment in Avis.

Accordingly, if all firms in the industry are equally trigger-happy, the only way passive investment can facilitate collusion is if each firm in the industry passively invests in a competitor. In the example with only National and Avis in the industry, if National invests in 25% of Avis's stock and Avis invests in 25% of National's stock, they will both find price cutting unprofitable. Consequently, neither of them will fear that the other will price cut, and collusion will become sustainable.³⁸

The situation is different, however, in markets in which firms are not all equally trigger-happy. Indeed, most markets are characterized by some firms being more trigger-happy than others. For example, a firm with lower marginal costs will tend, other things being equal, to be more trigger-happy than a firm with higher marginal costs.³⁹ Sec-

37. Even if National attempts to charge a collusive price, Avis would then price cut, and collusion would break down.

38. For an economic model illustrating this result, see Gilo, *supra* note 23, at § 2.

39. The reason a low-cost firm tends to be more trigger-happy is somewhat subtle and stems from two factors. First, a low-cost firm's profits during a price war are higher than those of a high-cost firm. Secondly, a low-cost firm's "monopoly price" (i.e., the price that would maximize the low-cost firm's profits if it were to serve the whole market) is lower than a high-cost firm's "monopoly price." A low-cost firm may still be less trigger-happy than its

ond, when one of the firms, for some reason, has a smaller market share, it can be shown that this firm is more trigger-happy, other things being equal, than firms with larger market shares.⁴⁰ This is because the firm with the smaller market share has less to gain from collusion and much more to gain from price cutting. Through price cutting, the small firm can potentially earn a high short-term profit by expanding its market share considerably. A large firm tends to be less eager to price cut, since its gains from collusion are high and the potential increase in its market share from price cutting is less substantial.

Many other scenarios exist in which one firm is more trigger-happy than its competitors. For instance, a firm may do business in more large, infrequent deals than its competitors or in a manner that delays detection of its price cuts. This can occur, for instance, when a certain manufacturer regularly sells to a small group of large wholesalers for prices that can be kept secret from competitors, at least for a time. Such a firm is relatively more prone than other firms to price cut.⁴¹ If other firms in the same market sell to end consumers or engage in more frequent transactions, or if price cutting by them is detected more quickly, they will be inherently less prone to price cut and thus less trigger-happy.

In markets in which some firms are more trigger-happy than others, it is enough if the more trigger-happy firms invest in a competitor for collusion to be facilitated. To illustrate, assume that, as in the example above, without investing in Avis, National would find it profitable to price cut, since it gains \$4 from price cutting and loses only \$3 due to a price war. But now let us assume that Avis would gain \$4 by price cutting and would lose \$5 from a price war. Avis would therefore prefer not to price cut on a collusive price. In this sense, National is more trigger-happy than is Avis.

If it were up to Avis, it would not price cut on a collusive price. Avis would find it more profitable to sustain collusion. But if National does not invest in Avis, Avis might know that National — the trigger-happy firm — will price cut. Accordingly, Avis will not charge a collusive price in the first place, since it knows National will undercut it

high-cost competitor if this high-cost firm has a small enough market share. As will be shown, a firm with a smaller market share is itself, other things being equal, more trigger-happy than a firm with a larger market share. Therefore, the high-cost firm will be more trigger-happy if the market share effect dominates the cost difference effect. Indeed, since more efficient firms tend to have larger market shares, these effects tend to counteract each other. However, if the high-cost firm's market share is part of the collusive scheme (say, because colluding firms allocate market shares among themselves), the low-cost firm will be more trigger-happy regardless of the high-cost firm's market share (as shown by Gilo, *supra* note 23, at § 3.)

40. Reynolds & Snapp, *supra* note 23, at 149.

41. TIROLE, *supra* note 28, at 248.

anyway. This harms National. Were collusion going on, National would gain from price cutting. However, because of National's known tendency to price cut, there is no collusion in the first place, and no collusive price to undercut. National would rather have ongoing collusion with supracompetitive prices than a competitive outcome in which collusion is not sustainable. Thus, National would want to commit not to price cut, in order to reassure Avis and induce Avis to collude over a supracompetitive price. National can make such a commitment by investing in 25% of Avis's stock. As illustrated above, such an investment will make price cutting unprofitable to National. Avis, thereby assured that National would not price cut, would itself be induced to tacitly collude. Thus, collusion, in this example, is facilitated by a single instance of passive investment: passive investment by National, the more trigger-happy firm.⁴²

The strategic motivation of a more trigger-happy firm to passively invest in its competitor has not yet been acknowledged by either the legal or the economics literature. The economics literature has focused either on models in which firms are identical, that is, where one firm is not more trigger-happy than the other,⁴³ or on cases in which firms do not interact on an ongoing basis as they do in the case of collusion.⁴⁴ Joseph Farrell and Carl Shapiro, for example, found that in their model a low-cost firm would never want to passively invest in a high-cost firm. With regard to the prevailing phenomenon of low-cost firms partially acquiring high-cost firms, they conclude that "such purchases will be profitable only if [the low-cost firm] gains *control* over [the high-cost firm's] actions. . . ."⁴⁵ In contrast, as illustrated above, when repeated interaction among firms and ongoing collusion are introduced, the low-cost firm may want to passively invest in the high-cost firm. In cases where the low-cost firm is more trigger-happy, it can facilitate collusion by passively investing in its competitor and committing to be less inclined to price cut.

The same result holds for a market with more than two (although only a few) firms. To illustrate, suppose National, in our example, is the only trigger-happy firm in the industry, and that there are other firms in the industry, identical to Avis, that are less vigorous competitors (e.g., that gain \$4 from price cutting and lose \$5 from a price war, and thus would prefer collusion to price cutting.) Nevertheless, if National does not invest in any of its competitors' stock, none of

42. For an economic model showing this result, see Gilo, *supra* note 23, at section 3.

43. See, e.g., Malueg, *supra* note 35.

44. See, e.g., Joseph Farrell & Carl Shapiro, *Asset Ownership and Market Structure in Oligopoly*, 21 RAND J. ECON. 275 (1990).

45. *Id.* at 287.

National's rivals will tacitly collude, if they know National would price cut anyway.

Here, too, National can induce all of its rivals to tacitly collude only if it commits itself not to price cut. For such a commitment, National need not invest in all its competitors. It suffices for National to invest in one (or more) of its competitors in a way that makes price cutting by National unprofitable. In this example, suppose National invests in 25% of one of its competitor's (say, Avis's) stock, and that Avis loses \$8 from National's price cut and the price war that follows it. National will lose \$5 from price cutting (\$3 due to its own operations and 25% of \$8, which is \$2, due to its stake in Avis). This makes price cutting by National unprofitable. Such a commitment by National not to price cut would be enough to induce all firms in the industry to tacitly collude. It would make collusion sustainable, to the benefit of all firms, including National.⁴⁶

This result also holds generally: a firm that is inherently a more aggressive competitor (e.g., due to a cost advantage, a relatively small market share, large and infrequent and/or secret deals with wholesalers, and so on)⁴⁷ may have a strategic motivation to unilaterally invest in a competitor. Without such investment in a competitor's stock, since this firm's trigger-happiness is observed by its less vigorous rivals, they will compete aggressively themselves, knowing that the trigger-happy firm will compete aggressively anyway. In this sense, a firm's trigger happiness is a curse for the firm rather than a blessing. The only way for the trigger-happy firm to induce its less vigorous competitors to tacitly collude, and thus make all firms better off, is to commit to becoming a less vigorous competitor. Investment by the trigger-happy firm in a competitor's stock (National's investment in Avis in the above-mentioned example) serves as such a commitment.⁴⁸

46. To be sure, the fewer competitors in the market, the more likely that passive investment in only one of them will enable collusion. This conclusion follows for two reasons. First, the fewer substantial competitors, the larger a single competitor's losses from the investor's price cut. Second, the fewer substantial competitors, the more likely the less trigger-happy firms are to prefer collusion in the first place.

47. See *supra* notes 39-41 and accompanying text.

48. Such a commitment is credible. The firm investing in a competitor's stock cannot circumvent its commitment by selling its holdings in the competitor to a third party, thereby making price cutting profitable. Such an attempt is detectable and will signal an intention to price cut to the competitors, who will retaliate immediately and price cut themselves. This will prevent the short-term gain the investing firm could have made by price cutting. It is reasonable to assume that becoming a significant passive investor in a competitor, as well as ceasing to be one, are common knowledge to competitors. After all, if the firm in which the investment was made is publicly traded and the passive investment exceeds 5% of its outstanding stock, securities regulation compels the firm to disclose the investment. Likewise, if the investor ceased to hold above 5% of the stock, this too must be disclosed. See SEC Regulation S-K, item 403(a)-(c), 17 C.F.R. § 229.402 (1992). Conversely, if the firms involved are closely held, passive investment requires an explicit contract and negotiation. It is difficult to maintain the secrecy of either such an investment, or of the fact that the investor has sold the stock. At least the firm in which the investment was made will surely know that

The preceding analysis implies that where some firms in the industry are more trigger-happy than others, it is not necessary that each firm in the industry invest in a competitor's stock in order for collusion to be facilitated. All that is needed to facilitate collusion is investment by the trigger-happy firm (or firms) in the stock of one of its competitors.

b. Acknowledging That Passive Investment Is a Decision Variable. We shall now consider a second objection to the idea that passive investment facilitates collusion: namely, Malueg's economic model, which shows how an increase in passive investment levels might even make collusion more difficult.⁴⁹ The reason for Malueg's result is that passive investment not only makes price cutting less profitable, but also tends to make price wars less costly. It tends to soften price wars because it is conventionally assumed that during price wars firms revert to charging the prices they would have charged in equilibrium without collusion. As Section I.B illustrated above, however, even in a market equilibrium without collusion, passive investment will usually raise prices and, at the same time, will tend to raise profits.⁵⁰ Accordingly, passive investment causes price wars to be less costly (assuming price wars consist of reverting to the price firms would charge in equilibrium without collusion). Recall that under tacit collusion, a firm will price cut if its short-term profits from price cutting outweigh the long-term loss from a price war. While passive investment among competitors makes the short-term gain from price cutting smaller, it also makes the long-term loss from price wars smaller as well. In Malueg's model, for certain levels of passive investment, the latter effect (of softening the threat from price wars) dominates, and an increase in passive investment levels will actually hinder collusion.

Malueg's result is, however, of little policy significance once we acknowledge that it is the firms themselves which elect the level of their passive investment in a competitor and that passive investment is not exogenously given, as Malueg assumed. Assuming that firms are savvy, they will not elect to passively invest in a competitor in a way that will hinder collusion, because collusion leads to monopoly profits. The only exception would be cases in which passive investment is driven by other motivations which are so profit-enhancing that they are worth hindering collusion and sacrificing monopoly profits.

the investor has sold its stock. Knowing that the former investor has, by ceasing to have a stake in a competitor, regained its "trigger happiness," the firm in which the investment was made will respond accordingly.

49. See *supra* note 35.

50. For an exception, see *supra* note 23, which analyzes the case of a market with homogenous products.

2. *Acquisition of a Competitor's Debt*

In addition to passive acquisition of a competitor's equity, acquisition of a competitor's debt may also, in certain circumstances, facilitate collusion.⁵¹ This is the case when vigorous competition increases the probability of the competitor's insolvency. If a firm is a creditor of its competitor, and vigorous competition by the creditor increases the probability of the debtor's bankruptcy, the creditor may hesitate to compete aggressively, since this raises the probability that the debt will never be fully repaid. Thus, in cases in which the debtor is financially weak, or where vigorous competition by the creditor may significantly raise the probability of the debtor's insolvency, acquisition of debt may serve as a strategic commitment by the creditor to compete less aggressively.⁵² A firm extending a loan to its competitor under such circumstances thereby commits to competing less vigorously. This may induce competing firms to behave less competitively themselves, to the benefit of the creditor.⁵³

It should be noted, however, that the anticompetitive impact of debt acquisition is much more limited than that of stock acquisition. Acquisition of a competitor's debt makes the creditor compete less aggressively only to the extent that aggressive competition will sufficiently raise the probability of the debtor's insolvency. Acquisition of a competitor's stock, on the other hand, makes the stock acquirer share the competitor's ongoing profit flow. This profit flow is presumably always reduced by vigorous competition. Furthermore, acquisition of debt in a competitor will not cause the creditor to compete less vigorously if there is sufficient collateral (unaffected by vigorous competition) to guarantee the loan. In such a case, even if the debtor becomes insolvent as a result of the creditor's aggressive competition, the creditor can recover the debt from this collateral. Accordingly, the creditor will not be deterred from vigorously competing with the debtor.

51. For examples of such debt acquisition, see *United States v. Gillette Co.*, 55 F.R. 28312 (1990); *Mr. Frank, Inc. v. Waste Mgmt., Inc.*, 591 F. Supp. 859, 862, 867 (N.D. Ill. 1984); *Metro-Goldwyn-Mayer, Inc. v. Transamerica Corp.*, 303 F. Supp. 1344, 1351 (S.D. N.Y. 1969).

52. A different question that might arise is why a firm would want to extend a loan to a competitor who is financially weak. It might be argued that a preferable strategy is to compete vigorously with such a firm in order to cause it to go bankrupt and drive it out of the market. Although this would sometimes be the preferred strategy, it need not be the case. For example, it is possible that, after the competitor becomes insolvent and stops operating, it is expected that its productive facilities and assets would be purchased by a stronger, more aggressive, competitor. In such a case, it might be a preferable strategy for other firms in the industry to keep the financially weak competitor operating.

53. The reasoning here is identical to that of the stock acquisition case analyzed *supra* Sections I.C.1 and I.A.

D. *Passive Investment by Controllers and Executive Compensation*

We will now examine the case in which a firm's controller (be it a parent corporation, or an individual possessing active control of the firm) passively invests in the firm's competitor. Many examples of this form of investment (hereinafter termed "passive investment by controllers") can be found in practice. A striking example of passive investment by controllers, already mentioned in the introduction, existed, for several years, in the car rental industry. National Car Rental's controller, GM, passively acquired a 25% stake in Avis, National's competitor. In this very same industry, Hertz's controller, Ford, had acquired \$324 million worth of Budget's nonvoting stock.⁵⁴ Several additional examples exist.⁵⁵

When a controller of a firm invests in one of the firm's competitors, the anticompetitive effect may be even stronger than in a case in which the firm itself invests in its competitor. In particular, the controller can strengthen the anticompetitive effect by diluting its stake in the firm it controls. Again we turn to a simple numerical example. Suppose GM (National's controller) passively acquires 25% of Avis, which is National's competitor. Suppose further that GM initially holds 100% of National. Assume that if National competes vigorously (e.g., price cuts), National makes a net gain of \$3 but Avis loses \$8. Thus, assuming GM indeed controls National's pricing policy,⁵⁶ GM will cause National to price cut, because GM makes \$3 (100% of \$3) from price cutting, and, because of its 25% share in Avis, GM loses only \$2 (25% of \$8), which is less than \$3.

Suppose now, however, that GM dilutes its stake in National to 55% instead of 100%. The other 45% may be held, for example, by public shareholders, or by nonpublic minority shareholders that do not possess control. Assume further that GM runs National so as to maximize GM's own profits. That is, assume that GM disregards profits that flow into the hands of passive investors in National.⁵⁷ It is easy to see that now GM will refrain from making National price cut. GM now gains only \$1.65 (55% of \$3) from a price cut, and loses \$2 (25% of \$8) (because of GM's 25% stake in Avis). Since \$1.65 is less than \$2, GM will not make National price cut.

54. Purohit & Staelin, *supra* note 8; Talley, *supra* note 8.

55. See *supra* note 8.

56. In general, the controller of a firm will control the firm's pricing policy when the controlling shareholder is also the manager, or CEO, of the firm, or at least has close scrutiny over the manager's activities. This will also be the case, however, where the controlling shareholder does not actually manage the firm. Assuming the controlling shareholder has control over appointments of the board of directors and managers of the firm and also monitors executives' decisions, the firm's manager and board will no doubt take the controller's interest into account if they wish to maintain their positions.

57. This assumption will be discussed shortly.

Therefore, the dilution of GM's stake in National (from 100% to 55%) made GM run National as a less vigorous competitor. This is because the smaller the stake GM has in National, the more weight GM places on its stake in Avis and the less competitively National is run by GM. Indeed, if we were to dilute GM's stake in National further, GM would gain even less from making National price cut, while GM's loss from this price cut due to its stake in Avis would be left unchanged. For example, if GM owns only 50% (instead of 55%) of National, GM gains only \$1.50 (50% of \$3) as opposed to \$1.65 from making National price cut, while it still loses \$2 (25% of \$8), as before, from this price cut, due to its stake in Avis. Indeed, GM can strategically strengthen its commitment to run National less competitively by selling out part of National to passive shareholders (be they public, or other minority shareholders).⁵⁸ This sell out would reduce GM's stake in National, and strengthen the commitment value of GM's stake in Avis. Such a commitment could be valuable to GM as well as to National, because it could induce Avis to compete less vigorously itself.⁵⁹

The preceding analysis illustrates how passive investment by a firm's controller can serve as a stronger commitment to reduce competition than passive investment by the firm itself. In our example, if it had been National itself (and not GM) that had acquired 25% of Avis's stock, National would have price cut regardless of GM's stake in National. Suppose, as above, that GM holds 55% of National and controls the decision of whether National price cuts. GM gains \$1.65 (55% of \$3) from making National price cut, and loses $55\% \times 25\% \times \$8 = \$1.1$, due to National's stake in Avis (since GM holds 55% in National and National, in turn, holds 25% in Avis — that is, GM has an indirect stake of $55\% \times 25\%$ in Avis). Thus GM will decide on a price cut by National, because \$1.65 is greater than \$1.1. The controller's stake in the firm it controls will always be irrelevant when it is the firm itself that invested in its competitor. Our example illustrates this nicely: GM's stake in National (55%) affects GM's gains and losses from National's price cut in equal proportions. If GM's stake in National is diluted (say, from 100% to 55%), this will not increase the weight GM places on National's 25% stake in Avis, because GM's indirect stake (through National) in Avis will be diluted proportionately.

There is another important feature of the analysis that should be illuminated. Note that we have assumed, throughout the above exam-

58. This is not to say that all decisions by controllers to sell out part of their firms are motivated by strategic commitments to compete less aggressively. Still, we should not overlook the fact that such motivations for strategic commitment exist when the controller of a firm has invested in the firm's competitor. These strategic motivations may be factored into the controller's decision to sell part of the firm it controls and may affect the size of the block which is sold.

59. This conclusion is explained in the discussion of passive investment by the firms themselves, see *supra* Sections I.A, I.B, and I.C.1.

ples, that GM takes its own interests into account while running National. First, we assumed that GM takes its 25% stake in Avis into account in running National. Then we assumed that when GM's stake in National is diluted (say, to 55%), GM, while running National, does not take into account the profits flowing to minority shareholders in National. Interestingly, when a controlling shareholder takes account of its own interests in running the firm under its control, or disregards the profits flowing to minority shareholders in the firm it controls, this is normally seen as an "agency cost," or breach of the controller's fiduciary duty, which lowers the value of the minority's shares. The analysis here shows, however, that this "agency cost" may be valuable to National as a whole, as well as to its minority shareholders.

The fact that GM takes its stake in Avis into account in running National enables National to commit to becoming a less vigorous competitor. In addition, the fact that GM disregards the profits flowing to National's minority shareholders strengthens this commitment.⁶⁰ In various industry settings, it is a profitable strategy for a firm to commit to being a less vigorous competitor, since this induces other competitors to behave less vigorously themselves, thereby raising the profits of all firms in the industry. This would be the case when the firm's commitment not to price cut facilitates ongoing collusion.⁶¹ Even if there is no ongoing collusion in the industry, in many industry settings, it is beneficial for a firm to commit to being a less vigorous competitor, since such a commitment induces other competitors to compete less vigorously themselves.⁶²

Therefore, the very same "agency costs" stemming from GM's stake in Avis, in the current context, tend to benefit National's minority shareholders. This is because these "agency problems" may enable

60. Our numerical example demonstrated how, when GM disregarded the profits flowing to National's minority shareholders, dilution of GM's stake in National made GM place more weight on its stake in Avis. This strengthened GM's tendency to run National as a less vigorous competitor. If GM maximized the total value of National, including the profits that belong to National's minority shareholders, GM's stake in National would not possess an additional competition-reducing effect. To illustrate, suppose GM maximizes National's total profits, including the profits flowing to National's minority shareholders. Accordingly, if GM makes National price cut, National (as a whole) loses \$3. Since GM is assumed here to maximize National's total value, GM will compare the \$3 with 25% of \$8, which is \$2 (GM's stake in Avis's losses due to National's price cut). Accordingly, GM would still make National price cut, despite GM's stake in Avis. This conclusion would be true regardless of GM's stake in National.

61. In particular, following the analysis of Section I.C.1 above, if National is inherently more "trigger-happy" than its competitors (e.g., due to a cost advantage, to a small market share, or to having larger buyers or more infrequent sales), National's observed trigger-happiness might make collusion unsustainable. National's rivals would not charge a high collusive price to begin with, since they would fear that National would undercut it anyway. National would thus want to commit not to price cut, in order to reassure its rivals, induce them to charge a collusive price to begin with, and facilitate collusion in the industry.

62. See *supra* note 29 and accompanying text.

National to earn supracompetitive profits. Accordingly, if GM makes National compete less vigorously due to GM's stake in Avis, it would be difficult to claim that GM is in breach of its fiduciary duty toward National. As shown above, such behavior on the part of GM might be beneficial to National, and to its minority shareholders.

Moreover, suppose that, in the above-mentioned numerical example, GM, which holds 55% of National and had invested in 25% of Avis, causes National not to price cut. Suppose now that the minority shareholders of National claim that GM has breached its fiduciary duty. In particular, their claim is that GM caused National not to price cut so as to protect GM's own investment in Avis, and that GM disregarded the interests of National's minority shareholders. These minority shareholders would find it extremely hard to prove in court that GM's conduct was not the optimal strategy for National. GM can claim that National is, in fact, managed competitively. For example, it can explain that a price cut by National is not optimal given the level of demand and National's costs. National's minority shareholders would find it extremely difficult to prove otherwise.

In summary, when a firm's controller (be it a parent corporation or an individual) invests in the firm's competitor, in addition to the controller's stake in the competitor, the controller's stake in the firm it controls becomes important. The smaller the controller's stake in the firm it controls, the less aggressively will the controller cause the firm it controls to compete. This is because, the smaller the controller's stake in the firm it controls, the more weight the controller places on its stake in the competing firm.⁶³ This further implies that even relatively small stakes the controller holds in the competing firm could substantially lessen competition if the controller has a diluted stake in the firm it controls.

The analysis of passive investment by a firm's controlling shareholder in the firm's competitor is directly analogous to passive investment by a firm's *manager* in the firm's competitor. Suppose, in our car rental example, that National's CEO holds Avis stock. As a result, if the CEO makes an aggressive competitive move (e.g., makes National price cut), this harms Avis, and reduces the value of the CEO's investment in Avis. Therefore, holding Avis stock will cause the CEO to manage National as a less vigorous competitor. This case is analogous

63. For a formal model, see Gilo, *supra* note 23, which deals with the tacit collusion case. The same reasoning applies to the anticompetitive effects of passive investment that exist without collusion (analyzed in Section I.B). Reynolds & Snapp, *supra* note 23, reach similar results, presenting a model of a joint venture framework where controlling parents of joint venture plants invest in competing joint venture plants. They do not, however, consider the possibility of controllers strategically diluting their stakes in the firms they control to further reduce competition. As shown in Gilo, *supra* note 23, controllers can do this by selling out part of their firm to public shareholders or other passive investors.

to the case in which GM (National's controlling shareholder) holds Avis stock.

The discussion of passive investment by a controlling shareholder revealed how the smaller the controller's stake in the firm it controls the stronger the controller's commitment to run the firm under its control less competitively. A manager who is not a controlling shareholder might have a very small "stake" in the firm she manages (in the form of stock, options, or compensation components that are positively linked to the firm's profits). In such a case, even very small stakes held by the manager in competing firms will suffice to substantially lessen competition.⁶⁴ Furthermore, in cases in which competitors can observe that the manager holds a stake in a competitor, such a stake can induce competitors to compete less vigorously themselves.⁶⁵

Similarly, components in executive compensation packages that are positively linked to industry or competitors' profitability might be anticompetitive. If the manager makes the firm under her control compete vigorously (e.g., by price cutting) all competitors' profits will be reduced. A reduction in competitors' profits will lead to a decrease in the value of those components in the manager's compensation package that are positively linked to industry or competitors' profitability.⁶⁶ This will induce the manager to make the firm under her control compete less vigorously.⁶⁷

As illustrated above, such a commitment by the firm to compete less aggressively can be valuable to the firm, since it can induce competing firms to compete less aggressively themselves. In this sense, such compensation packages for managers increase the firm's profits and are beneficial to the firm's shareholders.⁶⁸ Furthermore, as in the

64. See *infra* text accompanying note 71 (numerical example).

65. If the stake the manager holds in a competitor is very small, however, competitors might not observe such holdings. In such a case, even if this small holding in a competitor induces the manager to compete less vigorously, it nevertheless will not induce competitors to compete less vigorously themselves. Even if the manager somehow makes her holdings known to competitors, they might fear that the manager will secretly sell the stock she holds in a competitor just before making an aggressive competitive move. This point will be further addressed *infra* notes 74-76 and accompanying text.

66. When components of a manager's compensation are positively linked to the profitability of the industry as a whole, it is as if the manager holds stakes in each of the firm's competitors (as well as in the firm she manages). As shown in the analysis of investment by a firm's manager in the firm's competitor, having a stake in competing firms will cause the manager to manage the firm as a less vigorous competitor. This will be further illustrated, through an example, in the text below.

67. For an economic model, see Rajesh K. Aggarwal & Andrew A. Samwick, *Executive Compensation, Strategic Competition, and Relative Performance Evaluation: Theory and Evidence*, 54 J. FIN. 1999 (1999); Gilo, *supra* note 23, at Section 2.2.2.B.

68. To be sure, the firm would not want its manager to prefer competitors' success over the success of the firm she manages. All the firm might want is credibly to show competitors that it is willing to be a less vigorous competitor. Accordingly, firms would never want to give their managers compensation packages which make them have a larger "stake" in competitors than in the firms they manage. However, they might want to make their managers

case with passive investment by controllers,⁶⁹ the smaller the “stake” a manager has in the firm she manages (in the form of stock, options, or compensation components positively linked to the firm’s profitability) the stronger the anticompetitive effect. This is because the smaller the manager’s “stake” in the firm she manages, the more weight the manager will place on her “stake” (via components of her compensation package that are positively linked to industry or competitors’ profitability) in competing firms. This further implies that for very small stakes that the manager holds in the firm she manages, even components in her compensation package with a very weak positive linkage to industry or competitors’ profitability might make the manager run the firm much less vigorously.⁷⁰ Let us illustrate this by way of the following example:

Suppose National has a manager who is given stock, options, and other incentives equivalent to a 1% share of National’s stock. Suppose, as before, that National can make \$3 from an aggressive competitive action, such as price cutting, and that Avis loses \$8 from National’s aggressive behavior. Suppose now that there is another component in the manager’s compensation package that is positively linked to the industry’s or Avis’s profits. For example, assume that the manager, as part of her compensation, receives industry index options that grant her 0.7% worth of the aggregate profits of firms in the industry. Even if Avis is National’s only competitor, this would be enough to make the manager refrain from price cutting. Under such a compensation scheme, although the manager makes \$0.03 (1% of \$3) from National’s price cut (due to components in her compensation package that are positively linked to National’s profits), she loses 0.7% of \$5 (the industry’s aggregate loss from National’s price cut),⁷¹ which is \$0.035 (due to the industry index options included in the manager’s compensation package). Accordingly, the manager will refrain from making National price cut (since \$0.035 is greater than \$0.03).⁷²

care, to a certain extent, about competitors’ profits. For example, a firm might want to give its manager options and stock in the firm equivalent to a 1% stake in the firm, while including in her compensation package components that are positively linked to competitors’ profits and are equivalent to a 0.5% “stake” in a competing firm.

69. See *supra* note 56 and accompanying text.

70. As with passive investment by controllers, here too what drives the anticompetitive effect is that the manager takes her own interests into account and disregards the firm’s profits while running the firm. See *supra* notes 29, 60-61 and accompanying text. Here too, what is conventionally thought of as an “agency cost,” turns out, in the current context, to be beneficial to the firm’s shareholders.

71. The industry’s aggregate loss from National’s price cut is \$8 (Avis’s losses) minus \$3 (National’s gains), which is \$5.

72. As in the case of passive investment in Avis by National, or by National’s controlling shareholder, National’s commitment to be a less vigorous competitor may induce Avis to compete less vigorously.

The fact that a firm can replicate the anticompetitive effect of passive investment in a competitor by employing such executive compensation schemes is important from a legal policy perspective. If such executive compensation schemes are held to be legal, while only anticompetitive passive investment is prohibited, firms could legitimately use such compensation schemes to achieve the same anticompetitive effect as that achieved by passive investment. Therefore, sound legal policy should prohibit the use of such executive compensation schemes where they might, according to the analysis presented here, substantially lessen competition. This becomes of particular importance if we consider managers who hold relatively small “stakes” in the firms they manage. As mentioned above, for relatively small “stakes” the manager holds in the firm under her control, even a small degree of positive linkage between components in her compensation package and industry or competitors’ profitability will suffice to induce her to manage the firm much less competitively.⁷³

It should further be noted that, in order for components in an executive compensation package to make the firm credibly commit to becoming a less vigorous competitor, such components usually need to be observable to competitors.⁷⁴ In the case of publicly traded corporations, which must, under securities regulation, publicly disclose executive compensation schemes and their components,⁷⁵ such components are indeed observable. This is not usually the case however, in closely held firms, in which executive compensation schemes are not subject to disclosure requirements. Accordingly, in closely held firms, components of executive compensation packages that are positively linked to industry or competitors’ profitability generally cannot induce rivals to compete less vigorously themselves. Even if a closely held firm voluntarily publishes its managers’ compensation packages, this would not suffice to reassure competitors that the firm would indeed conduct itself as a less vigorous competitor from that point on. The firm’s rivals would know that at any time the firm could secretly change its managers’ compensation schemes so as to induce its managers to compete aggressively.⁷⁶

73. For an empirical study showing a positive relation between executives’ long-term total compensation and competing firm’s performance, see Aggarwal & Samwick, *supra* note 67. Aggarwal & Samwick’s study deals with executives’ total compensation. It is much more difficult, however, to find examples of executive compensation contracts that include components that are positively linked to rivals’ performance.

74. The requirement is usually fulfilled with regard to substantial levels of passive investment by a firm (or by its controlling shareholder) in a competitor. *See supra* note 48.

75. *See* SEC Regulation S-K, item 402, 17 C.F.R. § 229.402 (2000).

76. To be sure, even when the firm is closely held, and its executive compensation schemes are unobservable to rivals, such compensation schemes may nevertheless harm competition. As long as components that are positively linked to industry or competitors’ profits are part of executive compensation packages, they will induce managers to manage their firms less competitively. In a market with only a few firms, when a firm behaves less

II. LEGAL ANALYSIS AND LEGAL IMPLICATIONS

A. *The Legal Treatment of Passive Investment — the “Solely for Investment” Exemption*

Acquisition of another firm's stock has traditionally been treated under section 7 of the Clayton Act,⁷⁷ which condemns acquisitions of “the whole or any part of the stock” of another firm where “the effect of such acquisition may be substantially to lessen competition” The third paragraph of this section, however, includes the following exemption:

This section shall not apply to persons purchasing such stock solely for investment and not using the same by voting or otherwise to bring about, or in attempting to bring about, the substantial lessening of competition.

This exemption (referred to hereinafter as the “solely for investment” exemption) demands a two pronged test.⁷⁸ The first prong consists of a determination of whether the acquisition of the stock was made “solely for investment.” If the first prong is satisfied and it is determined that the acquisition was made “solely for investment,” the acquisition will not be examined according to the-main-effects-clause of section 7 of the Clayton Act (which asks whether the acquisition “may substantially lessen competition”). Instead, the acquisition will be examined according to the second prong of the “solely for investment” exemption. As the *Anaconda* Court put it:

In cases where the “solely for investment” exemption does not apply, a plaintiff need only show a reasonable probability of a lessening of competition Thus, the anti-competitive effects may be attacked in their incipiency. The statutory exemption, however, conspicuously omits this language. Once it is established to the satisfaction of the Court that the acquisition is “solely for investment,” the statute requires a showing that the defendant is “using the [stock] by voting or otherwise to bring about,

competitively (e.g., reduces output), the market becomes less competitive overall. *See* Section I.B (analyzing the case without collusion).

Furthermore, as Aggarwal & Samwick show, even when managers' contracts are unobservable, in certain cases, managers can credibly signal the fact that their compensation packages include components that are positively linked to rivals' profitability. *See supra* note 67, at 2036-41. Aggarwal & Samwick use a game-theoretical model to show how through certain actions, such as investment or product market decisions, a manager could send such signals to managers of rival firms.

77. 15 U.S.C. § 18 (1994). It is widely acknowledged that section 7 of the Clayton Act applies to stock acquisitions even when control is not obtained by the acquiring firm. *See, e.g., Denver & Rio Grande W. RR. v. United States*, 387 U.S. 485, 501 (1967); *Unites States v. E.I. Du Pont De Nemours & Co.*, 353 U.S. 586 (1957).

78. *See United States v. Tracinda Inv. Corp.*, 477 F. Supp. 1093, 1098 (C.D. Cal. 1979); *Anaconda Co. v. Crane Co.*, 411 F. Supp. 1210, 1219 (S.D.N.Y. 1975); Janet H. Winningham, “*Solely for Investment Purposes*”: *Evolution of a Statutory Exemption Under Clayton Section 7*, 12 LOY. U. CHI. L.J. 571 (1981).

or in attempting to bring about, the substantial lessening of competition.⁷⁹

Although the language of the second prong is quite vague, in order to give it any meaning, it is clear that it involves a more lenient test than section 7's main-effects clause. Otherwise, the "solely for investment" exemption would be superfluous.⁸⁰ The meaning given to this second prong by the case law is that it requires the plaintiff to show evidence of an *actual* lessening of competition. This is in contrast to the general test of section 7 of the Clayton Act, according to which it is enough if the plaintiff shows *probable* tendencies to lessen competition.⁸¹

As to the first prong of the "solely for investment" exemption, requiring a determination as to whether the acquisition is "solely for investment," the leading cases have equated an acquisition of stock being "solely for investment" to its being "passive." According to the leading case law, if an acquisition of stock is totally passive (i.e., the acquirer of the stock will not gain influence over the actions of the firm in which the investment was made, or access to the firm's sensitive information), it will be considered to be "solely for investment."⁸² In the above-mentioned *Gillette* case,⁸³ for example, the Department of Justice decided not to attack Gillette's passive investment in Wilkinson Sword, implying that the investment, due to its passive nature, enjoys the "solely for investment" exemption.⁸⁴ Conversely, an

79. 411 F. Supp. at 1219 (internal citations omitted); see also *Penn. R.R. Co. v. ICC*, 66 F.2d 37, 39-40 (3d Cir. 1933), *aff'd mem. by an equally divided court*, 291 U.S. 651 (1934); *Tracinda*, 477 F. Supp. at 1097, 1102 n.10.

80. The court acknowledged this in *Tracinda*, 477 F. Supp. at 1093, 1099 n.5.

81. See *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 577 (1967) ("[Section 7 of the Clayton Act] can deal only with probabilities, not with certainties. And there is certainly no requirement that the anticompetitive power manifest itself in anticompetitive action before [section] 7 can be called into play. If enforcement of [section] 7 turned on the existence of actual anticompetitive practices, the congressional policy of thwarting such practices in their incipiency would be frustrated.") (citations omitted); *Brown Shoe Co. v. United States*, 370 U.S. 294, 323, 343, 346 (1962); *Du Pont*, 353 U.S. at 589; *Ash Grove Cement Co. v. FTC*, 577 F.2d 1368, 1378-79 (9th Cir. 1978); *Pennsylvania R.R.*, 66 F.2d at 39-40; *Tracinda*, 477 F. Supp. at 1102 n.10 ("In the substantive provisions of the first two paragraphs of Section 7, Congress showed concern for the probable future consequences of the acquisition by utilizing the language 'may be substantially to lessen competition.' On the other hand, with the investment exemption, Congress exhibited a concern for the past and present effect of the acquisition by utilizing the language 'and not using the same . . . to bring about . . . the substantial lessening of competition.'"); *Anaconda*, 411 F. Supp. at 1219.

82. *Tracinda*, 477 F. Supp. at 1098 ("The ultimate definitive factor the courts have looked to . . . is whether the stock was purchased for the purpose of taking over the active management and control of the acquired company."); *Anaconda*, 411 F. Supp. at 1218-19; *United States v. Amax Inc.*, 402 F. Supp. 956, 974 (D. Conn. 1975); *United States v. Gillette Co.*, 55 Fed. Reg. 28,312 (July 10, 1990).

83. 55 Fed. Reg. at 28,312. The facts of this case are described *supra* note 7 and accompanying text.

84. *Id.* at 28,322-23.

acquisition of stock will not be considered “solely for investment” if the acquirer intends, through the acquisition, to obtain active control of the firm in which the investment was made.⁸⁵ In addition, this first prong will not be satisfied, even in certain cases in which control is not achieved by the acquisition, if the acquirer of the stock intends to obtain control in the future⁸⁶ or at least gain some degree of influence over the actions of the firm in which the investment was made (for example, through the right to elect a member of the board).⁸⁷ Similarly, the first prong will not be satisfied in cases where the acquirer of the stock can use its position as stockholder to access sensitive information regarding the activities of the firm in which the investment was made.⁸⁸

Therefore, the leading cases, in their application of the “solely for investment” exemption’s first prong, focus on the question of whether the acquirer of the stock could gain influence over the firm in which the investment was made. A totally passive stock acquisition will be exempt from a full-blown examination as to whether it might (in the probabilistic sense) substantially lessen competition. Instead, the passive stock acquisition will be examined under the much more lenient second prong test.⁸⁹

B. *The De Facto Exemption Granted to Passive Investment by the Leading Cases*

As Part I illustrated in detail, even absolutely passive investment in a competitor, in an industry with only a few firms, may have substantial anticompetitive effects. As Section I.B demonstrated, even with-

85. See, e.g., *Tracinda*, 477 F. Supp. at 1098.; *Anaconda*, 411 F. Supp. at 1218-19; *Amax*, 402 F. Supp. at 974.

86. *Hamilton Watch Co. v. Benrus Watch Co.*, 114 F. Supp. 307, 315-16 (D.Conn. 1953), *aff’d*, 206 F.2d 738 (2d Cir. 1953).

87. See *Unites States v. E.I. Du Pont De Nemours & Co.*, 353 U.S. 586, 589-93, 597-98 (1957); *United States v. Wilson Sporting Goods Co.*, 288 F. Supp. 543, 556 (N.D. Ill. 1968); *Hamilton Watch*, 114 F. Supp. at 317.

88. See *F. & M. Schaefer Corp. v. C. Schmidt & Sons, Inc.*, 597 F.2d 814, 818 (2d Cir. 1979).

89. See *supra* note 81, and accompanying text. AREEDA & TURNER, *supra* note 23, at § 1204, take a different approach. They argue that the “solely for investment” exemption is superfluous. As they explain, “[t]he ‘true exception’ issue would squarely arise only in an acquisition that is deemed both (a) to be solely for investment and (b) to have a probable anticompetitive effect. But there could be no such case if the acquirer were presumed to intend the probable consequences of his act.” *Id.* at 325. Their reasoning, as the authors rightfully state, reflects that of the FTC decision, *Golden Grain Macaroni Co.*, 78 F.T.C. 63 (1971), *modified in other respects*, 472 F.2d 882 (9th Cir. 1972), discussed *infra* Section II.C. As demonstrated in this Article, however, the bulk of the case law dealing with the “solely for investment” exemption does not follow this approach. See, e.g., *Denison Mines v. Michigan Chem. Corp.*, 469 F.2d 1301, 1308 (7th Cir. 1972); *Pennsylvania R.R. v. ICC.*, 66 F.2d 37, 40 (3d Cir. 1933); *Tracinda*, 477 F. Supp. at 1098-1099; *Anaconda*, 411 F. Supp. at 1218.

out considering ongoing collusion, passive investment among competitors makes the market less competitive: prices are higher and quantities smaller. Furthermore, passive investment can be used to facilitate collusion, as shown in Section I.C. Finally, Section I.D illustrated how these anticompetitive effects are exacerbated in the case of passive investment by controllers.

In contrast, as Section II.A revealed, the leading cases have consistently ruled that a stock acquisition that is totally passive is to be considered “solely for investment.” As such, passive stock acquisitions, according to these leading cases, satisfy the first prong of the “solely for investment” exemption, and are eligible for a more lenient test than the main effects clause of section 7 of the Clayton Act.⁹⁰ According to this more lenient test, only the question of whether the passive stock acquisition possesses *actual* (rather than probabilistic) anticompetitive effects is examined.⁹¹

Unfortunately, however, the anticompetitive effects of passive investment, identified in Part I, are probabilistic in nature, and are very hard to detect or prove.⁹² Thus, the leading cases’ interpretation grants a de facto exemption to passive stock acquisitions. In particular, the anticompetitive effect of passive investment in reducing quantities and raising prices, where there is no ongoing collusion in the industry, is very hard to detect or prove. Quantities and prices might change due to an array of benign industry factors, such as shifts in costs or demands. Constant scrutiny by courts over industry quantities and prices would turn courts into price regulators, which they are not. The same is true, to a great extent, with regard to the effect of passive investment in facilitating tacit collusion. Tacit collusion consists of unilateral behavior that is not accompanied by any form of agreement between the parties. Courts and agencies would find it difficult to detect tacit collusion and prove its existence.

An additional tension between the case law and the analysis presented here exists with regard to the acquisition of a competitor’s debt. As shown in Section I.C.2 above, acquisition of a competitor’s debt, in certain cases, may facilitate collusion. In those antitrust cases in which a firm acquired debt in its competitor, as in the leading cases concerning stock acquisition, there has been no discussion of this anti-

90. 15 U.S.C. § 18 (1994).

91. See *supra* note 81 and accompanying text.

92. The anticompetitive effects of passive investment are, in this sense, similar to the anticompetitive effects feared in full-blown mergers. In the context of mergers, it was precisely the probabilistic nature of these anticompetitive effects that caused courts to rule consistently that section 7 of the Clayton Act “can deal only with probabilities, not with certainties.” *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 577 (1967). Mergers, obviously, do not qualify for the “solely for investment” exemption. They are therefore scrutinized under the main-effects clause of section 7 of the Clayton Act, which has been construed as condemning even probabilistic (and not only actual) anticompetitive effects. See *supra* note 81.

competitive effect. In debt cases the courts have focused only on whether the creditor would attempt to exert its influence on the debtor through its position as creditor.⁹³ None of these cases addresses the concerns raised in this Article.

C. *An Alternative Interpretation of the “Solely for Investment” Exemption*

The interpretation given to the “solely for investment” exemption in the leading cases is unwarranted because it fails to address the anti-competitive effects of passive investment. The “solely for investment” exemption can, and should, be construed differently, to take account of these anticompetitive effects.

The main flaw in the leading cases cited in Section II.A is that they seem to be concerned only with the active influence the acquirer of the stock might gain over the behavior of the firm in which the investment was made. The leading cases neglect the effect stock acquisition will have on the stock acquirer itself, namely, making the stock acquirer a less vigorous competitor. The leading cases presume that *passive* stock acquisitions are necessarily “solely for investment” purposes. The analysis in Part I shows that this is not the case. Even totally passive stock acquisitions may be used strategically by the stock acquirer as a commitment device to reduce competition. Such passive stock acquisitions are therefore not “*solely* for investment” purposes and do not qualify for the exemption.

For example, in the *Gillette* case,⁹⁴ discussed above, Gillette, the international and U.S. leader in the wet shaving razor blade market, had purchased 22.9% of the nonvoting stock and approximately 13.6% of the debt of Wilkinson Sword, one of Gillette’s major competitors, in a highly concentrated industry. The Department of Justice, assured by a consent decree⁹⁵ that the investment would be totally passive, decided not to attack the transaction, citing the “‘passive investment’ exception.”⁹⁶ The DOJ failed to address the anticompetitive effects that might be inherent in such a passive stock acquisition. In this case a large stake was acquired, the industry included only a few firms, and the parties to the transaction were large firms (the investor was the in-

93. See *Mr. Frank, Inc. v. Waste Mgmt., Inc.*, 591 F. Supp. 859, 862, 867 (N.D. Ill. 1984); *Metro-Goldwyn-Mayer Inc. v. Transamerica Corp.*, 303 F. Supp. 1344, 1351 (S.D.N.Y. 1969); *United States v. Gillette Co.*, 55 Fed. Reg. 28,312 (July 10, 1990). It appears from the facts of *MGM* that there was sufficient collateral to guarantee the loan even in the case of the debtor’s insolvency. 303 F. Supp. at 1347. As discussed in Section I.C.2 *supra*, acquisition of the competitor’s debt raises less antitrust concern in such a case. None of this was discussed, however, by the court.

94. 55 Fed. Reg. at 28,312.

95. *United States v. Gillette Co.*, 1990 WL 126485 (D.D.C. July 25, 1990).

96. 55 Fed. Reg. at 28,322-23 (using the DOJ’s terminology).

dustry's leader and the firm in which the investment was made was one of its largest competitors.) According to the analysis of Part I, all of these characteristics suggest a substantial anticompetitive effect.⁹⁷

Similarly, the Time Warner-Turner Broadcasting merger granted TCI (then the nation's largest cable operator) a 9% stake in Time Warner (the nation's second-largest cable operator). The Federal Trade Commission, assured that TCI would remain a passive investor, approved this stake, and also made it possible for TCI to increase its stake in Time Warner to 14.99% in the future.⁹⁸ The Federal Trade Commission failed to address the anticompetitive effect that is the focus of this Article.⁹⁹ TCI and Time Warner compete with each other (through subsidiaries controlled by them) in the cable programming market. For example, TCI controls movie networks Starz and Encore while Time Warner controls movie networks HBO and Cinemax.¹⁰⁰ The analysis of Section I.D above suggests that TCI might cause Starz and Encore to become less aggressive competitors, due to TCI's passive stake in Time Warner.¹⁰¹ Furthermore, TCI's commitment might induce competing movie networks to compete less vigorously themselves.¹⁰² Our analysis also suggests that the fact TCI holds less than 100% of Starz and Encore exacerbates this effect. Moreover, if TCI dilutes its stake in Starz and Encore in the future below the current 80% TCI will place more weight on its passive stake in Time Warner and the anticompetitive effect will be even stronger.¹⁰³

TCI and Time Warner are also potential competitors in the cable operating market. Many local cable operating markets that were previously regulated monopolies are now open to competition. If a local market in which Time Warner, for example, is a monopoly, is deregulated and opened to competition from other cable operators, TCI's stake in Time Warner might cause TCI to refrain from entering such a

97. This is not to say that a substantial anticompetitive effect should be presumed in such cases. Rather, there should have been an investigation as to whether such an anticompetitive effect is probable.

98. Proposed Consent Agreement, Time Warner, Inc., 61 Fed. Reg. 50,301 (Sept. 25, 1996).

99. The only anticompetitive concern resulting from TCI's stake in Time Warner that was addressed by the FTC was the fear that TCI would use its position as cable operator to forestall entry of programmers that are potential competitors to Time Warner in the cable programming field. *Id.* at 50,308.

100. Since Time Warner owns 100% of HBO and Cinemax, this is an example of passive investment by a firm's controller (TCI, controlling Starz and Encore) in a 9% stake (and, possibly, a 14.99% stake) of the firm's competitor (HBO and Cinemax).

101. Even assuming Starz and Encore are managed independently, their managers are expected to take account of TCI's interests, since TCI is their controlling shareholder. *See supra* note 56.

102. *See supra* notes 61-62 and accompanying text.

103. *See supra* Section I.D.

market. This is because such entry would lower the value of TCI's stake in Time Warner. TCI may well prefer to enter other local markets, in which Time Warner is not operating. The U.S. cable operator market is extremely concentrated, with TCI serving (at the time of the FTC's decision) approximately 27% and Time Warner serving approximately 17% of all cable television households in the U.S.¹⁰⁴ Accordingly, the analysis of Part I implies that TCI's passive stake in Time Warner might make TCI compete less vigorously in the cable operator market (e.g., by refraining from entering into local markets dominated by Time Warner.) Moreover, TCI's commitment not to enter Time Warner's markets might induce Time Warner not to enter TCI's markets.¹⁰⁵ Finally, even if TCI or Time Warner were to enter each other's local markets, the analyses of Sections I.B and I.C.1.a suggest that TCI's stake in Time Warner would tend to raise prices and facilitate collusion.

Another example in which antitrust agencies have neglected the anticompetitive effect of passive investment is the recent merger between Medtronic, Inc. and Physio-Control International Corporation (referred to hereinafter as "Physio"). Medtronic has an ownership interest slightly below 10% in SurVivaLink Corporation, which is one of Physio's only two competitors in the market for the research, development, manufacture and sale of Automated External Defibrillators.¹⁰⁶ The Federal Trade Commission agreed to a consent decree al-

104. Other cable operators were significantly smaller. Data from November, 1995, reveal that, apart from TCI and Time Warner, there were four cable operators servicing between 4.6% and 5.9% of total U.S. cable households and six servicing between 1.8% and 2.7% of total cable households. DAVID WATERMAN & ANDREW A. WEISS, *VERTICAL INTEGRATION IN CABLE TELEVISION*, 35-37 (1997). Although the cable programming industry seems less concentrated, *see id.* at 24-32, it is clear from the FTC's Time Warner decision that the FTC was concerned with this industry's concentration level. First, it was immensely worried that the Time Warner - Turner Broadcasting merger would deter new entry into the programming market. Accordingly, it made provisions, in the consent decree approving the merger, to assure that Time Warner's cable operating arm accommodate new entry into the cable programming industry. Time Warner Inc., 61 Fed. Reg. 50,301, 50,313 (Sept. 25, 1996). Second, the FTC was concerned that Time Warner's cable programming arm would harm potential competition in the multi-channel operating industry by price discriminating against new entrants, such as direct broadcast satellite providers ("DBS"). Hence it included anti-discrimination provisions in the consent decree. Both of these concerns imply that the FTC views the cable programming market as concentrated. Had the FTC believed there were enough viable competitors in this market, it would not have been concerned with new entry. Similarly, it would not have been concerned with price discrimination against new entrants into the multichannel operating industry, such as DBS, since, if the merged Time Warner - Turner entity would have tried to discriminate against them, they could have contracted with some of the many other viable cable programming networks. Accordingly, the FTC should have been equally concerned with the anticompetitive effect of TCI's passive stake in Time Warner on the cable programming market, as identified here.

105. The analysis here is analogous to that of price competition. *See supra* Sections I.B, note 29 and accompanying text, and Section I.C.1.a.

106. Automated External Defibrillators are "portable, automated devices, used in emergency situations, by persons with limited medical training, such as policemen, firemen

lowing the merger, provided that Medtronic's stake in SurVivaLink become completely passive.¹⁰⁷

Although the size of Medtronic's stake in SurVivaLink is relatively small, the analysis provided in this Article suggests that the anticompetitive effects of passive investment should have been at least explored by the FTC. The FTC stresses that the relevant market in this case is extremely concentrated, with only three significant players. The Commission described barriers to entry into the relevant market as particularly high and the industry was described by the Commission as especially prone to collusive behavior and supracompetitive pricing. The Commission also expressed fear that without the above-mentioned consent decree, competition with regard to innovation would be lessened.¹⁰⁸ In such an industry, as shown in Part I above, even if Medtronic remains a totally passive investor in SurVivaLink, similar anticompetitive threats, of supracompetitive pricing and collusion, as well as less competition with regard to innovation, still remained and required further examination.

This is particularly true since, after the merger, Medtronic is the parent corporation of Physio, which is SurVivaLink's competitor. Hence, Medtronic's stake in SurVivaLink is an instance of passive investment by a controller. As Section I.D demonstrated, if Medtronic were, in the future, to dilute its stake in Physio (e.g., by selling part of Physio's stock to public shareholders, or other minority shareholders), Medtronic would then place more weight on its passive stake in SurVivaLink, and would thus exacerbate the anticompetitive threat arising from this stake. Accordingly, even if the Commission believed that Medtronic's passive stake in SurVivaLink was, at the time, too small to raise antitrust concern, it should have at least stipulated, in the consent decree, that any dilution of Medtronic's stake in Physio, the firm under its control, should be subject to prior notification to the Commission.¹⁰⁹ As Section I.D illustrated, such dilution strengthens the anticompetitive effect of passive investment just as an increase in the passive stake itself does.

In an industry with only a few firms, when one firm makes a significant (although passive) "investment" in a major competitor, this firm cannot claim that the acquisition of the stock is "*solely* for in-

and lifeguards, to treat people suffering from sudden cardiac arrest." Medtronic, Inc., 63 Fed. Reg. 53,919-20 (Oct. 7, 1998).

107. *Id.* at 53,920 ("The proposed Consent Order remedies the acquisition's anticompetitive effects in the market for automated external defibrillators by making Medtronic a passive investor in SurVivaLink. . . .").

108. *Id.*

109. While the Commission demanded prior notification of any increase in Medtronic's stake in SurVivaLink, it did not demand similar notification with regard to dilution of Medtronic's stake in Physio. *Id.*

vestment.” Such a stock acquisition does not qualify for the “solely for investment” exemption, because, as shown in Part I, it enables the acquirer of the stock to make a commitment to compete less vigorously. Such a commitment might induce other competitors to behave less competitively themselves. Therefore, such a stock acquisition must be scrutinized under the main effects clause of section 7 of the Clayton Act.¹¹⁰ That is, there must be a full-blown investigation of market conditions to establish whether the stock acquisition, although passive, may (in the probabilistic sense) substantially lessen competition.¹¹¹

One of two decisions which has touched upon these policy concerns is the Federal Trade Commission’s decision in *Golden Grain Macaroni Co.*,¹¹² in which the FTC condemned a 49% stake that Golden Grain Macaroni held in Porter Scarpelli, its largest competitor.¹¹³ The decision states:

[G]iven the relationship of the firms involved here (*i.e.*, major competitors in an oligopolistically structured market) and [Golden Grain’s] percentage of ownership in Porter-Scarpelli (*i.e.*, 49%), the acquisition was bound to affect the operations of [Golden Grain] in a way that an acquisition made “solely” for investment would not. [Golden Grain] can reasonably be expected to hesitate in engaging in vigorous competition with Porter Scarpelli as it might jeopardize [its] investment.¹¹⁴

Surprisingly, this example is one of only two cases that demonstrates an understanding of the anticompetitive effects involved in passive investment. The decision, almost 30 years old and for the most part ignored by courts and antitrust agencies, acknowledges that when a firm holds a stake in a competitor, in a market with only a few firms, this might make the firm holding such a stake compete less vigorously. Such an effect, as the decision states, makes the acquisition unqualified for the “solely for investment” exemption. It should be stressed, however, that in the *Golden Grain* case the Commission, in its decision, was also driven by the fear that Golden Grain would acquire control in the future, given that it already held the substantial stake of 49%.¹¹⁵

Furthermore, the strategic motivation that drives a firm to commit to becoming a less vigorous competitor *ex ante* (namely, committing to compete less aggressively in order to induce competitors to compete less aggressively themselves) is not discussed in the decision. This

110. 15 U.S.C. § 18 (1994).

111. The economic analysis of Part I provides some guidelines to assist in such an examination.

112. 78 F.T.C. 63 (1971), *modified in other respects*, 472 F.2d 882 (9th Cir. 1972).

113. The evidence supported the conclusion that Golden Grain was a passive investor. *Id.* at 76.

114. *Id.* at 172.

115. *Id.*

strategic motivation, identified in this Article,¹¹⁶ is important to emphasize when discussing the “solely for investment” exemption. Without acknowledging this strategic motivation, one might claim that although passive investment may have an incidental anticompetitive effect, it is motivated solely by investment considerations, and not by anticompetitive ones. It is plausible to claim that the acquisition is thereby deemed “solely for investment” and is eligible for the exemption. However, once we acknowledge the strategic anticompetitive motivation behind passive investment (i.e., inducing competitors to compete less vigorously themselves), it will be easier for a plaintiff to claim that the acquisition is not solely for investment, and is therefore outside the scope of the exemption.

The second instance found in the case law acknowledging the anticompetitive effect of passive investment is the consent decree reached with the Department of Justice with regard to U S West’s acquisition of Continental Cablevision.¹¹⁷ Continental, at the time of the consent agreement, owned 11% of Teleport Communications Group (“TCG”). TCG competed with U S West in several telecommunication markets, including the market for the sale of dedicated services¹¹⁸ in various locations. Pursuant to the consent decree, the U S West - Continental merger was to be approved subject to divestiture of Continental’s ownership interest in TCG.¹¹⁹ The Department of Justice, in the competitive impact statement supporting the consent decree, stated:

U S West’s competitive strategy, including its pricing and output decisions, will be influenced by its partial ownership of a significant direct competitor. Because of its partial ownership of TCG, losses of customers to TCG would not be as detrimental to U S West, and it would have less incentive to lower prices or interest quality to meet with the emerging competition from CAPs in these areas.¹²⁰

As in the *Golden Grain* decision, the Department of Justice does not mention the strategic motivation for passive investment, namely, that U S West’s commitment to behave less competitively might induce U S West’s competitors to behave less competitively themselves.

116. See *supra* Sections I.A-I.C.

117. *United States v. U S West, Inc.*, 61 Fed. Reg. 58,703 (Nov. 18, 1996).

118. Dedicated services include “special access” and “local private line services.” *Id.* at 58,708. “Special access” is “the provision of dedicated lines carrying traffic from the premises of high-volume end-users to the end-user’s long distance carrier, or between a given long distance carrier’s points-of-presence”; “local private line services” are “dedicated lines connecting multiple locations of an end-user within a given metropolitan area.” *Id.* at 58,708.

119. The consent decree was approved by the district court in *United States v. U S West, Inc.*, 1997-1 Trade Cases (CCH) ¶ 71,767 (D.C. 1997).

120. Proposed Final Judgment and Competitive Impact Statement, 61 Fed. Reg. at 58,708. The “solely for investment” exemption was not mentioned.

It is important to stress this strategic effect, since otherwise it might seem unconvincing that U S West would want to enter a transaction that would make it compete less aggressively and lose business to its rivals.

D. *Unilateral Passive Investment by a "Maverick" Firm*

Another important policy implication of Part I's economic analysis is that passive investment by a firm that is inherently a more aggressive competitor raises particular antitrust concern. As shown in Section I.C.1 above, such passive investment can be strategically used to facilitate collusion. Conversely, when the investing firm is not inherently more aggressive than its rivals, the investment raises less antitrust concern. In the latter case, although the anticompetitive effects of passive investment that occur without collusion remain intact,¹²¹ the investment will not facilitate collusion, unless all firms in the industry have passively invested in competitors. Accordingly, courts and antitrust agencies examining a particular case of passive investment in a competitor should try to verify whether the investing firm is an inherently more aggressive competitor than its rivals (say, for example, due to a cost advantage, or being better able to make secret price cuts). Such an investment is potentially more harmful to competition than an investment by a firm that is not inherently more aggressive than its rivals.

In the context of horizontal mergers, antitrust agencies are, in fact, accustomed to dealing with the question of whether a firm is inherently more aggressive than its rivals. According to the Department of Justice and Federal Trade Commission's 1992 Horizontal Merger Guidelines,¹²² acquisition of "maverick" firms — "firms that have a greater economic incentive to deviate from the terms of coordination than do most of their rivals"¹²³ raises particular antitrust concern. This is because "acquisition of a maverick firm is one way in which a merger may make coordinated interaction more likely, more successful, or more complete."¹²⁴

This policy statement fits in well with the point made here. The agencies' guidelines acknowledge that the acquisition of a maverick firm should be carefully scrutinized, because elimination of the maverick firm (via its acquisition) might facilitate tacit collusion. This Article points out that the maverick firm need not be eliminated via complete merger for collusion to be facilitated. Rather, it is enough if

121. See *supra* Section I.B.

122. Statement Accompanying Release of Revised Merger Guidelines, 57 Fed. Reg. 41,552; 41,559 (Sept. 10, 1992).

123. *Id.* at 41,559-60.

124. *Id.* at 41,560.

the maverick firm credibly commits to cease being a maverick (i.e., commits to competing less aggressively). Passive investment by the maverick in a competitor serves as precisely such a commitment and accordingly might facilitate collusion, as would elimination of the maverick firm via a full merger.¹²⁵ Section I.C.1.a above has further shown why the maverick firm might indeed want to credibly commit to competing less vigorously in order to reassure its competitors and prevent them from competing vigorously.¹²⁶

E. *Passive Investment by Controllers and Executive Compensation*

None of the cases address the special characteristics of passive investment by a firm's controller in the firm's competitor.¹²⁷ From Section I.D's analysis of passive investment by controllers flow several policy implications. In an industry with only a few firms, investment by a firm's controller in the firm's competitor should be viewed with even more suspicion and scrutiny than investment by the firm itself in its competitor. The former, as shown in Section I.D above, is potentially more harmful to competition and, moreover, involves no more welfare enhancing benefits than the latter.

Moreover, in the case of investment by a firm's controller in the firm's competitor, the smaller the controller's stake in the firm it controls, the larger the probable anticompetitive harm. This is because the smaller the controller's stake in the firm it controls, the stronger the controller's commitment to making its firm compete less vigorously.¹²⁸ At first blush, this last point may seem counterintuitive. One could theoretically put forward a technical (but incorrect) legal test that examines the degree of "linkage" between competing firms after the passive stock acquisition. According to such a test, there would be more linkage and thus, allegedly, more anticompetitive harm, when

125. See *supra* Section I.C.1.a.

126. Recall that the maverick firm does not necessarily benefit from its inherent aggressiveness. Its rivals, knowing that the maverick will be aggressive, are aggressive themselves in the first place, in order to "strike first."

127. See *supra* Section I.D. For antitrust cases in which a firm's controller invested in the stock of the firm's competitor, see *Denver and Rio Grande W. R.R. v. United States*, 387 U.S. 485 (1967); *Gulf & W. Indus. v. Great Atl. & Pac. Tea Co.*, 476 F.2d 687 (2d Cir. 1973); *United States v. Tracinda Inv. Corp.*, 477 F. Supp. 1093 (C.D. Cal. 1979); and *United States v. Amax, Inc.*, 402 F. Supp. 956 (D. Conn. 1975). TCI's stake in Time Warner, discussed *supra* note 98 and accompanying text, also is an example of passive investment by a firm's controller in the firm's competitor. Medtronic's stake in SurVivaLink, discussed *supra* note 106 and accompanying text, serves as an additional example. There also are at least two antitrust cases in which a firm's controller acquired debt in the firm's competitor: *Mr. Frank, Inc. v. Waste Mgmt., Inc.*, 591 F. Supp. 859 (N.D. Ill. 1984); and *Metro-Goldwyn-Mayer Inc. v. Transamerica Corp.*, 303 F. Supp. 1344 (S.D.N.Y. 1969). In none of these cases was a distinction drawn between investment by a firm's controller in the firm's competitor and investment by the firm itself in its competitor.

128. See *supra* Section I.D.

the controller has a larger stake in the firm it controls while possessing a stake in the competing firm as well. It is clear from the analysis of Section I.D, however, that such a test is invalid. As we have seen, the smaller the controller's stake in the firm it controls, the larger the anti-competitive harm.¹²⁹

The above analysis further implies that a firm's controller, holding even relatively small stakes in the firm's competitor, might be substantially anticompetitive. Suppose a firm's controller holds a stake in the firm's competitor, but the court or antitrust agency believes the level of this passive stake to be too small to justify intervention. Still, our analysis implies that the court or agency should stipulate (e.g., in a consent decree) that any future dilution of the controller's stake in the firm it controls will be subject to prior notification or approval by the court or agency. As Section I.D showed, even a relatively small stake the controller holds in a competitor may substantially harm competition if the controller's stake in the firm it controls is small enough.¹³⁰

It remains to be asked: What are the policy implications stemming from the analysis of components in executive compensation packages that are positively linked to industry or competitors' profitability? As Section I.D illustrated, even if antitrust laws prohibit passive investment by firms or by their controllers that may substantially harm competition, firms could reach an analogous anticompetitive effect by using such compensation schemes. Hence, courts and antitrust agencies must be equipped to cope with such compensation schemes in order to effectively prevent such anticompetitive harm.

Executive compensation schemes are clearly outside the scope of section 7 of the Clayton Act since they do not constitute stock or asset acquisitions. Additionally, they cannot constitute violations of section 1 of the Sherman Act, which condemns anticompetitive agreements, since this provision requires the existence of an agreement between two independent parties. A compensation scheme is an intrafirm agreement and therefore does not fulfill this requirement.¹³¹ However,

129. To illustrate, suppose a firm's controller invests in the firm's competitor, and, when attacked by an antitrust court or agency, the controller pledges to divest or dilute its holdings in the firm it controls (while retaining control). As the analysis demonstrates, this controller actually is offering not a reduction in the anticompetitive threat, but rather an exacerbation of this threat.

130. Antitrust agencies very often demand prior notification or approval for an increase in the level of passive investment above a certain threshold. *See e.g.*, the consent decrees in *Medtronic Inc.*, 63 Fed. Reg. 53,919 (Oct. 7, 1998); *Time Warner, Inc.*, 61 Fed. Reg. 50,301 (Sept. 25, 1996); *United States v. Gillette Co.*, 1990 WL 126485 (D.D.C. July 25, 1990). These agencies never stipulate, however, that in the case of passive investment by controllers, further dilution of the controller's stake in the firm it controls also is subject to prior agency approval. As shown in Section I.D, such dilution exacerbates the anticompetitive threat of passive investment just as an increase in the level of passive investment does.

131. *See Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752 (1984); *HOVENKAMP*, *supra* note 33, at 180.

the broad wording of section 5 of the Federal Trade Commission Act, condemning "unfair methods of competition," can capture anticompetitive compensation schemes. To be sure, this provision has been construed rather narrowly by the courts in cases where the behavior under attack could have benign explanations.¹³² Still components in executive compensation packages that are positively linked to industry or competitors' profitability are quite hard to justify unless anticompetitive motivations are considered.¹³³ Accordingly, it seems plausible that the Federal Trade Commission could attack such compensation schemes, in appropriate cases, as violations of section 5 of the Federal Trade Commission Act.

In the case of executive compensation schemes, as with investment by controlling shareholders, the smaller the "stake" the manager holds in the firm she manages (in terms of holding the firm's stock, options, or components of the manager's compensation package that are positively linked to the firm's profitability) the greater the anticompetitive concerns.

F. *Efficiencies*

The obvious question arises whether passive investment among competitors, despite the anticompetitive harm that it may cause, involves redeeming efficiencies. Although a conclusive investigation of efficiencies is beyond the scope of this Article, a few observations along these lines are in order.

Clearly, efficiencies and synergies usually associated with common control of two merging firms do not exist with regard to passive investment. Both firms, after the investment, are managed independently, as they were before the investment. Thus, if passive investment does not involve other significant efficiencies, unassociated with joint control, there is a stronger case for condemning passive investment than there is for condemning full mergers. This is because, even if the anticompetitive effects of passive investment are weaker than those of a full merger, there would be no significant countervailing efficiencies that could deem passive investment in a competitor desirable.¹³⁴

One possible efficiency of passive investment that deserves further study is related to the superior information a competitor may have as compared to an ordinary investor. A firm's competitor is likely to have superior information regarding the firm, its product market, and its prospects. This is due to the competitor's day-to-day operation in the same market. Thus, passive investment by a competitor may be an ef-

132. See, e.g., *E.I. Du Pont De Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984).

133. See *infra* Section F, note 146 and accompanying text.

134. See *Denver and Rio Grande W. R.R. v. United States*, 387 U.S. 485, 496 (1967); *AREEDA & TURNER*, *supra* note 23, § 1203 at 321; *HOVENKAMP*, *supra* note 33, at 498.

efficient way of raising capital for the firm in which the investment is made.¹³⁵ This point can have merit, however, only under the assumption that imperfect information on the part of other potential financiers makes financing by them less efficient.¹³⁶

Another possible efficiency of passive investment in a competitor involves profit-sharing, which may solve problems of incomplete contracting and fears of opportunism between the parties.¹³⁷ This point arises only where the investor and the firm in which the investment is made, in addition to being competitors, also buy something from, or supply something to, one another. A related point concerns the situation where one firm licenses its technology to its competitor. Licensing agreements have been shown to be incomplete and the licensor generally faces difficulties in appropriating the returns on its technological innovation.¹³⁸ Investment by the technology's licensor in the licensee's stock may assist the licensor in appropriating these returns.¹³⁹ Passive investment can serve such a function, however, only if the stock is granted free of charge or for a disproportionately low price. If the price paid for the acquired stock equals the expected profit that the stock brings, passive investment cannot assist in appropriating the returns from innovation. Whatever the licensor receives through passive investment in the licensee's stock, it has to pay *ex ante* when acquiring the stock.

Finally, passive investment may involve efficiencies in the allocation of production among firms. That is, it may cause more efficient firms to produce more of the industry's output, while causing less efficient firms to produce less of the industry's output.¹⁴⁰ Such an effi-

135. It should be noted that this efficiency exists, if at all, only in cases where the firm in which the investment is made issues new stock in exchange for the investment and thus uses the investment to actually raise capital. If the investor purchases existing stock from existing shareholders, capital clearly is not raised by the firm, and the question of efficiencies in raising capital does not arise.

136. Passive investment in a competitor may also be argued to be a form of risk diversification for the acquirer of the stock. Greater diversification, however, readily can be achieved without passive investment in a competitor by investment in a diversified portfolio, which does not involve anticompetitive harm.

137. See OLIVER HART, *FIRMS, CONTRACTS, AND FINANCIAL STRUCTURE* ch. 2 (1995).

138. See Richard E. Caves et al., *The Imperfect Market for Technology Licenses*, 45 OXFORD BULL. ECON. & STAT. 249 (1983).

139. There is statistical evidence that, in the case of international licensing agreements, many licensors report returns from investment in the licensee's stock as a considerable portion of their total returns from licensing. See ENID BAIRD LOVELL, *APPRAISING FOREIGN LICENSING PERFORMANCE* (1969); ROBERT W. WILSON, *THE SALE OF TECHNOLOGY THROUGH LICENSING*, Reproduced by National Technical Information Service, U.S. Department of Commerce 27 (1975).

140. Although the claim of countervailing efficiencies in production allocation is valid from a welfare point of view, it is not clear to what extent courts and antitrust agencies take such efficiencies into account when assessing a transaction such as a merger or a passive investment. The Department of Justice and Federal Trade Commission 1992 Horizontal Merger Guidelines, for example, do not specifically cite improved allocation of production

ciency is most likely to arise when a less efficient (high-cost) firm invests in the stock of a more efficient (low-cost) firm. As explained in the analysis of Section I.B, when there is no ongoing collusion in the industry, a high-cost firm that has invested in a low-cost firm's stock will reduce its output. In some cases, the low-cost firm reacts to this reduction of output by an expansion of its own output. Here, although aggregate output in the industry is reduced as a result of passive investment,¹⁴¹ the allocation of output becomes more efficient.¹⁴² The high-cost firm produces less of the industry's output, while the low-cost firm produces more of this output.¹⁴³

When a low-cost firm invests in the stock of a high-cost firm, however, the claim of countervailing efficiencies in the allocation of production becomes doubtful. Under the assumption that firms react to their competitor's reduction of output by an expansion of their own output, investment in the stock of the high-cost firm by the low-cost firm brings *less* efficient allocation of production. The low-cost firm will reduce output (due to its investment in the high-cost firm) and the high-cost firm will react by expanding its output. Thus, due to such passive investment, not only is total industry output reduced,¹⁴⁴ but also more of the industry's output will be produced by the less efficient, high-cost, firm.¹⁴⁵

In the case of components in executive compensation packages that are positively linked to industry or competitors' profits, it is difficult to find welfare-enhancing benefits. Generally, we would expect to find components in an executive's compensation package that are positively linked to the profits of the firm she manages, since this will induce the manager to exert efforts to maximize the value of the firm. There is no obvious efficiency-enhancing virtue to including components in the manager's compensation package that are positively linked to industry or competitors' profitability.¹⁴⁶ It is true that there

as one of the efficiencies to be considered in assessing a merger. 57 Fed. Reg. 41,552, 41,562 (Sept. 10, 1992).

141. See *supra* Section I.B, note 28 and accompanying text.

142. This was shown, in a formal model by Farrell & Shapiro, *supra* note 44.

143. This result is much less clear in cases where the low-cost firm reacts to the high-cost firm's reduction in output by reducing its own output. See *supra* note 27. Still, the same claim of increased efficiency of output allocation may continue to hold if it can be shown, in a particular case, that the low-cost firm will reduce output by less than the high-cost firm.

144. See Section I.B, note 28 and accompanying text.

145. The analysis is more complex if the high-cost firm reacts to the low-cost firm's reduced quantity by itself *reducing* quantity. See *supra* note 27. If the high-cost firm reduces quantity by more than the low-cost firm reduced quantity, passive investment would involve a countervailing efficiency in production allocation.

146. An exception is the above-mentioned efficiency connected to improved allocation of production. If the manager of a high-cost firm, for example, has a compensation package with components that are positively linked to a low-cost rival's performance, the manager

are cases in which it is not optimal for the manager's compensation to be strongly related to the firm's performance, because such compensation exposes the manager to risk.¹⁴⁷ However, a more direct way to avoid such exposure to risk would be not to add components to the manager's compensation package that are positively linked to industry or competitors' performance, but rather to make compensation schemes less dependent on the firm's own profits.¹⁴⁸

G. Remedies

In cases where passive investment may substantially lessen competition, the only effective remedy is divestiture of the acquired stock. A decree aimed at merely restricting conduct, short of divestiture, would be unfeasible. Many of the decrees seen in the case law were meant to assure the court that the acquirer of the stock would not use its ownership of the stock to influence the behavior of the firm in which the investment was made, elect a board member, vote, obtain sensitive information, etc.¹⁴⁹ All that such a decree provides is that the acquirer of the stock remain a passive investor. Such a decree obviously does not prevent the anticompetitive harm caused by *passive* stock acquisitions.

Moreover, it would be very difficult to enforce a decree according to which the firms would refrain from anticompetitive conduct, such as tacit collusion. Since tacit collusion is hard to detect or prevent, such a decree would tend to be ineffective. This point is even stronger when one considers the anticompetitive effects of passive investment that exist without ongoing collusion.¹⁵⁰ These effects (higher prices and lower output) involve unilateral pricing and output decisions that can-

will tend to produce less, and the allocation of production efficiencies discussed above might become relevant.

147. See, e.g., TIROLE, *supra* note 28, at 35.

148. To be sure, if a manager's compensation package has components that are positively linked to the firm's own profits (such as the firm's stock or options) as well as components that are positively linked to competitors' profitability, some of the risk the manager would have to bear from the first components would be canceled out by the latter. For example, the risk that the firm would lose business to its competitors due to a change in the tastes of consumers would cancel out, since the firm would earn less (reducing the first above-mentioned components of compensation), but competitors would earn more (raising the second components of compensation). However, under such a compensation scheme, the manager would still have to bear some of the risks that the whole industry faces, such as a general decrease in demand for the product, an increase in the costs of raw materials, and so on.

149. See *Medtronic, Inc.*, 63 Fed. Reg. 53,919-20 (Oct. 7, 1998); *Time Warner, Inc.*, 61 Fed. Reg. 50,301 (Sept. 25, 1996); *United States v. Gillette Co.*, 1990 WL 126485 (D.D.C. July 25, 1990); *United States v. Gillette Co.*, 55 Fed. Reg. 28,312 (July 10, 1990); *United States v. Tracinda Inv. Corp.*, 477 F. Supp. 1093, 1098 (C.D. Cal. 1979); *Anaconda Co. v. Crane Co.*, 411 F. Supp. 1210, 1219 (S.D.N.Y. 1975); *Hamilton Watch Co. v. Benrus Watch Co.*, 114 F. Supp. 307, 316 (D. Conn. 1953), *aff'd*, 206 F.2d 738 (2d Cir. 1953).

150. See *supra* Section I.B.

not, and should not,¹⁵¹ be monitored by courts or agencies on an ongoing basis.¹⁵²

Not only is divestiture the only effective remedy in the case of anti-competitive passive investment, it is also much less complicated to implement than in the case of mergers that violate section 7 of the Clayton Act.¹⁵³ All that is needed to implement divestiture of a passive stock acquisition is to issue an order to sell the stock. When the stock is publicly traded, such an order seems relatively easy to implement. When the stock is not publicly traded, divestiture is more difficult, but still usually far less complex than divestiture is in the complete merger case.¹⁵⁴

In the same vein, it can be stated that there is only one way to avoid the anticompetitive effect of components in executive compensation packages that are positively linked to industry or competitors' profitability: annulment of such components.¹⁵⁵ It was shown above how such components in compensation packages induce managers to manage their firms less competitively. As discussed in the preceding paragraphs, it would be impossible to prevent this result effectively by issuing decrees that order managers to compete more vigorously.

CONCLUSION

This Article implies that even though Gillette's stake in Wilkinson Sword, TCI's stake in Time Warner, and Microsoft's stake in Apple, are merely passive, we might be paying more, and getting less, for razor blades, cable TV, cable programming, and computer operating systems precisely because of those passive stakes. The anticompetitive effects predicted in the Article are probabilistic in nature. But so are the anticompetitive effects feared in full-blown mergers. In the case of passive investment, as in the case of horizontal mergers, antitrust is ideally aimed at preventing *potential* anticompetitive harm, since *actual* anticompetitive harm, in such transactions, is extremely hard to prove in court.

In a market with only a few firms, even totally passive investment by a firm in its competitor may substantially harm competition. Even

151. If courts had to monitor unilateral pricing and output decisions, they would turn into de facto price regulators.

152. See *supra* note 92 and accompanying text.

153. 15 U.S.C. § 18 (1994). See AREEDA & TURNER, *supra* note 23, at 323.

154. Furthermore, with a clear rule stating that an anticompetitive passive stock acquisition would lead to divestiture, such passive stock acquisitions would be less likely to occur to begin with.

155. Particularly, the Federal Trade Commission, through section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45(a) (1994), could order the firm, in appropriate cases, to stop including such components in its executive compensation packages.

when firms are not colluding, passive investment will raise prices. Furthermore, passive investment can be strategically used to facilitate tacit or express collusion, particularly when the investor is a maverick firm. The investment strategically commits the investor to becoming a less vigorous competitor in order to induce rivals to compete less vigorously themselves. When it is a firm's controller that invests in the firm's competitor, the smaller the controller's stake in the firm it controls, the stronger these anticompetitive effects become. Moreover, the anticompetitive effect can be replicated by including in executive compensation packages components that are positively linked to industry or competitors' profitability.

Accordingly, the recent decisions on the part of antitrust agencies not to challenge pronounced cases of passive investment are unjustified. Equally unwarranted is the leading cases' interpretation of the "solely for investment" exemption, which has been shown here to grant passive investment a de facto exemption. This Article advocates a different legal approach — one that takes into account the anti-competitive effect of passive investment.