4-2-2001

Substitutes for Insider Trading

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SUBSTITUTES FOR INSIDER TRADING

by

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Abstract: When insider trading prohibitions limit the ability of insiders (or of a corporation itself) to use material non-public information to trade a particular firm's stock, there may be incentive to use the information to trade instead on the stock of that firm's rivals, suppliers, customers, or the manufacturers of complementary products. We refer to this form of trading as trading in stock substitutes. Stock substitute trading by a firm is legal. In many circumstance, substitute trading by employees is also legal. Trading in stock substitutes may be quite profitable, and there is anecdotal evidence that employees often engage in such trading. Our analysis suggests that substitute trading is less socially desirable than traditional insider trading. We recommend a set of disclosure rules designed to clarify existing law and provide information on the extent of stock substitute trading. We also discuss possible changes in the law that might limit inefficient trading in stock substitutes.

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INTRODUCTION

The securities laws clearly prohibit an executive from using nonpublic information about her company to profit from trades in the securities of that company. But suppose the executive uses the same nonpublic information to profit from trading on the stock of another company. Suppose, for example, that an executive of Intel learns that her company will report higher than expected earnings because of higher than expected chip demand. Can she profit from this knowledge by purchasing the stock of other companies that she knows are likely to benefit from the same increased demand? For example, can she purchase the market basket of companies (other than Intel) that comprise the Philadelphia Semiconductor Index? The stock of personal computer manufacturers or retailers? The stock of software companies whose products are complementary with personal computer sales? Under the right circumstances, such companies can all be thought of as stock substitutes for Intel. A strategy of trading in stock substitutes with nonpublic knowledge of Intel earnings will produce a supranormal return.

Potential profits from such trading can be substantial. To cite but one example, Intel on November 10, 1998 did in fact report higher than expected quarterly demand (by 4 percent or so) for its microprocessor. On the day following the announcement, Intel's stock rose about 5%, for a rise in market value of about $7 billion. Intel's announcement was interpreted in the financial press as indicating strong demand for personal computers generally. The stock of other companies in that industry, and the market baskets of stocks in that industry (such as the Philadelphia Semiconductor Index), rose from 2.5% to 5%. The stock of Intel's downstream customer, Compaq, rose 4%, a dollar rise of over $2 billion in market value. The price of short-term call options in Compaq increased

dramatically.[1] Analysis linked the increase in stock value of Compaq and other companies to the increased demand for PC's suggested by Intel's strong earnings report.[2]

In this article, we will focus on circumstances where an informed insider (or a corporation itself) could trade profitably on its own stock but for 10b-5's traditional prohibition on insider trading. To avoid 10b-5, the insider might instead want to substitute trading on other stocks whose price will be predictably affected by the same information.[3] Such substitute trading could potentially take a variety of forms. Particular types of information will cause the price of a stock substitute to predictably move in the opposite direction of the price of one's own company. Information that would make an insider want to buy shares of his or her own company will sometimes induce the insider to want to sell another company's shares. For example, if an insider of Genentech realizes that it is likely to win the race in cloning a particularly useful monoclonal antibody, then selling rivals' stock short may be a close substitute for buying its own shares long.

The impetus for substitute trading will not be limited to corporations that sell substitute

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[1]For example, November call option contracts to buy Compaq at $33 rose 19% on that day. *See infra* at ? (analyzing change in larger basket of option contracts). *See also* Steven M. Sears, *Intel Corp.'s Options Get a Shot in the Arm from Forecast of Better-Than-Expected Profit*, WALL ST. J., Nov. 12, 1998, at C13 (reporting that Compaq's increase also due, in part, to announcement that it would market computers directly to consumers).

[2]*See* Bloomberg News, *Intel Shares Rise 6.3% To A Record*, PORTLAND OREGONIAN, Nov. 12, 1998, at B3.

[3]At other times, an employee (or a firm) itself will come upon a piece of non-public information, which, while not related to its own stock creates a profitable trading opportunity on other companies' stock. While some of the Article's analysis is relevant to such cross trades (see *infra* p.62), such cross trading is not literally a substitute for prohibited insider trading. Informationally driven non-substitute trading instead raises issues of when we should allow trading on the basis of non-public information (as is discussed in the section on 14e-3). *See infra* subsection II.C.2.

products. Supranormal returns may also be realized in trades on the stock of upstream suppliers and downstream customers. For example, an executive of Ford Motor Company may hear from her engineers nonpublic information about an assembly-line robotic device tested by Ford but manufactured by another company. Or substitute trading on the stock of complementary products may become profitable. A corporation, rather than its employees, may trade in stock substitutes. In the above examples, supranormal profits may be available to Intel, Genentech, and Ford.

Substitute trading, if legal, could threaten to undermine the effectiveness of insider trading prohibitions generally. Yet legal scholarship has not focused squarely on the problem.[4] In Part I of this Article, we examine the economics of trading in stock substitutes. We summarize the literature on stock correlations and review event studies that measure the effect that a public announcement

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[4]Trading in stock substitutes is mentioned in passing in a number of thoughtful legal articles or reports on insider trading. See American Law Institutes, Federal Securities Code §1603 ("It would be convenient to have a new category of `quasi-insider' that would cover people like (i) judges clerks who trade on information in published opinions ...and perhaps (iv) persons who are about to give profitable supply contracts to corporations with which they are not otherwise connected.... But this does not lend itself to definition. It is difficult in the abstract to opine even on illustrative cases."). See also Arthur Fleischer, Jr., Robert H. Mundheim & John C. Murphy, An Initital Inquirty Into the Responsible to Disclose Market Information, 121 Univ. Penn. L. Rev. 798, 815-17 (1973), Dennis W. Carlton & Daniel R. Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857, 874 (1983). As two economists have written:

> Though there is a large literature on the economic and legal aspects of insider trading, this literature suffers from a serious omission: almost all attention has been focused on trading by officers and directors of one corporation in *that corporation's* publicly traded securities. [But] another likely type of insider trading is by officers and directors of one corporation (Corporation A) in *another* corporation's (Corporation B) securities.

Robert G. Hansen & John R. Lott, Jr., *Profiting from Induced Changes in Competitors' Market Values: The Case of Entry and Entry Deterrence*, 43 J. INDUS. ECON. 261, 263 (1995). See also Nicholas Georgakopoulos, *Classical and Cross Insider Trading: Variations on the Theme of Rule 10b -5*, 28 AM. BUS. L.J. 109, 111 (1990); Nicholas Georgakopoulos, *Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation*, 26 CONN. L. REV. 1, 23 (1993),

by one company has on other companies in the same industry. We also discuss the "mechanics" of trading in stock substitutes to assess how profitable such trading might be. A representative issue covered is how much stock a trader could buy, as a percentage of daily volume or market capitalization, without so moving price as to offset any informational advantage.

In Part II, we examine the legality of trading in stock substitutes. Section 10(b) has traditionally been interpreted to prohibit an insider from using material, nonpublic information to trade in her own company's stock. An insider for this purpose would include the company itself. Under this traditional interpretation, an insider could legally trade in another company's stock. The rationale for this is that the insider is not a fiduciary of the company whose stock she is trading and therefore owes no duty to its shareholders. The reach of Section10(b) has been extended under the so-called "misappropriation" doctrine. Under this doctrine, a fiduciary who, in violation of the confidence of her principal, uses information gleaned from her role to profit from securities trading has violated Section 10(b). The misappropriation doctrine requires a fiduciary relationship between the trader and the source of the information; it does not require a fiduciary relationship between the trader and the shareholder on the losing end of the trade.

How would the misappropriation doctrine affect trading in stock substitutes? An employee is a fiduciary of her employer. If a company explicitly prohibits its employees from using nonpublic information to trade in another company's stock, an employee who violates that prohibition will violate 10(b). If, on the other hand, a company explicitly permits its employees to trade in another company's stock, an employee who trades will not violate the confidence of her employer, and not run afoul of 10(b). The application of the doctrine in the (typical) case in which the employment contract is silent as to the permissibility of trading in stock substitutes is somewhat unclear. The

existing default is probably that such trading would not violate 10b-5 unless a court concluded that the employee had implicitly promised not to trade because (1) the employee was a "temporary insider" of (and hence owed a fiduciary duty to) the corporation on which she traded; (2) such trading had the potential to harm the employee's own firm; or (3) the trading violated an implicit understanding between employer and employee. In the interests of caution, however, most securities lawyers would advise employees in this situation not to trade. Significantly, the misappropriation doctrine will not limit the ability of a company from using its own nonpublic information to trade in another company's stock. Such trading does not violate the confidence of any fiduciary.

Part III discusses what can be gleaned about current corporate practice -- both concerning corporate policies regarding substitute trading and the extent to which such informationally-driven trading occurs. Some companies -- particularly in the securities industry -- expressly prohibit their employees from trading in stock substitutes. We have also uncovered a few examples of companies that in the past have given employees explicit permission to trade in stock substitutes. But most employment contracts are silent as to whether such trading is permitted or prohibited. This finding is roughly consistent with what we would expect. Stock substitute trading offers a form of compensation paid for largely by the shareholders of another company; an employer who attempted to limit this trading by contract would face difficult line-drawing issues and run the risk of imposing criminal penalties on employees who approach those lines. It is difficult to get even good anecdotal data on the degree of trading in stock substitutes. Our best guess is that low-level employee trading is common, but that large-scale corporate trading does not occur.

Part IV examines the desirability of trading in stock substitutes. We focus on efficiency

effects, and first review the existing debate over insider trading, that is, trading by a company in its own stock, or trading by an employee in her company's stock. (To avoid confusion, we will use the term "insider trading" to describe this form of trading, and the term "trading in stock substitutes" to describe a company or executive trading in another company's stock. Opponents of Section 10(b) liability argue that insider trading profits are best viewed as a potential form of compensation to executives; if insider trading were legalized, shareholder losses on trades with insiders would be offset by shareholder gains from lower explicit pay to insiders. Insider trading would produce a social good: more accurate stock pricing. In any event, since losses from insider trading are internalized to the company and its shareholders, the decision whether to permit such trading ought to be left to the company. Supporters of the present law argue that insider trading distorts employee incentives. We extend the analysis by pointing out another problem with employee insider trading: it inefficiently ties the purchase of executive services to the sale of trading rights. We conclude that employee insider trading is presumptively inefficient. However, insider trading carried out by a corporation, rather than its employees, may well be efficient.

We agree with a primary contention of opponents of the present law: efficiency gains and losses are internalized to each company, and focusing at least on efficiency-related goals, the present no-trade rule might be made elective, rather than mandatory. However, because a corporation's decision to let its manager trade on material nonpublic fiduciary information is a quintessentially self-interested transaction, the decision should be subjected to the heightened procedural and substantive scrutiny that arises under the duty of loyalty standard.

Trading in stock substitutes raises many of the same costs and benefits issues as direct insider trading. Trading may distort incentives but lead to more accurate stock prices; shareholders gain

from lower explicit pay but lose on trades. However, gains and losses in stock substitute trading are not internalized by the company (and ultimately, the shareholders of the company) whose employees trade. Significantly, gains from trades accrue to the company that trades, or whose employees trade, while losses are realized by shareholders of the company whose stock is traded. There can be no presumption, therefore, that a "hands-off" approach will result in an efficient amount of trading. Under reasonable assumptions, there will be "too much" trading in stock substitutes.

Part V discusses changes in the law that might follow from our analysis. We recommend a set of disclosure rules that should clarify existing law, and provide information to investors and policymakers. We outline substantive changes that would prevent inefficient trading in stock substitutes. Finally, we discuss the implications of our analysis on related securities law issues.

I THE ECONOMICS OF TRADING IN STOCK SUBSTITUTES

A. *Information and Stock Correlations*

To get a better handle on the potential scope of substitute trades, it is useful to more specifically define what types of corporate relationships can produce profitable stock substitute trading opportunities. Vertically, most firms have upstream suppliers and downstream customers. Horizontally, most firms have competitors and "complementors."[5] All four types of firms can potentially be stock substitutes. And in each case, different types of inside information could

[5]The term, "complementors" is taken from ADAM M. BRANDENBURG & BARRY J. NALEBUFF, COOPETITION (1996). A complimentor is a company that sells a complementary product. Complementors for Intel would include to varying degrees both software (e.g. Microsoft) and hardware (e.g Dell) manufacturers. As Brandenburg and Nalebuff stress, however, increasingly a firm that is complimentor in one context may be a customer, supplier, or competitor in other contexts.

produce positive or negative correlations between the insider's stock and the substitute stock. For example, inside information that the demand for PCs is stronger than expected would create a positive correlation between Intel's price and the price of one its downstream customers; but inside information that there would soon be additional entry downstream[6] might increase Intel's bargain power viz-a-viz its downstream customers and thereby create negative correlation between Intel's price and the price of its downstream customers. These examples suggest that sometimes buying your customer's stock and sometimes selling your customer's stock will be a substitute trade for buying your own company. Examples can readily be provided with regard to each of the other three types of stock (suppliers, competitors, and complementors) to show that inside information will sometimes suggest positive or negative correlations in expected future stock movements.[7]

The fact that we as outsiders tend to see technology stocks (for example, those included in the Philadelphia Semiconductor Index) move together understates therefore the potential to use substitutes trading to circumvent the insider trading prohibition. From an insider's perspective, the predictable correlations -- at times positive, at times negative -- will be much stronger than what informationally challenged outsiders perceive as an average positive correlation. We define "trading in stock substitutes" to encompass any trades in these four types of firms that are substitutes for what, absent insider trading prohibitions, would be a profitable opportunity to trade in your own stock.

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[6]Imagine the new entrant first privately approached Intel to secure a source of chip supply.

[7]For example, with regard to a competitor, an insider may have nonpublic information that industry demand exceeds expectations or nonpublic information that its product is about to become much better than its competitor. The former information would create a positive correlation; the latter information would create a negative correlation.

Indeed, substitute trading includes any informationally-driven transaction where the informed trader buys or sells a particular security as a second-best substitute for a prohibited transaction. For example:

> An insider who would under 16(b) be forced to disgorge short-swing profits from trading on her own stock might instead trade on a rival's stock;
>
> Or a lawyer who as a temporary insider under 10b-5 is prohibited from trading on a client's stock may instead want to trade on the stock of a complimentary product;
>
> Or an outsider who under 14e-3 would be prohibited from trading purchasing stock in a subject of a forthcoming tender offer and might instead trade on a rival's stock.

Whenever a security law prohibits a form of informationally-driven trading, the objects of those regulations may have an incentive (unless constrained by law) to substitute toward a second-best trade.

There is abundant evidence that profitable opportunities for such second best substitute trading exists. For example, Robert Hansen and John Lott have noted the dramatic opportunities for profitable substitute trading when one firm decides to enter into another market:

> In 1974 Kodak decided to enter the instant camera market (which was until then occupied solely by Polaroid. Upon Kodak's announcement in 1974 to enter, Polaroid stock fell from 79 5/6th to 69 ½, a total drop of $300 million.[8]

While there is no direct evidence that Kodak or its employees used this information to trade on Polaroid stock, there is at least indirect evidence that someone was trading on this information as the Chicago Board of Option restricted trading in Polaroid options four months earlier because of a buildup of uncovered short positions.[9]

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[8]Hansen & Lott, *supra* note 4, at 261, n.2.

[9]*See id.*

Similar effects on rivals' prices can be found with regard to the announcement that new computer chips would be manufactured. Again, Hansen and Lott note:

> On April 23, 1993 Advanced Micro Devices announced that it began shipping clones of Intel Corporation's 386 microprocessor; Intel stock fell 6-3/4 to 96 [representing a loss of approximately $32 million]. On April 14, 1994, IBM and Cyrix Corp. announced a pact whereby IBM would manufacture Cyrix MI microprocessors, which are also clones of Intel's 486 chips; Intel fell 3-`/3 to 60-1/2 [representing a loss of approximately $16 million]. On April 26, 1993, Motorola introduced the first versions of its Power PC chip, which competes with Intel's Pentium chip; Intel fell by 5-1/4 to 87-3/8 [representing a loss of approximately $25 million].[10]

In our initial example Intel might have used its knowledge of unexpectedly high chip demand to profitably trade on the stock of its customers or the manufacturers of complementary products. These examples suggest that a rival of Intel might have made money by selling Intel short before announcing the production of a new, competitive chip. But the size of the stock movements on the date of announcement suggests that corporations are not systematically exploiting these substitute trading opportunities -- leaving billions of dollars of potential profits lying on the ground.[11]

While these Intel examples probably represent unexploited substitute trading opportunities, there is evidence that industrial mores have not always constrained businesses from trading on their rivals' stocks. The industrialist Jay Gould, for example, would use substitute trading to profit on the predictable decline in value of a rival company's stock. When forming new telegraph companies to compete against the incumbent Western Union, he would consistently sell short Western Union

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[10] *Id.*, at 262, n.2.

[11] We will more directly assess whether and how such trading might be profitable infra at Section I.B. Our "lying on the ground" reference is to the old joke in which two economists are walking down the street and one says "Hey, there's $20 lying on the ground." The other responds, "There couldn't be, someone would have already picked it up."

stock.[12] And this same maxim -- sell thy rival's stock short before entering -- was used against Gould when a new steamship line began competing against his Pacific Mall company.[13]

Dozens of event studies have documented how one firm's announcement concerning particular types of information consistently change other firms' stock prices. The majority of these studies concern "intra-industry" information flows -- that is, how information about one firm affects the stock value of its industry rivals. For example, a 1996 study shows a positive correlation between one firm's dividends and its rival's stock returns.[14] Unexpected dividend increases (decreases) for one firm led to increased (decreased) stock return for non-reporting rivals.[15] And a parallel result has been shown with regard to earnings disclosure. Announcements of unexpectedly increased (decreased) earnings tends to increase (decrease) the stock return of industrial competitors.[16]

But theory suggests that many broad types of information might induce either positive or negative rival stock price reaction. For example, the announcement of unexpectedly high earnings could be good news for rivals if it was driven by an unexpectedly high general demand for the

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[12]*See* JULIUS GRODINSKY, JAY GOULD, HIS BUSINESS CAREER 276 (1957); MATTHEW JOSEPHSON, THE ROBBER BARONS, THE GREAT AMERICAN CAPITALISTS, 1861-1901, at 205 (1934); Hansen & Lott, *supra* note 4, at 273.

[13]H.A., *Bye-The-Bye in Wall Street*, WALL ST. J., Sept. 17, 1925, at 5.

[14]Michael Firth, *Dividend Changes, Abnormal Returns and Intra-Industry Firm Valuations*, 31 J. Fin. & Quant. Analysis 189, 189, 210 (1996).

[15]*See id.* at 189.

[16]*See* Stephen P. Baginski, *Intra-Industry Information Transfers Associated with Management Forecasts of Earnings*, 25 J. ACCT. RES. 196, 196, 213 (1987); George Foster, *Intra-Industry Information Transfers Associated with Earning Releases*, 3 J. ACCT. & ECON. 201, 201, 217-19 (1981).

industry's goods, but it could be bad news for rivals if it was driven by the reporting firm being able to shift demand away from its rivals or to unexpectedly reduce its costs relative to its rivals. And indeed one of the more nuanced analyses of stock market reaction to accounting information shows rivals' stock prices are sensitive to the underlying cause of increased earnings. If the increased earnings are caused by an unexpected increase in sales, this tends to be good news for the announcing firm's competitors; but if the increased earnings are caused by an unexpected decrease in costs, this tends to be bad news for the firm's rivals.[17]

Similar indeterminancy stories could be told with regard to the impact of several broad categories of announcements. The declaration of bankruptcy could be good news for rivals because they have one less competitor or it could be bad news because it might indicate that the industry is in poorer health than was previously thought. The announcement of a horizontal merger could be good news for rivals because it may increase the chance of oligopolistic pricing or it could be bad news for rivals because it may increase the chance of exclusionary practices. The announcement of a product recall might be good news for rivals because they may face weaker competition or it might be bad news for rivals because it may signal their increased exposure to recalls or tort liability.

But in at least two of these examples (concerning bankruptcy and product recall), the best current empiricism suggests a positive correlation between the stock price of the announcing firm and the stock price of its rivals. When a firm declares bankruptcy, both its and its rivals' stock prices tend to fall. A value-weighted portfolio of competitors' stock experiences a significant loss of 0.56

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[17] *See* Gun-Ho Joh & Chi-Wen Jevons Lee, *Stock Price Response to Accounting Information in Oligopoly*, 65 J. Bus. 451, 471 (1992).

percent in the three days centered around the Chapter 11 announcement.[18] The contagion effect, as an empirical matter, outweighs the pro-competitive effect.

Gregg Jarrell and Sam Peltzman have found a similar dominance of the contagion effect with regard to product recalls.[19] Competitors of drug and auto firms with recalled products bear substantial losses. For example, the stock price of rival drug manufacturers were found to suffer a statistically significant mean loss of over 1% in the two weeks surrounding a recall.[20] A negative spillover effect was found with regard to automobile recalls as well. On average, competitors lost about two thirds as much as the recall company lost.

With regard to mergers, the general tendencies are much more contestable as an empirical matter. There is at least some empiricism, however, of a net negative correlation between the effects of government challenges to mergers -- the announcement of a challenge tends to reduce the stock price of the merging company but increase the stock price of its rivals.[21]

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[18]*See* Stephen P. Ferris, Narayanan Jayaraman & Anil K. Makhija, *The Response of Competitors to Announcements of Bankruptcy: An Empirical Examination of Contagion and Competitive Effects*, 3 J. CORP. FIN. 367, 367 (1997); *also* L.H.P. Lang & R. M. Stulz, *Contagion and Competitive Intra-Industry Effects of Bankruptcy Announcements: An Empirical Analysis*, 32 J. FIN. ECON. 45 (1992).

[19]Gregg Jarrell & Sam Peltzman, *The Impact of Product Recalls on the Wealth of Sellers*, 93 J. Pol. Econ. 512, 513 (1985).

[20]*See id.* at 521.

[21]*See* B. Epsen Eckbo, *Horizontal Mergers, Collusion and Stockholder Wealth*, 11 J. FIN. ECON. 241, 269 (1983). If credible, this result would suggest that merger challenges on average do not deter the creation of tighter oligopoly, but instead deter potential future exclusion (or at a minimum weaken the competitive position of the merging firms). *But see* Robert Stillman, *Examining Antitrust Policy Towards Horizontal Mergers*, 11 J. FIN. ECON 225, 240 (1983) (finding no reaction by rivals); George Bittlingmayer & Thomas W. Hazlett, DOS Kapital, Has Antitrust Action Against Microsoft Created Value in the Computer Industry (June 2, 1998) (unpublished manuscript on file with the author) (finding a positive correlation concerning antitrust suit against

The *tendency* for rivals' stock price *on net* to be positively or negatively correlated upon the announcement of these broad types of information -- despite the theoretical ambiguity -- has several implications for our analysis. First, there may be potential profits for even a relatively uninformed trader to engage in unnuanced trading if she only knows that a particular rival is about to declare bankruptcy. Second, as suggested above, there may be even larger potential profits for more nuanced trading. For while external social scientists may have difficulty identifying which circumstances are likely to give rise to positive or negative correlations, that will not be true for industry insiders. An insider who, for example, learns of an impending tire recall may have much better idea of whether the stock price of rival tire manufacturers are likely to increase or decrease on disclosure of the announcement than social scientists or uninformed traders. The existence of a general tendency suggests that profits from more nuanced trading may be even greater.

There are, however, circumstances where both theory and empiricism point more strongly toward a negative correlation. For example, one firm's unilateral increases in its R&D expenditures has been shown to reduce its rivals' stock prices.[22] And while not supported by event study analysis, it is fairly obvious that in zero-sum contests, such as litigation or patent racing, that information about one firm's prospects would be negatively associated with the prospects of one's rival. Hence, in the Texaco-Penzoil dispute, information that Penzoil was about to win (lose) would suggest that it would be quite profitable to sell (buy) Texaco stock. Or information that Genentech was about

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Microsoft).

[22]*See* Zaher Z. Zantout & George P. Tsetsekos, *The Wealth Effects of Announcements in R& D Expenditure Increases*, 17 J. FIN. RES. 205, 205 (1994); Changqi Wu & John K.C. Wei, *Cooperative R & D and the Value of the Firm*, 13 REV. INDUS. ORG. 425, 425 (1998).

win (lose) a particularly important patent race would suggest that it would be profitable to sell (buy) its rival's stock.

While event studies to date have focused on the "intra-industry" information flows[23]-- that is the impact of one firm's information on its rivals' stock prices-- there is some evidence that suppliers' stock prices are positively associated with downstream retailers' sales announcements.[24] For example, Olsen and Dietrich show that when downstream retailers (such Sears or K-Mart) experienced a two-standard deviation plus or minus change in their stock price following an announcement of their recent sales figures, suppliers who sold more than 20 percent of their products to these retailers experienced parallel changes which were statistically significant.[25] When the retailer's stock price went down more than two standard deviations, the supplier's stock price on average dropped 2.7 percent and when the retailer's stock price increased two standard deviations, the supplier's stock price increase 2.9 percent.[26] And of course such vertical information flows could move downstream as well. Our initial Intel example was in part a story about how a supplier's information for chip demand could be used to predict changes in the price of a customer (Compaq). Predictable correlations between upstream and downstream again raise the possibility of a profitable

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[23]*See e.g* C. Asness & M. Smirlock, *A Note on REIT Bankruptcy and Intra-Industry Information Transfers: An Empirical Analysis*, 15 J. BANKING & FIN. 1171 (1991)

[24]*See* N.B.B. Boim, *The Effects of Consolidated Edison's 1974 Dividend Omission Upon the Common Stock Returns of the Utilities Industry*, 1 CHI. MBA 85 (1977); *and* Michael G. Hertzel, *The Effects of Stock Repurchases on Rival Firms*, 46 J. FIN. 707, 707 (1991) (finding negative, but statistically weak, correlation between repurchase announcement and price of rival's stock); .

[25]Chris Olsen & J. Richard Dietrich, *Vertical Information Transfers: The Association Between Retailers' Sales Announcements and Suppliers' Security Returns*, 23 J. ACCT. RES. 144, 205 (Supp. 1985).

[26]*See id.*.

substitute trading strategy.

B. *The Mechanics of Trading in Stock Substitutes*

Exactly how profitable could substitute trading be? This section explores this question by analyzing the our earlier Intel example. While only based on one stylized example, our analysis confirms one's intuition that substitute trading can be extremely profitable. However, because of the relative illiquidity of the option markets, substitute trading is likely to be more attractive for employees than for firms themselves.

As discussed above, on November 10, 1998, Intel's reporting of higher than expected chip demand increased not only its own price but, unsurprisingly, the prices of many other related firms in the industry. For example, stocks on the Philadelphia Semiconductor Index increased 5.24%, representing a combined increase in equity value of almost $4.5 billion.[27] This increase in value

[27]The price movement in both dollar and percentage terms are reported in Table 1:

Table 1: Philadelphia Semiconductor Index November 10, 1998 price movements

TICKER	Price on 10-Nov	Change on Date (percentage)	Outstanding Shares	Theoretical Upper Limit on Profit
AMAT	$ 35.63	5.40%	365,627,000	703,374,941
AMD	$ 26.50	1.90%	143,365,000	72,184,278
KLAC	$ 35.19	4.30%	86,873,000	131,446,146
LLTC	$ 63.50	4.50%	76,854,000	219,610,305
LSCC	$ 31.00	6.60%	23,558,000	48,199,668
MU	$ 44.25	7.60%	212,737,000	715,434,531
NSM	$ 12.94	7.70%	164,841,000	164,218,890
NVLS	$ 41.88	7.00%	33,835,000	99,178,844
RMBS	$ 68.13	0.92%	22,703,000	14,229,105
TXN	$ 63.88	8.70%	390,512,000	2,170,123,998
XLNX	$ 49.38	3.00%	72,490,000	107,375,813
	Average % Increase	5.24%	**Total Price Increase**	$ 4,445,376,519

represents the theoretical upper limit on the trading profits that might have been realized through substitute trading if an informed trader could somehow purchase 100% of the equity in these related firms without inducing a price increase (and then sell without inducing a price decrease) .

Buying 100% of the shares without a market price response is, of course, impossible to do for both legal and non-legal reasons. But what is possible? It is notoriously difficult to predict how quickly and how dramatically the market price will respond to abnormal increases in the demand or supply for a stock. To heuristically estimate how much a substitute trader might make in the real world, we analyzed three (relatively crude) assumptions about the potential market response. Our first approach -- suggested to us by a successful and well-respected trader -- assumes that a substitute trader can (and does) buy 20% of the average daily trading volume of the stock for the ten days prior to the announcement without triggering a market response. Our second approach -- following a finding a Myron Scholes[28] – assumes that a substitute trader can (and does) buy two percent of the outstanding shares without triggering a market response. And our third approach -- following a finding of Laurie Bagwell[29] – assumes that the elasticity of the stock price with regard to increases in demand is 2.4 and that the substitute trader buys until the market prices rise to the informed trader's assessment of its true value.[30] These approaches are still likely to overstate a trader's

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[28]Myron S. Scholes, *The Market For Securities: Substitution versus Price Pressure and the Effects of Information on Share Prices* 45 J. BUS. 179 (1972) (finding no selling pressure on price in study of secondary offerings).

[29]Laurie S. Bagwell, *Shareholder Heterogenity: Evidence and Implications*, 81 AM. ECON REV. 218 (1991) (arguing that earlier study of Dutch Auction stock repurchases shows inelasticity in the supply curve for purchases of large blocks of securities).

[30]For the purposes of this last estimation, we assumed for heuristic simplicity that the substitute trader can accurately predict what the post-announcement price will be and trades before hand to the point where the announcement would have no effect on value.

potential profits because each approach implicitly assume that after Intel's announcement, the trader would be able to sell her holdings of the related firms' stock without inducing a price decrease. Still, given the severe limits of our knowledge about how markets prices react to informed trading, we still believe this is a useful exercise to give us ball park numbers of how much money might be made and how much liquidity a substitute trader would need to make it.

Table 2 reports the core estimates from our three approaches:[31]

Table 2: Potential Profitability of Substitute Trading on Philadelphia Semiconductor Index

	Percent of Outstanding Shares Accumulated	Cost of Accumulation	Dollar Profit	Percent of Potential Profits	Two-Week Return	Annualized Return
Trader Assumption	4.69%	$2,112,170,510	$126,593,563	2.8%	6.0%	354.2%
Scholes Assumption	2.00%	$1,370,500,077	$88,907,530	2.0%	6.5%	412.5%
Bagwell Assumption	12.57%	$10,668,903,645	$778,039,061	17.5%	7.3%	523.5%

The results of this exercise teach us that the reaction of the stock market to substitute trading reduces

[31]The underlying estimates are reported here in Table 3:

	Trader Assumption		Scholes Assumption		Bagwell Assumption	
Stock	Cost of Accumulation	Profit	Cost of Accumulation	Profit	Cost of Accumulation	Profit
AMAT	$520,703,621	$28,117,996	$260,509,238	$14,067,499	$1,688,099,859	$91,157,392
AMD	$148,475,154	$2,821,028	$75,983,450	$1,443,686	$173,242,266	$3,291,603
KLAC	$104,189,308	$5,948,950	$61,137,742	$2,628,923	$315,470,751	$13,565,242
LLTC	$99,932,090	$8,115,151	$97,604,580	$4,392,206	$527,064,732	$23,717,913
LSCC	$74,441,177	$2,398,530	$14,605,960	$963,993	$115,679,203	$7,634,827
MU	$270,193,520	$29,311,639	$188,272,245	$14,308,691	$1,717,042,874	$130,495,258
NSM	$141,657,702	$3,189,222	$42,654,257	$3,284,378	$394,125,336	$30,347,651
NVLS	$39,637,788	$8,980,389	$28,336,813	$1,983,577	$238,029,225	$16,662,046
RMBS	$80,391,123	$1,203,227	$30,932,838	$284,582	$34,149,853	$314,179
TXN	$374,061,976	$30,513,162	$498,879,080	$43,402,480	$5,208,297,595	$453,121,891
XLNX	$258,487,051	$5,994,269	$71,583,875	$2,147,516	$257,701,950	$7,731,059
	$2,112,170,510	$126,593,563	$1,370,500,077	$88,907,530	$10,668,903,645	$778,039,061
Two Week Return		6.0%		6.5%		7.3%

the otherwise astronomical profits that Intel could earn from substitute trading. The trader and the Scholes assumptions have the trader earning two to three percent of the $4.5 billion dollar increase in the value of the related firms, while the Bagwell assumption does better but still captures less than twenty percent of the theoretical upper limit.

We also see that capturing these amounts require large amounts of short term liquidity. The trader and Scholes assumptions require one or two billion dollars to be invested, while the more optimistic Bagwell scenario would require Intel to pony up more than ten billion dollars. At the time of this announcement, Intel (one of the more liquid companies in America) only had about two billion dollars on hand.[32] Given the way capital markets are currently organized, limited liquidity is likely to constrain a firm's ability to maximally exploit substitute trading opportunities. Investment bankers will provide bridge loans for takeover purposes,[33] but lending $10 billion dollar for two weeks to finance informed trading on a related firm is a service not currently offered by the investment banking community.

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[32]In its Balance Sheet for fiscal year 1998, Intel reported having $2.038 billion in Cash. *See* INTEL, CORP., SUMMARY OF 1998 BALANCE SHEET, *available at* http://www.tenkwizard.com/fds_display.asp?g=&sym=intc&t=bal&submit.x=19&submit.y=8. Intel's revenues in 1998 were $26.273 billion, with $14.129 billion in profits, and a diluted earning per share of $1.73. *See id*.

[33]Bridge loans are short-term facilities often used to finance acquisitions until longer-term funding can be secured to replace it. A typical bridge loan will last 180 days and have a floating rate of 500 basis points above prime, with the possibility of a 180 day extension at an increased rate. *See* William D. Rifkin, *Financing and Funding Mergers and Acquisitions*, *in* IV THE LIBRARY OF INVESTMENT BANKING: MERGERS, ACQUISITIONS, AND LEVERAGED BUYOUTS 80, 85 (Robert Lawrence Kuhn ed., 1990). Typical bridge loans have principal amounts of several hundred million dollars, *see e.g.* Paul M. Sherer, *Banks Balk at Financing Merger Deals*, WALL ST. J, Oct. 16, 1998, at A3, but bridge-loans may extend into the billions, *see e.g.* Paul M. Sherer, *Goldman Sits on Bridge Loan After Maneuver Goes Awry*, WALL ST. J., May 22, 2000, at C1.

These liquidity constraints may substantially dampen the interest of firms like Intel to engage in substitute trading. They earn an astronomical annualized return on their investment, but because they only can sustain it for a short period on what to Intel may seem like a relatively small amount of dollars, it may seem not be worthwhile to divert the firms attention from the big issues (designing the next chip; marketing the current chip) in order to cash in on profits that are relatively small potatoes.[34] Other factors may also militate against trading in stock substitutes. Earnings reaped through such tradings are likely to be discounted by analysts as non-recurring gains. And even a small probability of legal liability or that the investing community might look askance at such a source of profits might be sufficient to deter this rather modest one-time killing.

On the other hand, the gains in this example are large in absolute and percentage terms. And the example itself is built on a piece of information that had a relatively modest percentage effect on stock price. In a volatile and fast-moving sector such as technology, companies such as Intel will each year find themselves with information that is apt to have a larger effect on stock price, and therefore offer larger percentage gains from trading.

Substitute trading may seem even more attractive to employees. The key difference here is while options' markets are not liquid enough to support large scale substitute trading by a firm, they may be liquid enough to allow an employee to make what from her perspective may be a sufficient amount of money without requiring an inordinate amount of capital. To explore this possibility, we estimated how much an employee of Intel might have been able to make by trading in the options

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[34] *See* Julio J. Rotemberg & Garth Saloner, *Benefits of Narrow Business Strategies* 84 AMER. ECON. REV. 1330 (1994) (arguing that firms benefit by focusing employee's attention on improving profitability in core areas of business).

market. We assume for these purposes that the employee purchases two percent of the average trading volume for ten successive days. As shown in Table 4, a two week investment of approximately $250,000 would have yielded a profit of about $53,500 -- a 21% return and a 14,277.5% annualized return. Incorporating transaction costs into the calculation would reduce the profitability of the trade, but still leave the employee with high return on investment. Here, as with corporate trading, the return would be greater if we were considering information that had a greater than 4% effect on stock price.

Table 4: Potential Profits from Substitute Trading on Options (Broker Assumption)

Underlying Asset	Strike Date	Strike Price	Price on Nov 10	Price Change on Date	Average Trading Volume	Cost of Accumulation	Dollar Profit
Compaq	Nov	$ 30	$ 1.97	$ (0.13)	2920	$ 11,496	$ (730)
		$ 33	$ 0.66	$ 0.13	2254	$ 2,959	$ 564
		$ 35	$ 0.21	$ -	1261	$ 526	$ -
Dell	Nov	$ 60	$ 7.69	$ 0.88	3146	$ 48,362	$ 5,505
		$ 65	$ 4.28	$ 1.00	6729	$ 57,614	$ 13,457
		$ 70	$ 2.86	$ 0.75	7229	$ 41,339	$ 10,843
		$ 80	$ 0.17	$ 0.44	918	$ 306	$ 803
	Dec	$ 65	$ 6.72	$ 1.25	4320	$ 58,051	$ 10,800
		$ 70	$ 4.50	$ 1.00	1573	$ 14,153	$ 3,145
IBM	Nov	$ 155	$ 1.41	$ 1.75	1315	$ 3,698	$ 4,603
Microsoft	Nov	$ 110	$ 2.02	$ 0.50	3594	$ 14,488	$ 3,594
		$ 115	$ 0.56	$ 0.38	1340	$ 1,508	$ 1,005
Totals						$254,501	$ 53,589
Two-week Return							21.1%
Annualized Return							14277.5%

The much higher rate of return per dollar invested may make substitute trading more attractive to employees than employers.[35] It is not surprising, therefore, that we find that currently,

[35] Other reasons may also make it more likely that employees rather than employers trade. As noted above, employers may believe that trading profits will be discounted by analysts or worry that trades will provoke an SEC reaction. Employees obviously are unaffected by analysts and may be relatively confident that their trades will go undetected. On the other hand, employer trading is clearly legal; not so for employee trading. See *infra* Part II at 22

informationally-informed substitute trading is carried out by employees, rather than employers.[36] Still there is a slight conundrum why firms do not engage in this practice more.

II. IS SUBSTITUTE TRADING CURRENTLY LEGAL?

This section examines the extent to which substitute trading is currently legal. We conclude that, in many cases at least, such trading is legal. Companies can trade substitutes without running afoul of section 10-b. Companies can give their employees the right to trade in substitute stocks and can prohibit their employees from such trading. What employees who work under labor contracts that are silent as to the permissibility of such trading? The answer here is unclear and may well depend on the facts and circumstances surrounding the particular case.

A. *Liability under Traditional Theories of Section Rule 10b-5*

Section 10(b) of the 1934 Securities Exchange Act provides in relevant part that

> It shall be unlawful for any person. . . (b) To use or employ, in connection with the purchase or sale of any security. . . any manipulative or deceptive device. . . in contravention of such rules and regulations as the Commission may prescribe. . . for the protection of investors.[37]

Securities and Exchange Commission Rule 10b-5 makes it unlawful (a) To employ any device, scheme or artifice to defraud ... [or] (c) to engage in any act ... which operates or would operate as a fraud or deceit upon any person.[38]

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[36] *See infra*, Part III, at p.43.

[37] 15 U.S.C. § 78j(b) (2000).

[38] 17 C.F.R. § 240.10b5-1 (2000).

Section 10(b) and Rule 10b-5 may be enforced by a criminal or civil proceeding initiated by a U.S. Attorney, by a civil or administrative action initiated by the SEC, or under some circumstances, by a civil action initiated by an injured party.

Section 10(b) has been applied to stock trading under two quite different theories. Under what is sometimes termed the "traditional" interpretation, Section 10(b) imposes a "disclose or abstain" rule on corporate insiders; such persons are prohibited from trading on material nonpublic information in the sale or purchase of securities.[39] An "insider" for this purpose will include directors, officers, other employees of the company whose stock is being traded, and persons who receive tips from such persons.[40] A company is also considered an insider; it cannot trade on material nonpublic information in its own stock.[41] With one exception discussed below, persons who do not fall into one of these four groups can profit on material nonpublic information without

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[39] The phrase "trading on" suggests that the information must play a causal role in the trade, and, as a corollary, that an insider can escape liability by establishing that she did not use the information in making her trading decision (i.e., that she would have traded anyway). The SEC has long urged the adoption of a "possession" as opposed to "use" standard in Rule 10b-5. See Selective Disclosure and Insider Trading, Release Nos. 33-7881, 34043154, IC24599 (Adopting Rule 10b5-1, 17 C.F.R.240.10b5-1, which sets forth a possession standard with exceptions for sales made pursuant to agreements or written instructions executed prior to coming into possession of information and for certain sales of market-baskets of securities) Courts have split on the issue. *Compare* United States v. Teicher, 987 F.2d 112 (2d. Cir. 1993) (adopting possession standard), *with* United States v. Smith, 155 F.3d 1051 (9th Cir. 1998), *and* SEC v. Adler, 137 F.3d 1375 (11th Cir. 1998) (both adopting use standard). In general, the debate does not have any special application or relevance to the topic of this Article. We take no position as to the merits of either party's position, and adopt the "use" terminology only because it leads to less awkward sentence structure.

[40] *See* WILLIAM K. S. WANG & MARC I. STEINBERG, INSIDER TRADING §§ 5.2.3, 5.3 (1996 & Supp. 2000) (defining "insider" and "tipee" liability).

[41] Corporations are clearly subject to the 10(b) liability for misleading statements, and it is commonly assumed that corporations would face 10(b) liability for trading on nonpublic material information. *See* DONALD C. Langevoort, INSIDER TRADING: REGULATION, ENFORCEMENT AND PREVENTION §3.02[d] (2000); WANG & STEINBERG, *supra* note 40, at §5.2.3.3.

violating Rule 10b-5. That rule does not in general impose a "level playing field" by removing all sources of informational advantages a particular trader may have. An analyst or other trader who discovers material nonpublic information may use such information to her advantage. Under the traditional view, section 10(b) only eliminates the advantage a fiduciary of a company may have, and then only to the extent the advantage is attributable to material nonpublic information about her company, and is used in security transactions in her company's stock or options on that stock.

Thus, under the traditional view of 10(b), a director of Intel could not take advantage of material nonpublic information about Intel to profit from trading in Intel stock. However, a director of Intel could use the same information to trade in Compaq stock. The director of Intel is not a fiduciary of Compaq, and so owes no duty of loyalty to Compaq shareholders.

The scope of 10(b) is enlarged somewhat by the so-called "temporary insider" doctrine. Under that doctrine, outsiders who are entrusted by a corporation with valuable information under conditions of confidentiality are treated as insiders of that corporation.[42] Thus, an attorney in private practice becomes a temporary insider of a company that hires him.[43] The same holds true for other

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[42] As explained by the Supreme Court,

> Under certain circumstances, such as where corporate information is revealed legitimately to an underwriter, accountant, lawyer or consultant working for the corporation, these outsiders may become fiduciaries to shareholders. The basis of recognizing this fiduciary duty is... that [such persons] have entered into a special confidential relationship in the conduct of the business.... For such a relationship to be imposed, however, the corporation must expect the outsider to keep the disclosed nonpublic information confidential, and the relationship must at least imply such a duty. Dirks v. SEC, 463 U.S. 646, 655 (1983).

[43] *See* SEC v. Lerner, 1980 WL 1388, at *1 (D.D.C. Apr. 2, 1980) (attorney cannot purchase stock of client).

advisers, such as accountants, management consultants, or investment banks.[44] The scope of the temporary insider doctrine is somewhat unclear. It might extend to certain kinds of information gained through vertical supply relationships. Oracle employees who custom design a database for a retailer may become temporary insiders of that company; Ford employees who help design and test a piece of assembly-line manufacturing equipment may be temporary insiders of the manufacturer.[45] But the temporary insider doctrine would not apply to most forms of trading in stock substitutes. It would not apply, for example, to the paradigm case with which we began this Article: the Intel executive using material nonpublic information about Intel's quarterly earnings to profitably trade in a competitor's stock. And even when an employee of one firm is a temporary insider of another firm (and hence restricted from trading on its stock), substitute trading in yet other companies may still be profitable. For example, in the Dilbert cartoon displayed at the beginning of this article, Dilbert and his fellow employees may be temporary insiders of the air traffic control corporation (because of the contractual relationship between Dilbert's firm and air traffic control company) but Dilbert would not be a temporary insider of "Bluehound Bus Lines."

B. *The Misappropriation Doctrine*

1. *Generally*

In recent years, the reach of Rule10-b5 has been expanded considerably by judicial acceptance of the so-called "misappropriation" doctrine. Under that doctrine, a fiduciary who breaches the

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[44] *See* LANGEVOORT, *supra* note 41, at §3.02[3]; WANG & STEINBERG, *supra* note 40, at §5.2.3.

[45] These situations might also give rise to Section 10(b) liability under a misappropriation theory. *See* discussion *infra* at p.22.

confidence of a principal and profits from that breach through the sale or purchases of security has violated Rule10b-5. The violation occurs whether or not the trader is a fiduciary of the company whose stock she has traded. The fraud is on the party whose confidence has been breached, rather than the person on the losing end of the securities trade. Thus, a lawyer hired by Intel who through her representation of Intel obtains information about Compaq, and contravenes her client's intentions by secretly trading on that information, has violated Rule 10b-5. She has breached a fiduciary duty to her client, deceived her client by not announcing her intention to trade and profited from that deception through the securities markets.[46] In contrast, under traditional doctrine, the lawyer would be a temporary insider, or fiduciary of Intel, and would be guilty of violating Rule 10b-5 only if she traded in Intel stock. The misappropriation doctrine is sometimes described as one of fraud-on-the-source. The victim for which the trader is punished is the person whose confidence has been breached.[47] Examples of situations in which courts have found 10b-5 violations under the

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[46] If the attorney announces her intention to trade she is apparently not guilty of violating Rule 10-b5 -- even if the announcement comes after she has gained access to information and the principal is powerless to prevent her trading. The reason for this is that liability requires deception; and according to dicta in the one Supreme Court decision on point, a fiduciary who announces her intention to trade has not deceived her principal. *See* United States v. O'Hagan, 521 U.S. 642 (1997). If one accepts the premise of the misappropriation doctrine, this limitation on the doctrine -- labeled by some scholars as -- "just tell, don't ask" -- seems incorrect. Richard W. Painter, Kimberley D. Krawiec, & Cynthia A. Williams, *Don't Ask, Just Tell: Insider Trading After United States v. O'Hagan*, 84 VA. L. REV. 153 (1998). It seems more reasonable to find deception in using a position of trust to gain information. So defined, the deception would not be cured by disclosing an intention to trade on the information. In practice, fiduciaries who trade are unlikely to disclose their intentions to their principal, in large part because disclosure may bring other sanctions, including termination and civil or even criminal penalties under statutes other than Rule 10b-5. The discussion herein will assume that fiduciaries do not disclose trading intentions. This assumption is made to simplify exposition, and because we believe that disclosure is unlikely to serve as a serious limitation on liability.

[47] The person on the losing side of the trade is a victim, too, at least in the economic sense that she loses on the trade; and without a securities transaction, there is no liability for

misappropriation doctrine include a psychiatrist using information gleaned from a patient to trade BankAmerica securities;[48] a son using information gleaned from his father to trade call options in the Amax Corporation;[49] a reporter using information that under contract belonged to his paper to trade on stocks appearing in future editions of the "Heard on the Street" column in the Wall Street Journal;[50] and a copyreader using information gained from a financial printer to trade on four future takeover targets.[51]

2. *Employee Trading*

a. *Trading rights defined by contract*

Employees are obviously in a fiduciary relationship with their employers. Most of those convicted of 10(b) violations under the misappropriation doctrine are convicted for using

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misappropriation. But absent the breach of fiduciary-like arrangement, the trader would not be punished for using information to her advantage and the other party's disadvantage. In the example above, the attorney hired by Intel could benefit from Intel information as to Compaq's prospects -- so long as she had permission from Intel.

[48] *See* United States v. Willis, 778 F.Supp. 205 (S.D.N.Y. 1991).

[49] Liability under misappropriation requires that the familial relationship leads to sharing of business confidences, and therefore becomes a fiduciary relationship. *See* United States v. Reed, 601 F. Supp 685 (S.D.N.Y. 1985); *also* Proposed Rules, *supra* note 39, at 10b5-2 (application of misappropriation in family settings); *cf.* United States v. Chestman, 947 F.2d 551 (2d Cir. 1991) (en banc), *cert. den.* 502 U.S. 1004 (1992) (holding that there is no fiduciary duty between a husband and wife for 10b-5 liability purposes).

[50] *See* United States v. Carpenter, 791 F.2d 1024 (2d Cir. 1986), *aff'd* 484 U.S. 19 (1987). Carpenter's conviction under the misappropriation doctrine was affirmed by a divided Court. The Court's decision in *O'Hagan* makes it clear that on similar facts the Court would uphold a conviction.

[51] *See* SEC v. Materia, 745 F.2d 197 (2d Cir. 1984), *cert. denied* 471 U.S. 1053 (1985); *also* U.S. v. Libera, 989 F.2d 596 (2d Cir. 1993).

information belonging to their employers.[52] Employees who work under an employment contract that forbids such trading, and who nonetheless trade, do so in clear violation of the misappropriation doctrine. It is just as clear that employees who are given express permission by their employer to use nonpublic information to trade in stock substitutes are not guilty of misappropriating information from their employer. The $64,000 question is whether insider-trading law prohibits employees from trading when their contracts are silent on the issue. Or in terms of contract theory, what is the default authority of employees to trade on rivals, complementors, suppliers, or customers of their employers?

b. *Trading rights not defined by contract*

The misappropriation doctrine has been successfully invoked by the government even in cases in which there were no contractual or express limitations on trading. The government has successfully brought prosecutions under the doctrine in familial settings, where the limitations on trading are necessarily implicit. In the employment context, virtually all of the cases over implicit limitations involve an employee purchasing stock of a "target" company.[53] The target company has been either a company the trader's employer was about to acquire,[54] a company that a client of the trader's employer was about to acquire[55], a company in which the trader's employer was about to

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[52] *See, e.g.*, United States v. Libera, 989 F.2d 596 (2d Cir. 1993); Materia, 745 F.2d at 20; Carpenter, 791 F.2d at 1028. Misappropriation arising out of an employment relationship is discussed in LANGEVOORT, *supra* note 41, at §6.04; WANG & STEINBERG, *supra* note 40, at §5.4.2.1.

[53] An exception to the "target" employment misappropriation cases is U.S. v. Bryan, 58 F.3d 933 (4th Cir. 1995) (State employee trades in a company awarded lottery contract).

[54] *See* SEC v. Clark, 915 F.2d 439 (9th Cir. 1990).

[55] For examples of investments in companies that were about to be acquired by an employer *see, e.g.*, United States v. Newman, 664 F.2d 12 (2d Cir. 1981) (misappropriation of investment bank's confidence; tippee liability); SEC v. Musella, 578 F. Supp. 425 (S.D.N.Y. 1984)

make a substantial equity contribution.[56]

An employee who purchases a target stock may be seen by the government or court to be acting against the interest of her employer. If the employer is the acquirer, the purchase may drive the stock price up, or tip off others of an impending acquisition.[57] If the employee works for a law or accounting firm, and the stock is a target of a client of that firm, the purchase may tarnish the employer's reputation with the client, either because it hurts the client directly though increased stock price of the target, or because it destroys the law or accounting firm's reputation for confidentiality.

What do these "target" cases tell us about employee stock substitute trading in the absence of contractual permission or prohibition? Is it possible to fit these cases – and the absence of any other cases – in a more encompassing rule? One possibility is that the target cases are best explained not in terms of misappropration at all, but instead as straight-forward applications of the temporary insider doctrine. A lawyer working for a law firm representing either the acquiring or target company is in at least indirect privity with the target company, and hence might be deemed a temporary insider who cannot trade the target stock.

Alternatively, these cases might fit into a "fiduciary source" or a "probable harm" default rule. The most expansive (and in our opinion, least likely) rule that might govern employee trading in

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(misappropriation of law firm's confidence).

[56] *See Ex-Intel Engineer, 2 Others Face Charges of Insider Trading*, WALL ST. J., Sept. 5, 2000, at B (Intel announces collaboration with and purchase of stock in Ancor Communications; Intel employee and friends purchase stock and options in Ancor prior to announcement..)

[57] In many (if not most) circumstances the purchase will be too small to affect stock price. It may also be argued that the purchase, if large enough to affect price, might help the employer by putting more stock in "friendly" hands.

substitute stocks would be a "fiduciary source" default that would prohibit an employee from using any material, nonpublic information learned through employment (the "fiduciary source") as a basis for trading any other companies' stock. Under this standard, if an employee couldn't, absent disclosure, trade on her own stock, she would not, absent disclosure, be able to trade on any other company's stock. Under a fiduciary source default, whether or not the principal is actually harmed by the substitute trading would be irrelevant to the calculus. Once a fiduciary relationship exists, any use of nonpublic information without explicit permission constitutes misappropriation.

There is some support for this default in Rule 10b5-2. The Rule provides that misappropriation occurs "whenever the person communicating the material nonpublic information and the person to whom it is communicated have a history, pattern or practice of sharing confidences, such that the person communicating the material nonpublic information has a reasonable expectation that the other person would maintain its confidentiality."[58] The Rule establishes a default assumption that such expectation of confidentiality exists between immediate family members, but provides that assumption may be overcome by the facts and circumstances surrounding the trading.[59] The release accompanying the issuance of the then-proposed rule states that:

> Certain types of business relationships by themselves provide the duty of trust or confidence necessary in a misappropriation case. In *O'Hagan*, for example, the attorney-client relationship established the duty of confidence. In other cases, the agency relationship inherent in an employer-employee relationship provides the duty....[60]

That said, the Rule and explanation can be read to suggest that an employer-employee

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[58] *17 C.F.R. 240.10b5-2.*

[59] Id at 240.10b5-2(b)(3).

[60] *See* Exchange Act Release No. 42259, 64 Fed. Reg. 72,590, 72,602, n. 96 (1999) (to be codified in C.F.R. 230, 240, 243 and 249).

relationship necessarily entails an expectation of confidentiality. Alternatively, employee relationships might be analogized to relationships among immediately family members. In that case, an expectation of confidentiality would be assumed from the existence of the relationship, but that expectation could be overcome by facts and circumstances surrounding the trade. If this latter interpretation is correct, the application of the misappropriation doctrine would depend upon an after-the-fact determination of the implicit understanding between the employee and her employer as regard to trading in stock substitutes. How might a court make that determination?

The most likely alternative would be what would amount to somewhere between a "possible harm and probable harm" default. Under such a rule, an employee, absent explicit agreement to the contrary, would be prohibited from making any trades that created a real potential of harm to the employer firm.[61] Of course, a corollary to the prohibition is the idea that employees would be free to trade (even on the basis of fiduciary source information) so long as the trading was not likely to harm the employer corporation. This probable harm standard easily would produce liability for the "target" trading examples discussed above. An employee (or temporary insider) of the acquiring firm harms her employer when purchasing target shares prior to the merger announcement -- because such purchases will predictably increase the price that the acquirer would have to pay for the

[61]Langevoort's brief discussion of the issue seem consistent with a "probable harm" default. Writing before *O'Hagan* but applying the misappropriation theory, Langevoort concludes. "[I]f Company A were about to award a major contract to Company B, and an insider of A bought shares in B, it would be difficult to see any threatened injury to A from such trading." LANGEVOORT, *supra* note 3, at 166. Langevoort seems to imply that if there were a threatened injury to A from the substitute trading then liability might arise. As discussed below in Part IV.C, we can think of circumstances in which trading on your supplier's stock could harm a downstream consumer. Substitute trading on the supplier's stock could increase their cost of capital and ultimately the cost of the supplied product itself. Or more nefariously such trading might give the employee incentives to choose inefficient sources of supply. *See* discussion *infra* p. 31.

company.[62]

However, more or less expansive conceptions of "harm" are possible. A less expansive definition might require that the substitute trading possibly affect the stock price of the employee's own firm -- such a stock price effect might be deemed "harmful" as one side of such transaction might have transacted at a less favorable price than would have occurred in the absence of the substitute trading. At the other extreme, any trading on fiduciary-sourced information could be deemed harmful as it deprives (or limits) the employer corporation's ability to profit from the trading opportunity (or to bargain with the employee for a share of her profits). Of course, this definition of harm would collapse the "probable/possible harm" and the "fiduciary sourced" defaults into a single standard.

These two standards tie nicely to the pre-existing theory of default setting. The "possible/probable harm" standard resonates as a "hypothetical" or "majoritarian" default[63] -- in that it seems to be the type of rule that most parties would contract for if expressly called upon to do so -- while the "fiduciary-sourced" standard resonates more as an "information forcing" or "penalty" default which forces employees to expressly contract ex ante for the right to trade or ex post to seek permission with regard to particular trades.[64] Of course, it may be that a majority of parties actually prefer this kind of information forcing -- so that employers can more directly negotiate to share in

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[62]For example, such purchasing might signal the market that the target firm was "in play" -- and thus give competitive bidders more time to respond to competitive tender offers.

[63]*See* Ian Ayres & Robert Gertner, *Majoritarian v. Minoritarian Defaults*, 51 STAN. L. REV. 1591 (1999).

[64]*See* Ian Ayres & Robert Gertner, *Filling in Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 Yale L. J. 87 (1989).

the benefits of information that flows to agents from the fiduciary relationship.

On the ground, the informal culture of the company, and perhaps, the industry would be important factors in determining whether or not there is probable harm from a particular kind of trading. Similar trading carried out by other employees or similar trading carried out by the employee in question that was known to management and not objected to should largely insulate the trading from legal challenge. The contemporaneous reaction of the company after learning about a trade would likewise give evidence as to the implicit understanding in that particular employment relationship.[65]

The potential harm standard is entwined in a complicated fashion with labor force norms. Since many forms of trading may in theory harm the employer (for example, by triggering an SEC investigation), the definition of harm is likely to affected by workplace norms. Trading that violate norms is likely to be placed in the potential harm category. And as norms against trading become clear, these implicit norms shade into explicit prohibition.

We provide some anecdotal information as to trading practices in stock substitutes, and the

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[65]The source and degree of materiality of the information may also be relevant. Materiality has been defined, generally, as information that be relevant to the reasonable investor. *See* Basic v. Levinson, 485 U.S. 224, 224 (1988). Under traditional 10b-5 doctrine, information is either material or it is not; any materiality is sufficient for conviction (provided other elements of the offense are met). Controversy centers around whether information is or is not material. *See* LANGEVOORT, *supra* note 41, at § 5.02; WANG & STEINBERG, *supra* note 40, at § 4.2. The misappropriation doctrine looks to the nature of the relationship and implicit norms; these norms may well be different depending on the degree of materiality. Trading on one type of information, or information which has some but not great relevance for stock price, may be common and within corporate norms; trading on another type, or information with greater impact on stock price, may fall outside those norms. The degree of materiality might also be a factor in the decision of a government official as to whether to bring a 10b-5 action based on a relatively novel application of the misappropriation doctrine.

corporate response to the misappropriation issue below.[66] In general, and as noted therein, there is very little contracting on this issue either expressly permitting or expressly prohibiting employees from engaging in substitute trading. Explicit prohibitions are most common in the securities industry, where there is an awareness of the problem. Even there, however, most corporate counsel take a facts-and-circumstances approach to the application of the misappropriation doctrine to trading in stock substitutes: employees are often required to report all trades which can be audited for reputational or legal concerns.

In Silicon Valley, some firms take a conservative approach and provide explicit prohibitions on using corporate information to trade on substitute stocks. Other firms limit only transactions in and relating to competitor stock. The reason given for this restriction is that mergers are common in the area, and companies are worried that innocent employee trading prior to a merger might get detected by the SEC, with the employee and/or company then having the burden of requiring the company and employee to in effect prove that the trading were innocent. Most companies, however, have no express limitations, and most counsel and employees know substitute trading is common.

Our best guess is that employee trading in the absence of contractual limitations or permission is probably legal unless it has to potential to harm the employer or contravenes norms or contravenes clear implicit norms known to the employee (and the presence of these norms will affect the determination of whether the trading has the potential to harm the employer) The issue is not free from doubt, however. Most counsel would caution employees in the possession of material nonpublic information not to trade in substitute stocks on the fear that the SEC might in fact

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[66] *See infra* Part IV.

prosecute the matter. As one counsel for high technology companies put it "You'd end up having the case dropped or winning your case, but would it be worth the profit to go through an SEC investigation?"

3. *Employer trading*

The freedom of corporations themselves to engage in substitute trading is even more clearly established. While insider trading law restricts corporations from trading on their own shares on the basis of material nonpublic information, no current law prevents a company from using this same information from profitably trading on other companies' stock. Under *O'Hagan*, a corporation's use of its own information to trade on other stocks is not deceptive -- you can't deceive yourself -- and hence would not run afoul of the misappropriation doctrine. A former chief economist of the SEC, Susan Woodward, was asked if it would be legal for Company A to trade in Company B shares on the basis of information generated with Company A. She responded: "All [eight securities lawyers] said that 1) it is legal to trade rivals' stock; 2) even at its most imperious, the SEC has never suggested that this is illegal; and 3) they had never heard of such a case being brought, or even episodes of such trading questioned."[67] Thus, corporations have virtually no limit on the substitute trading.[68]

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[67]Hansen & Lott, *supra* note 4, at 273 n.16.

[68]The only exception to this unrestricted ability of Corporation A to trade on Corporation B's stock might arise by the operation of some contract between the two corporations. If inter-corporate contract implicitly or explicitly limits one corporation's ability to trade on the other, then insider trading liability for substitute trading might arise. For example, Corporation A might be deemed a temporary insider of Corporation B with regards to trading on particular types of information. Or alternatively, Corporation A may have implicitly promised not to trade on Corporation B's stocks when doing so would impose probable costs on B or its shareholders. Again, the previously noted

C. *Other Federal Limitations on Trading in Stock Substitutes*

1. *Mail and Wire Fraud*

Section 10(b) and Rule 10b-5 are supplemented by federal mail and wire fraud statute. The mail and wire fraud statutes apply to "any scheme or artifice to defraud" that uses the mails or wires, respectively. There is no statutory guidance as to what constitutes a scheme to defraud in the context of stock trading.[69] In practice, the interpretations of the mail and wire fraud statutes seem to follow the interpretation of Section 10(b). Many cases brought under 10(b) also allege mail and wire fraud; a conviction on 10(b)(5) is usually accompanied by a conviction of mail and wire fraud.[70] The rough equivalence between the provisions extends to cases litigated under the misappropriation doctrine.[71]

Carlton and Fischel example is instructive. The corporation that sells a major customer's stock short before anticipatorally repudiating a supply contract faces a risk of insider trading liability. In the case of the aforementioned executive who sold short before causing her corporation to breach, the question was whether the executive breached an implicit promise to disclose to her own corporation all trades driven by information about potentially tainted decisions. With regard to the trades of the corporation itself, the crucial question is instead whether corporate trading would breach one corporation's implicit promise not to trade in ways that would impose a probable harm on the corporation or its shareholder.

[69] The mail fraud statute provides, in relevant part:

> Whoever, having devised or intending to devise any scheme or artifice to defraud... places in any post office or authorized depository for mail matter, any matter of thing whatever to be sent or delivered by the Postal Service... or private or commercial interstate carrier, or takes or receives therefrom... any such matter or thing... shall be fined under this title or imprisoned not more than five years, or both....

18 U.S.C. § 1341 (2000). The wire fraud statute is similar. *See* 18 U.S.C. § 1343 (2000).

[70] Courts have interpreted the seemingly distinct element of mail fraud -- the use of the mails -- to be satisfied whenever the trade in question triggers a mailing. This includes the mailing of stock certificates or broker confirmation slips. The distinctive element in wire fraud is disposed of in similarly summary fashion. *See* WANG & STEINBERG, *supra* note 40, at § 11.31.

[71] *See, e.g.*, Carpenter v. United States, 484 U.S. 19 (1987); United States v. Chestman, 947 F.2d 551 (2d Cir. 1991) (en banc), *cert. denied*, 503 U.S. 1004 (1992).

Courts generally decide the merits of the 10b-5 action; the mail and wire fraud counts are disposed of briefly, in the same fashion and with the same stated rationale, as the 10b-5 counts.[72]

Mail and wire fraud therefore might apply to employee trading in stock substitutes under a misappropriation-like theory. Since the application of the statutes is derivative upon the misappropriation doctrine, it would be limited in the same way the misappropriation doctrine is limited. The statutes would therefore not apply to trading in stock substitutes carried out by a corporation, or to employees trading with their employer's permission.

2. *Rule 14(e)*

Rule 14e-3 imposes an "disclose or abstain" rule on material nonpublic information concerning a tender offer in cases in which a trader knows or has reason to know that the information comes directly or indirectly from the offeror or target, or employees, directors, or agents of the offeror or target. Unlike Rule 10b-5, the scope of 14e-3 is not limited to trading by a fiduciary in violation of confidence of a principal (misappropriation doctrine) or trading by a fiduciary against a principal (traditional 10b-5 liability). Rule 14e-3 applies in circumstances in which a person in a nonfiduciary capacity to either the trading party or the information source hears about a tender offer from an offeror or target. Thus, the rule would prohibit a waiter who overhears a director of an offeror discuss a pending tender from trading on that information; it would also prohibit an employer or company from trading in that same stock -- provided again that the trade had its source in material

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[72] Thus, for example, the Second Circuit in *Chestman* held the defendant not guilty of misappropriation in a lengthy opinion, and then dismissed the mail and wire fraud counts saying only "The fortunes of Chestman's mail fraud convictions are tied closely to the securities fraud convictions...." Chestman, 947 F.2d at 566.

nonpublic information from a target or offeror director, employee, or agent of the same.

But the expansive coverage of 14e-3 does not eliminate the possibility of substitute trading. Indeed, it may give rise to an impetus to engage in new forms of substitute trading. For while 14e-3 prohibits trading on the firms involved in takeovers, it does not prohibit using nonpublic information about the takeover to profit from trading on other firms in the industry, upstream or downstream rivals, or the manufacturers of complementary products. Rule 14e-3 provides in part "(a) If any person has taken a substantial step ...to commence ...a tender offer, it shall constitute a ...deceptive act within the meaning of section 14(e) ...for any other person who is in possession of material information relating to such tender offer which information he knows or has reason to know to be nonpublic and which he knows or has reason to know has been acquired directly or indirectly from [the acquirer, target or officer or employees or directors of the issuer or target] to purchase or sell . . . any such securities.[73] The key words, "any such securities," seem to limit the rule's application to trading on the stock of the target or the acquiring firm. In particular contexts, it's easy to guess that the announcement of the MCI/WorldCom merger would increase the stock price of AT&T (it did); or that the announcement of the BP/Amoco merger would increase the price of rival oil companies (it did).[74] Economic theory suggests that 14e-3 would cause some of the demand for informed trading about merging companies to shift instead toward trading on non-merging rival firms (or customers or suppliers affected by the merger).

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[73] 15 U.S.C. §78n(e).

[74] *See* Steve Liesman, *Bigger Oil; BP to Acquire Amoco in Huge Deal Spurred By Low Energy Prices*, WALL ST. J., Aug. 12, 1998, at A1. More generally, the idea that the mergers to duopoly should tend to increase the price of the remaining non-merging firm (so long that it is sufficiently large that predation is not a serious threat).

D. *State law limitations*

Under certain circumstances, employees who trade in stock substitutes may face state law penalties. Consider, first, civil liability to an employer for violating her duty of loyalty to her corporate employer. Under the so-called "corporate opportunity" doctrine, profits realized by an insider from the usurpation of a corporate opportunity must be returned to the corporation. In order for the doctrine to apply, however, it must generally be shown that the corporation itself would have, or at least might have, availed itself of the opportunity.[75] The "line of business" limitation to the corporate opportunity duty means, however, that in most jurisdictions the doctrine would only apply in situations in which a company has a practice of trading in stock substitutes and an executive of that company without permission trades in the same substitutes, robbing the company of the profits it makes off the trades. But, most companies do not have a practice of trading in stock substitutes.[76] Executives of those companies could trade without facing liability under the corporate opportunity doctrine. The relatively rare cases in which the corporate opportunity doctrine does apply would largely overlap with cases in which the misappropriation doctrine applies.[77]

There is some limited support for liability to the corporation even in cases in which the

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[75] *See* ROBERT CHARLES CLARK, CORPORATE LAW § 7.1 *et. seq.* (1986); JAMES C. COX ET AL., CORPORATIONS §§ 11.7-11.9 (1997).

[76] *See infra*, Part III, at p.43.

[77] The overlap would not be exact. Rule 10b-5 misappropriation liability would apply whenever non-revealed insider trades violate an explicit or implicit understanding, whether or not the company ever trades. In that respect, 10b-5 liability encompasses a much greater set of circumstances. On the other hand, the corporate opportunity doctrine is broader in that it does not require that the information traded upon meet the legal definition of material or nonpublic, though as a practical matter, trading on information that does not meet those tests is unlikely to be actionable.

corporation itself is not harmed and the corporation itself would not have made the trade.[78] The leading case in which this form of liability was found for traditional insider trading, *Diamond v. Oreamuno*, was cited approvingly by the Supreme Court in *Carpenter* in upholding a 10b-5 conviction under the misappropriation doctrine:

> It is well established as a general proposition, that a person who acquires special knowledge or information by virtue of a confidential or fiduciary relationship with another is not free to exploit that knowledge or information for his own personal benefit but must account to his principal for any profits derived therefrom.[79]

The "strict liability" aspect of *Diamond* has been accepted in some jursidictions (including by federal courts applying Delaware state law) and rejected in other jurisdictions.[80] No cases litigated thus far have involved trading in stock substitutes. Nonetheless, a state court that accepted the decision in *Diamond* and accepted the misappropriation doctrine as set forth in *Carpenter* might conceivably find that using nonpublic information to trade in stock substitutes constitutes a violation of fiduciary duty to the corporation, even absent a showing that the corporation itself ever traded, or was likely to trade, in stock substitutes. The *Diamond* approach to misappropriation is largely equivalent with the "fiduciary-sourced" default analyzed above. This expansive definition of what constitutes a corporate opportunity would give the corporation a property interest in all profitable

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[78] *See* WANG & STEINBERG, *supra* note 40, at 16.3.2.

[79] Diamond v. Oreamunu, 23 N.Y.2d 493, 497 (1969), *cited in* Carpenter v. United States, 484 U.S. 19, 27-28 (1987).

[80] See e.g, Thomas v. Roblin Indust Inc., 530 F.2d 1393 (3rd Cit. 1975); Davidge v. White, 377 F. Supp 1084 (S.D.N.Y. 1974) (Delaware law consistent with *Diamond*). Courts rejecting Diamond have insisted upon some showing of harm, and have differed in their tests or judgment of what constitutes harm. Compare Freeman v. Deicio, 584 F.2d 186 (7th Cir. 1978) with In re ORFA Sec. Litig., 654 F. Supp. 1449 (D.N.J. 1987). The ORFA suggested that the harm might simply be that of lost goodwill. See generally, Langevoort at §10.03[1].

trading opportunities growing out of proprietary (fiduciary-sourced) information.

What about liability to shareholders on the losing side of the trade under common law notions of fraud? Under states that follow the so-called "minority rule" or "special facts doctrine," insiders who trade in their company's stock may be liable for damages to shareholders who are at the losing end of those trades. Few successful cases have been brought under those doctrines since the adoption and expansion of 10b-5.[81] More to the point, the doctrines would not apply to trading in stock substitutes, for the same reason that traditional 10(b) liability would not apply: the insider has no fiduciary relationship with the shareholder on the losing end of the trade.

Neither the corporate opportunity doctrine, nor the finding of liability under a theory similar to that set forth in *Diamond*, would apply to employees who trade in stock substitutes with the permission of their employer, or to trading in stock substitutes undertaken by a corporation, rather than its employees. Indeed, the whole thrust of the corporate opportunity doctrine is that in the first instance the corporation should have the option to profit from trading opportunities growing out of its agency relationships with it employees. It would be difficult to use such an analysis to support a conclusion that the corporation was prohibited from trading.

Insider trading is subject to attack under state blue sky laws, in addition to common law standards of fraud and fiduciary duty. The majority of states have adopted a version of the Uniform Securities Act, which in section 101 contains a provision modeled after 10b-5.[82] Some states have

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[81] Liability under these doctrines is limited, among other factors, by the exclusion of market (as opposed to face-to-face) trades, and the uncertain application of the doctrines to sales by insiders to persons who are not shareholders until after the sale. *See* WANG & STEINBERG, *supra* note 40, at 16.2.3.

[82] Section 101 of the Uniform Securities Act provides that "It is unlawful for any person, in connection with the offer, sale or purchase of any security... (1) to employ any device, scheme, or

eliminated a private cause of action for insider trading violations and state enforcement is uneven. Not surprisingly, interpretations under section 101 (as adopted by the states) tend to follow interpretations of 10b-5.[83]

E. *Summary*

Under the misappropriation doctrine, employees cannot trade in stock substitutes if such trading is expressly prohibited by their employer. They can trade in stock substitutes if their employer expressly permits such trading. The law is unclear as to the permissibility in cases in the absence of explicit agreements between the parties. Most likely, a court or administrative body would not punish such trading under 10b-5 unless the court concluded that (1) the employee was a "temporary insider" of (and hence owed a fiduciary duty to) the corporation on which she traded; or (2) such trading had the potential to harm the employee's own firm. In applying the doctrine, courts or administrators will be influenced not only be explicit contractual prohibitions, but on the norms of the company or industry. In the interests of caution, most securities lawyers would counsel against such trading. The permissibility of trading under other doctrines -- most notably mail and wire fraud and state fiduciary duty and blue sky laws -- is likely to be decided in a similar manner, with the courts looking to the same factors, as the misappropriation doctrine.

A corporation has even greater opportunity to trade in other companies' stock on the basis of material, nonpublic information. Only if the corporation itself is considered a temporary insider of the other firm (or has otherwise implicitly or explicitly promised to refrain from such trading) would

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artifice to defraud... or (3) to engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person." UNIF. SEC. ACT § 101, Blue Sky L. Rep. (CCH) at 5511 (2000).

[83] *See* WANG & STEINBERG, *supra* note 40, at § 16.42.

a corporation risk liability from such trading.

III. CURRENT CORPORATE PRACTICE

This section looks briefly at two questions. "What we know about how corporations regulate employee substitute trading?" and "How much do employees or the corporations themselves engage in such trading?" The truth is we know very little.

On the contracting side, some firms have explicit policies restricting their executives from trading in other companies' stock. For example, United Technologies Corp and Prudential Insurance Co. of America prohibit their employees from investing "in customers, suppliers or other business partners."[84] But such trading restrictions are often driven by conflict of interest concerns. Employers fear that employees may divert business toward firms in which they hold stock. This conflict of interest concern seems to be particularly true with regard to suppliers and some trading restriction accordingly are limited to employees' trading on potential or actual suppliers.[85] The thought here seems to be that employees don't have any ability to favor consumers-- so there is no conflict of interest in holding a customer's stock.[86]

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[84]Glenn R. Simpson & Scott Thurm, *Web of Interests: At Cisco, Executives Accumlate Stakes in Clients, Suppliers*, WALL ST. J., Oct. 3, 2000, at A1.

[85]For example, Intel and Motorola do not allow senior managers to invest in companies that conceivably sell to Intel Motorola Inc. *Id.* Note that such a rule would not stop an Intel manager in our ongoing example from exploiting information about increased chip demand to profit from trading in, say, Compaq stock.

[86]However, an employee might favor a customer by negotiating a lower price or by favoring the customer when the product is in short supply. And holding long positions in competitor's firms might easily create conflicts of interest for employees but at least in some firms go unregulated. Some firms (such as Hewlett Packard) go further and bar employees "from holding financial interests in any supplier, customer, reseller or competitor." Simpson & Thurm, supra note 82.

Firms in the financial industry are perhaps understandably most cognoscent of the problems of informationally based trading in related firms and aggressively regulate such trading by their employees. Employees of a brokerage firm are often prohibited from trading on related firms of its clientele.[87] Such restrictions are particularly easy to enforce as trading firms often require their employees not just to report but to place all their security trades through a particular desk.

The question of whether and when employers should allow employees to trade on related firms' stock is much more actively debated in the technology sector – the so-called new economy. A few companies take a conservative position and ban all trading on material nonpublic information – including trading in stock substitutes. Other companies ban trading in competitors stock. Some tech companies -- flipping the foregoing conflict of interest concern -- actively encourage their employees to hold stock (and even board positions) in their suppliers so as to influence the supplier's future design choices.[88] Others allow such trading but require that it be disclosed to and approved by management.[89] The Manne-like notion that the income from substitute trading provides a substitute for traditional compensation resonates deeply in Silicon Valley. Allowing employees to trade on related firms is viewed "as a kind of disguised compensation which ultimately is in the best interest

[87]Difficult issues arise as to what constitutes a client. For example, we spoken with brokerage firms have struggled with whether reading an unsolicited prospectus restricts an employee's ability to trade on other stocks in the industry.

[88]Simpson & Thurm, supra note 82 ("Qwest . . . encourages its executives to serve on supplier's board in the hopes of influencing the design of telecom equipment.").

[89]For example at Cisco, employees "may not invest in companies that are Cisco customers, partners or suppliers with whom the employee acts for Cisco without disclosure to and written permission from the Cisco vice president for their organization." *Id.*

of shareholders."[90]

In sum, we see some divergence in contracting practice. Some firms actively prohibit substitute trading – particularly in suppliers and less often in customers and rivals.[91] Some firms allow it (or allow if disclosed to and approved by management). But it is our impression that most employment contracts (outside of the financial and high-tech sectors) are silent as to these issues.

We know even less about actual substitute trading practices. To begin it useful to distinguish informationally-driven trades from incentive-driven trades. The goal behind some trading on related firms is to profit by hedging risk or by altering decision-makers' incentives instead of to profit by cashing in on non-public information. For example, there is some evidence that both employees and firms trade on related firms to hedge risk of their otherwise uncovered positions in a particular stock. Employees for example who are forced to hold substantial stock options in their firm may try to hedge some of their industry-specific risk by selling calls in their rivals' stock.[92] A firm preparing for a take-over context may similarly attempt to hedge industry risk by selling short shares in a competitor at the same time it purchases an initial stake of a potential acquiree. There is some evidence of special trading desks which exist to accomplish these hedging functions.

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[90]John Boatright, head of an academic group called the Society for Business Ethics, quoted in Simpson & Thurm, supra note 82.

[91]These contractual restrictions stand in contrast to Carleton & Fischel, supra note 4, at 858 (claiming that firms before the federal ban rarely contracted to prohibit traditional insider trading).

[92]*See* David M. Schizer, *Executives and Hedging: The Fragile Legal Foundation of Incentive Compatibility*, 100 COLUMBIA L. REV. 440 (2000). Surprisingly few corporate contracts prohibit such hedging strategies. Stewart J. Schwab & Randall S. Thomas, What Do CEOs Bargain For? An Empirical Study of Key Legal Components of CEO Contracts (Draft of Oct. 31, 2000) reporting that 62 of 93 sampled contracts with CEOs discussed stock option compensation, 8 restricted sale of options, with 3 of these restricting pledging and 0 restricting hedging transactions).

There is also evidence of cross holding of rival's stock in order to facilitate collusion. David Gilo, for example, has detailed several instances in which one company has passively invested in the stock of its competitors:

> For example, recently, Microsoft passively invested in $150 million worth of nonvoting stock of Apple, its historic rival in the operating systems market. . . . TCI, the nation's largest cable operator became a passive investor with a 9% stake in Time Warner, the nation's second largest cable operator. 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. 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, GM, acquired a 25% stake of Avis, National's competitor. In the very same industry, it was reported that Hertz's controller, Ford, had acquired $324 million worthy of Budget's nonvoting stock.[93]

Bizarrely, under the Clayton Act, such investments are exempt from anti-trust scrutiny because they are made "solely for investment" – even though their predictable consequence is less competitive pricing.[94] Instead of permitting such anti-competitive cross-holding, one of us has suggested that government should at times require pro-competitive cross holding: forcing merging firms to sell their rivals' stock short.[95] But neither the hedging or the cross-holding transactions are driven by a desire to profit on non-public information.

What little we do know about informationally-driven trading on related firms (as a substitute for insider trading) suggests that some employee trading occurs, but that firms such as Intel do not

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[93]David Gilo, Passive Investment as Anticompetitive Commitment 4-5 (John M. Olin Discussion Paper No. 189, Harvard Law School, 1996) (footnotes ommitted).

[94]*Id.* at 7.

[95]*See* Ian Ayres & Stephen F. Ross, "Pro-Competitive Executive Compensation" as a Condition for Approval of Mergers that Simultaneously Explicit Consumers and Enhance Efficiency, 19 Canadian Competition Record 18 (Spring 1998).

seem to exploit non-public information to trade on stock substitutes. We can be fairly confident about the absence of corporate level trading, because corporations' financial statements would disclose their success in such transaction as an unusual profit item,[96] and such disclosures are not to be found. When we have informally asked executives why their don't engage in such trading, they variously tell us that it would not be consistent with their firm's corporate culture[97] or that it's simply not worthy it given the financial and litigation risk involved. Our previous simulation of the potential profitability from trading partially supports these accounts.

Employees who can more effectively exploit the options' markets, however, can reap a larger returns on less capital. Anecdotes of such employee trading are known, but the exact extent of the phenomenon is not. The Wall Street Journal reports that investments by an employee in a customer or supplier "are common among high-tech businesses"[98] – but even here it is hard to know how much of this is based on non-public information. We know that Jay Gould traded on the private information that his telgraph company was about to enter a particular geographic market,[99] and there are inklings that insiders at Kodak traded on Polaroid because they knew about their companies forthcoming entry into the instant-photo market.[100] And a trading strategy that is trumpeted in a Dilbert's cartoon strip must certainly have occurred to some employees. But our ignorance about

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[96]Revenues from sources other than primary business activities, if significant and unusual and infrequent, as defined by APB 30 *Reporting Results of Operations* (I17), are reported as "extraordinary items" on a firm's balance sheet. *See* ROBERT S. KAY & D. GERALD SEARFOSS, HANDBOOK OF ACCOUNTING AND AUDITING, at page 13-31 (1989).

[97]*See also* Rotemberg & Saloner, *supra* note 34.

[98]Simpson & Thurm, supra note 82 at A1.

[99]*See supra* text accompanying note 12.

[100]*See supra* text accompanying note 9.

the size of this "problem" at both the corporate and insider levels is itself a primary justification for the disclosure rules we propose.[101]

IV. DESIRABILITY OF TRADING IN STOCK SUBSTITUTES

A. *Current Thinking on the Desirability of Insider Trading*

Is trading in stock substitutes socially desirable? Consistent with one branch of scholarship in this area, we focus on the efficiency (as opposed to fairness) issues raised by such trading.[102] We focus first on the desirability of restrictions on "ordinary" insider trading, that is, trading by an employee in the stock of her employer, or trading by the employer in its own stock.

Opponents of the present restrictions on insider trading make three related arguments.[103] First, insider trading by an employee in the stock of her employer is most appropriately viewed as a form of compensation to the employer-trader. All else equal, trading profits reaped by insiders and lost to other shareholders could be recouped (on an ex ante basis) through adjustments to the wage contract. Once insider trading is seen as part of the wage contract, problems of fairness disappear,

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[101] *See infra* at Part V.

[102] For a non-efficiency based exploration of the subject, see Alan Strudler & Eric W. Orts, *Moral Principle in the Law of Insider Trading*, 78 TEX. L. REV. 375 (1999).

[103] There is a substantial body of literature on this subject. The literature is generally dated from the publication of Henry Manne's article, In Defense of Insider Trading, 44 Harv. Bus. Rev. 113 (1966) . *See also*, HENRY G. MANNE, INSIDER TRADING AND THE STOCK MARKET (1966); Henry G. Manne, *Insider Trading and the Law Professors*, 23 Vand. L. Rev. 547 (1970) (responding to critics). A summary and extensive bibliography of the literature can be found in STEPHEN BAINBRIDGE, INSIDER TRADING, ENCYCLOPEDIA OF LAW AND ECONOMICS (1999). *See also*, Jonathan R. Macey, *Insider Trading: A Contractual Perspective*, 50 CASE W. RES. L. REV. 269 (1999).

at least on an ex ante basis. Shareholders run the risk of being on the wrong end of a trade with an insider who possesses material nonpublic information, but pay less in the form of explicit compensation. Shareholders will also be among the classes who benefit from any efficiencies produced by insider trading, described below.

Second, insider trading would produce more accurate stock prices. Insiders who possess positive material nonpublic information would purchase stock, driving the price up to reflect underlying value; insiders would sell on negative information, driving the price down to underlying value. More accurate stock pricing would reduce risk to those who purchase stock or depend on stock value to make lending or employment decisions.[104] This last category would include employees who accept stock options as a part of their wage contract. More accurate stock pricing would also lead to better allocation of resources. Absent insider trading, a firm whose value is in part attributable to positive material nonpublic information will find it more expensive to access financial or human capital markets than another equally valuable firm whose value is fully impounded in stock price. Insider trading equalizes stock price and so removes that source of distortion.

Third, present insider trading restrictions rely on distinctions that are difficult to draw, difficult to enforce and normatively unsatisfying. As noted in Part I, a trade is not illegal unless information used or possessed is "material"; defining materiality and applying that definition in a given case is a difficult task. The rules prohibit trades based on the discrete pieces of information; allowed are equally advantageous trades based on the ability to synthesize and make use of publicly available

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[104] *See* Carlton & Fischel, *supra* note 4, at 866, 867.

information. Yet this ability is often learned on the job, and is itself perhaps a function of less identifiable nonpublic pieces of information. Other problematic areas include the determination of damages, standing to sue, treatment of instruments with debt-like characteristics, application of the misappropriation doctrine, application of the rules to tippees, and the question of whether an insider who possesses information and trades but who does not use the information to guide her trading behavior (i.e., who would have traded anyway) has violated the rules.[105] Some commentators have speculated that these costs alone outweigh any benefits of the restrictions.[106]

The efficiency gains from insider trading, however, may be offset (and perhaps more than offset) by efficiency costs. While insider trading reduces risk created by inaccurate stock pricing, it increases risk to the insider, who receives trading rights in place of other, presumably more secure, forms of compensation.[107] Insider trading may distort the flow of information to investors, as insiders time the flow of information to maximize trading gains.[108] Insider trading may also discourage the flow of information within a firm. Information sharing increases the number of insiders who trade on nonpublic information; increased trading may affect share price and so reduces

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[105] *See* WANG & STEINBERG, *supra* note 40, at §5.2.3; and Seligman, *supra* note 4, at §7.1 et. seq..

[106] *See* Carlton & Fishel, *supra* note 3, at 873. An excellent discussion of the problems with both Rule 10b-5 and insider trading can be found in Jesse M. Fried, *Reducing the Profitability of Insider Trading through Pretrading Disclosure*, 71 S. Cal L. Rev. 303 (1998). Fried advocates supplementing Rule 10b-5 restrictions with a regime of pretrading disclosure.

[107] *See* Frank Easterbrook, *Insider Trading, Secret Agents, Evidentiary Privilege, and the Production of Information*, 1981 SUP. CT. REV 309, 332 (1981); Kenneth E. Scott, *Insider Trading: Rule 10b-5, Disclosure and Corporate Privacy*, IX J. OF LEG. STUD. 801, 808 (1980).

[108] *See* Easterbrook, *supra* note 50, at 333; Paul E. Fisher, Optimal Contracting and Insider Trading Restrictions **[cite]**.

profits to each insider.[109] Insider trading may affect resource allocation within a firm, as managers are encouraged to select those projects that maximize potential trading gains.[110] Risky projects offer more potential trading profits than safe projects -- provided the insider is able to trade before knowledge of the project's outcome reaches the public. Insider trading may distract executives from other firm business. Finally, for large companies, insider trading may be significant enough to distort managerial behavior, but not significant enough to affect the stock price[111] -- a possibility which is described in more detail below.

Debate over insider trading has proceeded along a point/counterpoint fashion. Arguments on one side produce counterarguments on the other side. For example, opponents of present law have argued that increased risk taking due to insider trading will offset overly risk averse behavior of executives and therefore increase, rather than reduce, welfare.[112] Opponents of present law do not argue that insider trading will always be more efficient; only that it will often be more efficient, and companies ought to be able to elect whether or not they wish to allow such trading.[113]

B. *Hypothetical Auctions and the Quasi-Dominance of Firm vs. Managerial Trading*

We extend the analysis of traditional insider trading by pointing out that incorporating trading rights into a wage contract ties together unrelated activities: trading stock and managing a company. The result is apt to be an inefficient means of obtaining either objective. For this purpose, it will be

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[109] Haft **[cite]**

[110] Levmore, **[cite]**

[111] *See* Gilson & Kraakman, **[cite]**

[112] *See* Carlton & Fishel, *supra* note 3, at 876.

[113] *See* Manne, *supra* note 101, at 421; Carlton & Fishel, *supra* note 3, at 877.

useful, first, to consider a simple auction of insider trading rights. The purchaser would have full access to nonpublic corporate information. The value of such rights would depend on the size of the company, characteristics of stock movement, and the ability to translate information into trading profits. That value is certainly large; for some companies, the value would be enormous. For a Fortune 500 company, the right to trade on nonpublic information might be worth hundred of millions or even billions of dollars per year.[114]

This auction standard is consonant with Carlton and Fishel's statement of the basic inquiry: "The dispute concerning insider trading is really a dispute about which party more highly values a property right [in information]."[115] They– like us–believe: "Whether insider trading is beneficial depends on whether the property right in information is more valuable to the firm's managers or to the firm's investors."[116] However, unlike these authors who conclude that a firm's managers are likely to be the highest valuers of the property right information, we believe there are reasons why managers would be unlikely to be the highest bidders in the auction.

A rule that allows managerial insider trading effectively ties such an auction to the hiring of each high-level executive. One can imagine a company considering two executives for a single slot, with each executive come armed with a bid backed by an investment bank. The value of trading

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[114]*See* Section I.B, *supra* (estimating the potential profits from trading on a single piece of non-public information on stock substitutes). Determining the value of trading rights would be extremely difficult and would require the expenditure of considerable resources; one would expect the auction to be won by an investment bank or similar institution. Investment banks would reduce their bid below expected value to reflect risk; yet managers and shareholders may see the sale as creating, rather than reducing, risk.

[115]Carlton & Fischel, *supra* note 4, at 865.

[116]*Id.* at 863.

rights "purchased" might be greater than the value of executive services "sold;" the company would receive executive services plus a substantial sum of money; the executive would receive an percentage of trading profits. The process might produce bids that differed by hundreds of millions of dollars. In some cases, the company might be better off by hiring a less-favored executive with a high bid over a more-favored executive with a low bid. Yet the company would be better off still by decoupling the hiring decision and sale of bidding rights–thereby hiring the best executive and selling trading rights to the highest bidder. Selling bidding rights in return for service is a barter arrangement. In a small company, perhaps this form of arrangement would be sensible. Executives would have some idea of the relationship between nonpublic information and stock movement, and trading profits would not be great enough to support the placement of professional stock traders within the company. This would not be true for a company of any substantial size.

One might reject the auction process and instead imagine a company that first selects whom it believes to be the best executive and then asks her to bid on unlimited trading rights. Both the company and the executive would then have to value the rights. Since there is no reason to believe that the best executive will give the best price for the trading rights, the company is again faced with the downside of tying the purchase of services to the sale of trading rights.

Most companies, of course, would have a number of executives privy to some forms of nonpublic information. The executives might compete away some of the trading profits and thus lessen the amount at stake in the sale of trading rights. On the other hand, the executives may vary in their access to nonpublic information, requiring a separate auction or analysis for each executive. And the possibility of explicit or implicit collusion between executives would make valuation even more difficult.

It might be objected that it is fanciful to think that a company would auction off positions or allow an executive to engage in unlimited trading on nonpublic information. Instead, a company might place "sensible" limits on such trading. The executive might be allowed to place a limited amount of trades per year, or realize a limited amount of trading profits. The limit would be such that it would be readily attainable by the executive. A president might be allowed a few million dollars of such trades, or a few million dollars in trading profits. This approach would eliminate the requirement that the executive partner with a professional trader. If the limit were low enough, the value of the rights would be the same to the entire pool of potential managers. The company could then hire the best manager–whether the manager were an able or well-funded trader would be irrelevant. The difficulty with this approach, however, is that such limited trading would not affect stock price–a primary objective of any regime that would permit insider trading.

What can we learn from our auction metaphor? First, to paraphrase the "Annie Get Your Gun" lyric, anything an insider can do, the firm can do better. Prior analysts–like Carleton and Fischel–have tended to compare the benefits of insider trading by managers to a world in which no one (or only outsiders eventually) trades on the non-public information.[117] But most of the arguments showing that managerial insider trading would be more efficient than an absolute ban

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[117]Carlton and Fischel, for example, conclude:

> Through [managerial] insider trading a firm can convey information it could not feasiblely announce publicly because an announcement would destroy the value of the information, would be too expensive, nor believable or owing to the damage liability if it turned out ex post to be innocent.

Carlton & Fischel, *supra* note 4, at 868. But this analysis ignores that the firm could also convey information by trading on the firm's own account. Such trading by the firm itself would give the firm much more control over how much information it conveyed to the market and when the information was conveyed.

prove too much because these arguments also tend to suggest that trading by the firm itself would tend to be even more efficient. In other words, insider trading by the firm itself tends to dominate insider trading by managers.

Insider trading by the firm itself does not give rise to the perverse "moral hazard" incentive to choose investments that are too risky, or to intentionally drive down the value of the firm. In addition, most insiders only have the wherewithal to buy limited amounts of insider trading rights, which means that there will only be a muted impact in moving the stock price. Furthermore, by trading on its own account, the firm is more likely to garner larger "monopoly"-like rents on its non-public information. In contrast, giving multiple insiders the right to trade on this information dissipates the value of the trading right. Bidding for the right to be one of dozens of people who can trade on non-public information is likely to be less valuable than bidding for the sole right to trade on the information. Insider trading by the firm itself thus will tend to produce even more accurate stock prices without exposing the firm to the potential costs of insider trading by managers.

More generally, we see there are a variety of different paths that material, non-public information may come to be impacted in a stock price–including (1) firm trading; (2) insider trading; (3) broad based disclosure to the market; (4) analyst trading; and (5) trading by suppliers, customers, rivals, and complementors (and their employees) At times, firms will prefer broad-based dissemination of information to preempt the ability of insiders or outsiders to trade on the information.[118] At other times, firms may prefer silence either to slow the speed of dissemination

[118]Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA. L. REV. 945, 995 (1991).

or with the purpose of increasing analysts' returns for following the firm.[119] Our analysis here merely suggests that firm trading is likely to dominate insider trading. The dominance result is important because, even though managerial insider trading may be efficient relative to a complete prohibition on informed trading, it can still be presumptively inefficient to the extent the firm can accomplish the same benefits without creating as great a risk of perverse managerial incentives.[120]

We readily acknowledge that this dominance tendency will not always hold true. Allocating an insider trading right to managers might nevertheless be efficient if, for example, managers brought independent knowledge to the jobs that made them more efficient evaluators of the firm's non-public information than the corporation itself. Michael Dell, for example, might have independent knowledge of the computer industry that would make him a more efficient trader on the information generated by Dell Computers than could be generated if he merely advised the Dell board on what trades he believed were profitable.[121] Relatedly, it may be efficient to hire managers

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[119]Zohar Goshen & Gideon Parchomovsky, On Insider Trading, Markets, and "Negative" Property Rights in Information 5-8, 12-14 (unpublished manuscript, on file with the authors). These authors make a strong argument that analyst trading – and at times even selective analyst disclosure – will be preferred to managerial trading. But as with other analyses of the problem, their focus is too dichotomous. A default prohibition against managerial trading may also be valuable in pushing firms toward broad dissemination of non-public information. The lower the turnover of the stock, the more the company will want to use broad dissemination to prevent analysts or insiders from unnecessarily profiting from information-driven trading.

[120]A similar argument can be made with regard to the defensive tactics of greenmail and lockup agreements. While Jon Macey and Fred McChesney showed that it might be efficient for a firm to pay a potential acquirer greenmail in order to induce other bidders to bid, there is still a strong argument that greenmail is inefficient because its auction-creating benefits can be maintained with lockup or standstill agreements that do not raise the risks of managerial entrenchment. *See* Ian Ayres, *Analyzing Stock Lock-Ups: Do Target Treasury Sales Foreclose or Facilitate Takeover Auctions*, 90 COLUM. L. REV. 682, 710-12 (1990).

[121]*See, e.g.*, Julie Johnsson, *Dell, Insider Cut Back on Their Lante Stakes*, CRAIN'S CHI. BUS., Sept. 25, 2000, at 6; *Talking Stocks* (CNN television broadcast, Sept. 6, 2000) (transcript available

who have commitments to multiple firms which give them overarching data about the sector on which to trade. Carlton and Fishel have also argued that giving managers trading rights gives managers better incentives to identify valuable new investment opportunities:

> If a manager observes a possible valuable investment for the firm such as a potential value-increasing merger or a possible new technology – he will be more inclined to pursue this opportunity if he is rewarded upon success. Insider trading is one such reward.[122]

But we are skeptical of this argument. Giving the manager simple stock options or a bonus contingent on the firm's stock price seems to us a more tailored approach to giving employees appropriate incentives.[123] Repealing the insider-trading prohibition and replacing it with a laissez-faire default would (absent an agreement to the contrary) give employees unlimited insider trading rights that might shower employees with profits incommensurate with those necessary to harness their efforts.[124] So while we readily admit that firm trading will not dominate managerial trading in all contexts, we doubt that firms contracting to cede trading rights to their managers would often cede unlimited rights. Rather we imagine that firms would more likely contract to (1) share in any managerial profits; (2) restrict the ability of managers to engage in informationally-driven short

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on LEXIS).

[122]Carlton & Fishel, *supra* note 4, at 871.

[123]But cf Noe, J. L. Econ & Org. ___

[124]It is a frequent mistake of legal scholars to confuse arguments concerning the mandatory nature of law with arguments about what the optimal default should be. The opponents of insider trading prohibitions – including Henry Manne, and Carlton and Fishel – basically argue against the mandatory nature of the prohibition. But even if these arguments are accepted, one would need a separate set of arguments to determine whether default prohibition was more or less efficient than the default laissez-faire regime for which they argue. *See* Ian Ayres, *Empire or Residue, Competing Visions of the Contractual Canon*, 26 FLA. ST. U. L. REV. 897 (1999) (arguing that Dworkin and Epstein make similarly incomplete arguments regarding, respectively, libel and Title VII liability).

sales; and most importantly (3) require managers to disclose their trading to the firms after the fact. Ex post disclosure would help the firm assure that the prospect of trading profits had not distorted managers' decision making and to more accurately price the true value of such trading rights.

A substantive theory of when (relatively rare) and what trading rights would be ceded is important because such agreements would constitute classic examples of self-dealing that should be subjected to both the substantive and procedural requirements of the duty of loyalty.[125] Contracts permitting inside trading at a minimum should be approved by a majority of disinterested directors and should probably be subjected to substantive fairness review. The specter of managerial self-dealing undermines our confidence that the corporation's decision to allow managerial trading truly internalizes all the costs and benefits. Just as in the takeover context, where the fear of managerial self-interest might drive the decision to fend off a tender offer, heightened scrutiny is appropriate.[126] Indeed, the presumptive dominance of firm trading, when combined with agency cost concerns,

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[125] *See, e.g.*, Lewis v. S.L. & E, Inc., 629 F.2d 764 (2d Cir. 1980) (holding that directors engaging in self-interested transactions must bear the burden of demonstrating that the transaction was "fair and reasonable to the corporation," that they "may not escape review of the merits of the transaction"); Bauer v. Beran, 49 N.Y.S.2d 2 (Sup. Ct. 1944) (holding that "transactions as may tend to produce a conflict between self-interest and fiduciary obligations are, when challenged, examined with the most scrupulous care" and that courts would examine not only "good faith," but also "inherent fairness").

[126] *See, e.g.*, Hilton Hotels Corp. v. ITT Corp., 978 F. Supp. 1342 (D. Nev. 1997) (holding that "[a] board's unilateral decision to adopt a defensive measure touching upon issues of control that purposefully disenfranchises its shareholders is strongly suspect" and cannot be upheld without "compelling justification"); Paramount Communications Inc. v. QVC Network Inc., 637 A.2d 34 (Del. 1994) (holding that "a court subjects directors' conduct to enhanced scrutiny to ensure that it is reasonable" when the corporation is about to break up or when there is a potential change or sale of corporate control); Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.., 506 A.2d 173 (Del 1985) (holding that the business judgment rule does not apply in the takeover context); Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946 (Del. 1985) (holding that defensive measures taken by a board must be reasonable in relation to the perceived threat to the corporation).

might even counsel for a per se (mandatory) prohibition against such trading.[127] But we would not go so far. We would join the critics of present law in agreeing that the mandatory prohibition against managerial insider trading is wrong. Limited trading rights for executives might on relatively rare occasions be sensible. A default prohibition with strict procedural and substantive fairness scrutiny of express attempts to opt out should be sufficient to ensure that managerial self-dealing did not lead to uncompensated transfers of the firm's trading rights. Our analysis suggests, however, that the costs of the present mandatory prohibition on employee trading are -- judged on a system-wide basis -- rather small.

On the other hand, our quasi-dominance results suggest that the current mandatory rule against *firm* trading may give rise to larger inefficiencies. The inefficiencies of the tying arrangement and the incentive problems can be avoided by having the company, rather than its employees, trade directly in its own stock. Indeed, as long as the company sells its trading rights in an arm's length transaction -- for example, to investment banks or other professional trading concerns -- we would only subject the arrangement to the much less searching business judgement rule inquiry. Both the costs and benefits of the firm trading itself (or selling the rights to a third party) are *internalized* to the corporation, and the corporation ought to be allowed to opt out of a default prohibition. We again would favor a default prohibition against insider trading by the firm (or its non-managerial

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[127]The analogy here might be to the traditional mandatory rule against managers taking loans from corporations. Some jurisdictions have statutes in force establishing liability for proscribed corporate loans to directors and officers. *See, e.g.*, Resolution Trust Corp. v. Greer, 911 P.2d 257 (Okla. 1995). While there are good reasons why managers might loan money to their firms, it is more difficult to justify corporate loans to the management. In the rare case, a corporation's loans to its own management might be an efficient investment, but the history of such lending has been so rife with unjustified self-dealing that the mandatory prohibition might be easily justified on rule utilitarian grounds.

delegate), but we would allow a firm to opt out in its articles of incorporate.[128]

C. *Desirability of Trading in Stock Substitutes*

How does our analysis change if the focus is on trading in another company's stock? In general, trading in stock substitutes by employees is likely to produce the same sort of benefits and costs as described above. However, many of these costs and benefits are externalized to the shareholders of the firm traded. On the benefit side, informed trading is likely to move stock prices toward their fundamental levels and to reduce the salary income of managers. On the cost side, informed trading is likely to increase the bid-ask spread of the traded firm and might induce managers to make wasteful and inefficient decision (which furthered their trading prospects). These social costs cannot be avoided through a rule that allows each firm to choose whether or not it wishes to be covered by the current insider trader rules. Nor can these costs be avoided by having the firm, rather than its employees, do the insider trading.

1. *The Externalization of Costs (and Benefits)*

It might be useful to begin by focusing on the effect of trading in stock substitutes on managerial investment or resource allocation decisions. Quite clearly, there are some facets of enterprise operation that do not affect or provide information about other companies.[129] However,

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[128]A default prohibition might be justified as a majoritarian rule. For while we have argued that firm trading dominates managerial trading, we are agnostic as to whether firms would prefer broad dissemination or analyst trading as superior means to price non-public information. However, even if a majority of firms would ultimately opt for the ability to trade on their own stock, a default prohibition (especially in the transition) would provide potential shareholders with valuable information about whether, when they buy or sell the company's stocks, they run the risk of facing a trading partner with systematically superior information. *See* Ayres & Gertner, *supra* note 63.

[129]The settlement of a class action based on discrimination within a firm would fall into this category – provided, of course, the settlement did not affect or provide information about similar actions at other firms. The same could be said for adoption of a new trading strategy with temporary

many, and perhaps most, significant corporate initiatives will affect other firms. A risky investment in a new chip architecture, for example, may reduce the value of a competitor if successful and raise the value of the competitor if unsuccessful. This form of investment raises the full panoply of inefficient incentives described above. The expected value of trading profits may distort the decision to invest; the manager may withhold information to the public and other mangers within the firm so as to profit from trading on the results; the trading will distract the executives from other firm issues, and so on. The same analysis applies to trading on information from past resource allocations. Information as to market share, profits, orders, future prices of raw materials, and the like offers opportunity to trade in stock substitutes, leaving the executive with incentives to control the flow of information, and distracting the executive from other firm business.

The potential gains from trading in stock substitutes should produce the same effect on wage levels as gains from direct insider trading: compensation ought to be (and presumably is) reduced by the expected value of the gains to the employees. The substitute trading would tend to move the stock price of the traded firm (and possibly the stock price of the non-traded substitute) toward its fundamental value -- but would also predictably increase the market maker's bid-ask spread.[130] If employees are not the optimal traders, building this form of compensation into the employment

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cash reserves. A firm may have some monopoly power over some portion of its market. Resource allocation decisions that affect profits within this imperfectly competitive space might similarly have no effect on–and provide no information about–the stock price of other companies.

[130]The substitute trading might also impose costs on the firm whose stock was traded – if it reduced the profitability for market analysts' following the firm. Reducing the trading profits of analysts could redound to the firm's detriment by reducing the liquidity and information services provided by analysts. *See* Goshen & Parchomovsky, *supra* note 117.

contract will be inefficient.[131] Again, our quasi-dominance and self-dealing discussion is apposite. Substitute trading by the firm is likely to be more efficient than trading by its employees. There still is the possibility that employees will have independent knowledge or risk preferences that make them value the trading property more highly, but this consideration must be balanced against the risk that the managers will induce their corporation to permit substitute trading that is ultimately not in the corporation's self interest.

All this is to say that substitute trading on the basis of non-public material information gives rise to the same basic categories of costs and benefits as traditional insider trading by managers on their own stock. However, *with substitute trading, the costs and benefits accrue to different firms*.

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[131] We refer here to the costs of information-based trading. Executives may hold and trade other firms' stocks for other reasons; and these holdings may be positive or negative for their employer. *See supra* Part III (discussing current corporate practice). For example, firms that compensate their executives with traditional stock (or stock option) incentives may want to regulate the executive's ability to hold substitute stocks. While the insider trading concern turns on the effects of the actual buying and selling, the incentive analysis turns on the effects of holding certain substitute securities. Firms with traditional stock incentive plans may need to prohibit executives from hedging away too many of their incentives. Netscape executives might hedge away their Netscape call options by buying Microsoft stock. No matter which browser ultimately wins, they are covered. We have some anecdotal evidence that some brokerage houses have private trading desks to accomplish just such a function for executives. But economic theory suggests that firms at times will want to require a certain amount of stock substitute hedging. The standard principle-agent model suggests that firms will want to tie executive compensation to managerial effort as much as possible given managers' relative risk aversion. But the problem with many traditional stock incentives is that managers' compensation can be affected by exogenous shocks which drive the entire industry's stock prices up or down. If general movements in the industry's stock prices are exogenous to managerial effort, then the firm will want to create incentive structures that hedge away industry risk. Such a compensation plan might combine call options in an executive's own firm with put options on the rival firms. Hedging away industry risk loosens the risk aversion constraint and thereby allows firms to go further in tying a manager's compensation to her effort. For these purposes, this analysis suggests that firms will at times both require certain amount of managerial holdings of stock substitutes to hedge away exogenous risk and simultaneously restrict managers from hedging away the residual incentives that the firm wants to maintain. As an empirical matter, few firms tend to make either of these requirements contractually explicit.

The most salient difference between trading in stock substitutes and direct insider trading is that losses are not borne by the employer's shareholders; they are borne by the shareholders of the company whose stock is traded. A second important difference is that the benefit of more accurate share pricing is realized directly not by the employee's company, but by the company whose stock is being traded.[132]

The externalization of costs and benefits makes it unlikely that a firm acting in its self interest and without coordination with other firms would achieve an efficient rule with respect to employee insider trading. The firm's response would depend on the relationship between costs and benefits, which would vary from firm to firm and time to time. In general, however, it seems likely that the employees' gains from trading, unbalanced by the external losses suffered by shareholders of another company, would more than offset the internalized costs of such trading. If that is the case, a firm would rationally permit or even encourage trading in stock substitutes -- even when such trading is social inefficient.[133]

To see how the externalization of costs and benefits can lead toward inefficient employer decision we provide here a highly stylized example. Assume that Intel employees could expect to earn100x profit from trading in the stock of competitor Advanced Micro Devices ("AMD"). Since the trading is risky, the 100x expected profits are valued by Intel employees at 90x. Trading distracts

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[132]There is a possibility that the substitute trading will indirectly affect the stock price of the employee's own firm if, for example, the market infer a general sector shift.

[133] This is most likely to be true when a firm's executive trades in a rival's stock. In cases of upstream and downstream privity, we might expect private contracting between the parties to limit this form of trading. *See* discussion *infra* notes 104-118 and accompanying text. The case of complementary products – Intel processor and Microsoft software – actually falls between the two extremes. Losses suffered by a firm at the hands of executives of a firm that sells a complementary product may hurt the firm whose executives trade.

Intel employees, distorts the flow of information within Intel, and on occasion distorts investment decisions by Intel mangers. Intel values those costs at 5x. Trading produces a more accurate stock price of AMD; this is valued by AMD at 2x and generates an additional value of 1x to those who base decisions on AMD stock price. Substitute trading produces social benefits of 93x and social costs of 105x.[134] If the true benefits and costs were internalized to Intel, it would not be allowed. In fact, Intel may reap benefits of 90x, through reduced compensation by the perceived value of the trading profits. Intel incurs costs of only 5x, for a net gain of 85x. The difference between Intel's gain and social loss is realized largely by AMD and its shareholders who, in this example, suffer a net loss of 98x. The loss to AMD might translate into an even larger gain to Intel if and to the extent that the loss raises AMD's cost of capital, making it harder to raise financial capital and harder to attract human capital through stock-based compensation. Permitting your employees to trade on your competitors' stock may be a socially inefficient, but privately profitable, strategy of raising rivals' costs.[135] This does not mean that trading in stock substitutes on balance benefits Intel and its shareholders -- because the game could easily devolve into a race toward the bottom. At the same time Intel executives are trading in AMD stock, AMD executives are presumably trading in Intel stock. If the numbers are symmetrical, then Intel and its shareholders suffer a loss of 98x at the hands of AMD executives. Intel's overall loss is roughly the social costs of the practice. Can Intel eliminate this loss by prohibiting its executives from trading in AMD stock? No, because the trading that causes the loss is done by AMD, rather than Intel, executives. Intel and AMD are trapped in a

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[134]Social benefit: 90x (trader value) + 2x + 1x (more accurate AMD price) = 93. Social cost: 100x (trading losses) + 5x (decision distortion) = 105.

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

prisoners' dilemma game -- of reciprocally imposing negative externalities on each other.

The social cost of 13x in the above example is clearly an artifact of numbers we chose to illustrate the dynamics of substitute trading. Costs and benefits are both externalized; the magnitude of each term is an empirical matter about which we do not opine. As an analytic matter, it is possible that the benefits outweigh the costs.[136] We doubt that is the case, however, and most of the examples we use throughout will reflect out belief that the distortions due to trading outweigh the incremental benefit of a more accurate stock price of the traded company.[137]

2. *Trading by Firms Rather Than Employees*

Earlier we noted that (1) insider trading by the firm was likely to be more efficient that insider trading by employees; (2) trading by the firm eliminated most of the decisional inefficiency associated with such trading; and (3) firms could be expected to establish a policy of trading only in those situations under which such trading was efficient.

The first of these results holds when we examine trading in stock substitutes: the firm is likely to be a more efficient trader -- any trading the employee can do, the firm itself can likely do better. Trading by the firm, for example, eliminates the inefficiencies entailed in tying the purchase of managerial services to exercise of trading rights. The second and third results, however, do not hold up when we examine trading in stock substitutes. There is no reason to expect that firms would trade

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[136] The intuition behind such a counterintuitive (and we believe unlikely) result would be that the the prohibition on insider trading, and possibly the recently enacted "fair disclosure" Regulation FD, create large inefficiencies in pricing that are solved or at least mitigated through substitute trading. Our present belief that the market is "acceptably" efficient in pricing might change if a primary mechanism by which the market adjusts is eliminated.

[137] But cf supra at 63 (examples in which trading may either be efficient or indeterminant)

only in those conditions when trading was socially desirable. Again, this is due to the fact that the trading loss to shareholders and the gains from more accurate stock pricing are both externalized.

Assume, for example that Intel is considering a high variance business strategy that will affect the price of a stock substitute and that the strategy imposes certain costs. These costs must be weighed against the profits realized from trading in a rivals stock and the possibility that trading will raise the rival's cost of financing. Intel's calculation ignores the losses to the rival's shareholders and the gains from more accurate stock pricing. Intel will pursue the strategy so long as the gains from trading and indirect gains from raising its rival's cost of capital exceed the costs of the strategy to Intel.

It is possible that the welfare losses are increased if the firm, rather than the employees, trades in stock substitutes. This will be true if firm trading in stock substitutes is in itself inefficient, employee trading is more inefficient (as we assume), and the internalized losses to the firm of employee trading exceed firm gains. The inefficiency of employee trading puts a brake on a practice that is also inefficient but would otherwise be in the firm's self interest. We noted earlier that, given a fixed amount of trading in stock substitutes, it is more efficient to have the firm, rather than employees, trade. But moving from employee to firm trading reduces internalized costs to the firm, and makes it more likely that a socially inefficient practice will be adopted as in the firm's best interest.[138] By "firm's self interest," we mean the self interest of the firm and shareholders under

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[138] A numerical example may be useful here. Assume Intel is considering a risky project with an expected value, apart from trading profits, of -10x. Trading profits on the project have an expected value of 15x to Intel or its employees, and -15x to AMD shareholders. Giving Intel employees insider trading rights imposes a cost of 6x on Intel. Trading by Intel employees (with profits recouped through adjustments in the wage contract) produces social costs of 16x and provides Intel with a net return of -1x. Intel chooses not to undertake the combination of project/trading. If

conditions in which coordination with other firms is impossible.

The indeterminate efficiency effects of such trading at the firm level was pointed out long ago by Jack Hirshliefer.[139] Hirshliefer thought about the efficiency consequences of having inventors trade on their rival's stock. He concluded that such trading could lead to either too much or too little incentive to innovate. The additional profits from such trading might usefully increase the incentives to innovate, but there is also the possibility that it would create too much of an innovation incentive – by giving innovators a reward (profiting on their rival's loss) that was greater than the invention's contribution to social value. A parallel story can be told here. It is possible that allowing Intel to profit from trading on other high-tech firms would improve its incentive to do market research about future chip demand. Without such trading, Intel has an insufficient incentive to spend money to accurately forecast chip demand because it does not capture all the external benefits from producing such information. However, these trading profits may induce Intel to produce too much information from an efficiency standpoint.

If we assume that (due to patents and other factors) innovation is adequately rewarded absent substitute trading, substitute trading will systemically provide too much reward for innovation – at least that form of innovation that produces private information. Recall our earlier example of an investment in a risky chip architecture. The expectation of trading gains may turn a socially undesirable project into a privately lucrative project.

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the trading in AMD stock is done directly by Intel, social costs and costs incurred by Intel each decline by 6x. The project now imposes social costs of 10x and provides Intel with a net return of 5x. The project and trading are now attractive to Intel.

[139] Jack Hirshleifer, *The Private and Social Value of information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971).

It would be wrong, of course, to single out the effects of substitute trading on investments in innovation. All investments or behavior that produces private information is favored. If substitute trading were unavailable, a company may find it most profitable to match a competitor's price. But a company may decide it more profitable to purchase its competitor's stock, and then announce that it will not match it's competitor's price. In this example, substitute trading gains have an anticompetitive effect and in the short run at least, reduce consumer welfare. In other cases, substitute trading may have an opposite effect. A company that would otherwise decide not to match a competitor's price might decide otherwise, and recoup its lost profits through gains from shorting its competitor's stock. In still other cases, a company will find itself in the fortunate position of taking the otherwise profit-maximizing path and still trading on the result before it is announced. The common feature of these examples is that the possibility of gains from substitute stock trading has the potential to distort business decision-making.[140]

Indeed, seeing the externalizing effects of substitute trading calls into question the presumptive efficiency of "outsider" trading on non-public information more generally. In deciding whether to expend resources on information-gathering and then trade on non-public information about a company, an outside analyst – like the substitute trader – does not internalize all the costs and the benefits of such trading. A la Hirshleifer, the generic outside trader may have too much or too little

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[140]To give an even more extreme and chilling example: Substitute trading may make it profitable for a firm intentionally to reduce its underlying profitability. As a theoretical matter, it is illuminating to consider an "Atlas Shrugged" scenario in which a firm (say, Microsoft) destroyed all of its productive capacity on particular day, but profited immensely by selling another firm's stock short. It has long been understood that traditional insider trading might give unfaithful fiduciaries an incentive to reduce the underlying profitability of their own firm (to profit from short selling), but substitute trading raises the possibility that faithful managers would intentionally reduce the profitability of their firm in order to further their shareholders' ultimate interest.

incentives to trade. Manne's original internalization insight taken to its logical conclusion flips all our intuitions: Not only is insider trading (by the firm, we argue) presumptively efficient because of internalization, but all outsider trading (including substitute trading) is, if anything, presumptively inefficient.

So even if we have distinguished substitute trading from insider trading as being worthy of regulation, we still need to distinguish substitute trading from this more general category of outsider trading as being more worthy of regulation (or we would be driven to the regulation of outsider trading more generally). We think substitute trading is more problematic than outsider trading for two reasons.

First, the substitute trader can more easily than the outside trader take non-trading actions that affect the profitability of the traded firm. These costs are apt to be much larger than the costs an analyst incurs to acquire information.

Second, the traded firm may have less ability to protect itself from inefficient substitute trading. Firms can preempt outside trading by releasing non-public information on which analysts trade to the market as this information comes into existence. There is an increasing trend for firms to voluntarily do this by, for example, releasing weekly sales data to the market.[141] When traded firms

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[141]In October, 2000, the SEC promulgated a new rule–Regulation FD–that requires corporations to divulge material information about their performance to everyone at the same time, thereby depriving analysts of the informational advantage they previously enjoyed. *See* Jonathan Fuerbringer, *When Companies Talk, Who Gets to Listen?*, N.Y. TIMES, Oct. 20, 2000. However, even before this rule came into effect, companies were already moving in the direction of broader disclosure. Companies, including big corporations like Intel, for example, were already disclosing corporate performance information to the general public. *See id*; Kenneth Aaron, *Companies, Investors Play by New Rule*, THE TIMES UNION, Sept. 26, 2000; *SEC Fair Disclosure Proposals Meet with a Mixed Reaction*, INVESTOR RELATIONS BUSINESS, Jan. 10, 2000. A news report stated that "broadcasting of Wall Street analysts' meeting on the Internet, what is known as Webcasting,

can preempt outsider trading by public disclosure, then the firm's failure to do so can be seen as implicitly giving the outsider permission to trade on the non-public information. Even though the outsider does not internalize the costs and benefits of such trading, the traded firm's prior decision of whether to release the non-public information goes a long way toward recreating an internalization-type argument with regard to outsider (analyst) trading.

The decision of the firm not to preempt the outsider and the decision of the outsider to trade jointly tend to internalize the costs and benefits of such trading. Substitute trading, however, stands on a different footing than outsider trading because the traded firm often itself is not privy to non-public information–and it does not have the option of preempting the substitute trading by prior disclosure. Compaq might not know that Intel has experienced greater than expected chip demand. Texaco may not know that Penzoil has discovered a document that will win (or lose) the case. Genotech may not know that Chiron has cloned Human Growth Hormones. Substitute trading is accordingly more worthy of regulation than outsider trading by analysts because substitute traders have more ability to take non-trading actions to hurt the traded firm, and the traded firm has less ability to protect itself from the externalized harms of such trading.

3. *Trading on Privity Substitutes (i.e. Customers, Suppliers, or Joint Venturers)*

In the next two sections, we will distinguish between a firm trading in "privity" and "non-

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is already becoming standard procedure and will grow, as will public access to conference calls that companies use to brief analysts." Fuerbringer, *supra.* The National Investor Relations Institute estimated that "86% of its member companies that hold earning conference calls allowed individual investors to listen in, up from 29% two years ago. About 74% let the news media listen in, up from 14%." *Id.*

Admittedly, outsider trading by public disclosure is not a panacea. At times, the firm will have a legitimate business reason for not disclosing–such as in *Texas Gulf Sulphur*, 401 F.2d 833, 854 (2d Cir. 1968), where the firm wanted to be able to buy land on the cheap.

privity" substitutes. By a privity substitute, we mean firms that have a contractual relationship with the trading firm–including the trading firm's customers, suppliers and co-venturers. By a non-privity substitute, we mean firms that do not have a contractual relationship with the trading firm (but nonetheless may have correlated fates) -- including the trading firm's rivals and complementors. The privity/non-privity relationship distinction is important because it is more likely that firms in privity with one another will be able to contract expressly or implicitly to internalize the otherwise-externalized costs and benefits of substitute trading -- by the firms or their executives.

Analytically, the question of whether a particular firm would contract to allow another firm to trade on the basis of material, non-public information is analogous to the question of whether a firm would contract to sell trading rights to its own managers or to a third-party investment firm.[142] Because the social costs and the social benefits are dominantly visited upon the trading and the traded firms, an arm's length contractual indication that the two firms find such trading to be beneficial is strong evidence that the agreement should be respected. Indeed, the case for respecting such contracts is in two related respects greater than the case for respecting a firm's decision to allow its employees to engage in traditional insider trading. First, granting a supplier or a customer the right to profit from trading on non-public information does not raise self-dealing concerns that would tend to undermine our confidence that the ceding firm actually benefits from the trading. Second, while a firm may be a more efficient trader than its employees (as we argue earlier), it may not be a more efficient trader than another firm. One firm may have special insight into the prospects of related companies -- not only because the prospects of the related companies may be tied to the

[142]See Carlton & Fischel, *supra* note 4, at 874 ("[W]ith respect to insider trading, the actions of a key executive of a firm do not differ in principle from those of a key supplier to the firm.).

prospects of the trading firm, but because the trading firm may have proprietary data as to how the traded firm's products stack up against it's competition. For example, Compaq may have better knowledge than Intel as to how an Intel processor fare's against a rival processor.

What would a privity contract that allowed such trading look like? A supplier that granted a downstream purchaser the right to trade its stock on the basis of non-public information recoups the trading losses of its shareholders through adjustments in the supply contract. In the above example, Ford may pay more for a prototype that offered it the possibility of trading profits on its supplier's stock. The adjustment mechanism would in a sense be the same as that which would reduce the salary of employees who are given rights to traditional insider trading.[143] The analytics of upstream or downstream relationships are the same whether or not the supplied good or service is secret or represents cutting-edge technology: all that is required is that the relationship provides the possibility of trading profits. We began this paper with the example of an Intel executive having information as to the sales of personal computers (downstream relationship) and sales of semiconductor manufacturing equipment (upstream relationship). The upstream supplier's price might be higher or the downstream customer's price might be lower to offset the losses the investors in these firms would suffer if Intel contracted for the right to profit from trading on non-public information.[144]

Even in a world of perfect contracting, there may be cases in which information rights are given

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[143]If Ford itself does not trade but its employees do trade, the "correct" adjustment would be two-fold: a higher price for the good tied to lower explicit wages. In practice, however, we suspect (based on our earlier quasi-dominance conjecture) that Ford would, absent self-dealing inefficiencies, be the more efficient trader.

[144] Alternatively, the good might be expected to bring trading gains as well as trading losses, with no net effect on pricing. For example, a customer of Intel such as Compaq might expect that it would benefit as much from the information it learns about Intel as Intel benefits from the information it learns about Compaq.

without adjustment in the price of supplies. A thinly traded company with hard-to-value technology may believe its stock is undervalued and, as a result, find it hard to raise capital through the directly through the equity markets, or human capital through the grant of stock options to key employees. Such a company may welcome supplier purchases that support its stock price; the fact that such purchases may cement relationships between itself and its new stockholders and therefore strengthen the supply relationship may be seen as an added bonus.

Of course, there will still be many situations in which trading of one firm's stock by its privity substitute firms (or those firms' employees) will not be jointly beneficial. In some cases, a firm may find it advisable to contract with downstream or upstream firms to limit the ability of those firms (and executives in those firms) from using nonpublic information to profit from trading in the first firm's stock. For example, the company that produces assembly line manufacturing equipment for Ford may require Ford to agree that neither it nor its employees will use information about the equipment to profit from trading that company's stock. There is anecdotal evidence that such contractual limitations on the use of proprietary data are common, at least in Silicon Valley.[145] Indeed, we conjecture that firms would only rarely agree to grant unlimited trading rights to a privity substitute. Recalling Carlton and Fishel's realistic hypothetical of a supplier breaching a contract where one firm profited by short selling another, we believe that contracts that expressly granted substitute trading rights would not grant the right of one firm to short the stock of a privity substitute.

4. *Trading on Non-Privity Substitutes (i.e. Rivals and Complementors)*

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[145]See also supra at 43 (discussing current corporate practice).

In theory, firms that are not in privity might contact with each other to reach an efficient policy with respect to trading in each other's stock. For example, if, as we suggest, substitute trading is apt to be inefficient but (in most cases) legal, AMD and Intel might contract with each other to prohibit cross-trading in each other's stock – at least such trading that makes use of material nonpublic information. The companies might also contract to prohibit employee trading in the other company's stock. In practice, this sort of contract would raise nearly insurmountable information, monitoring and transaction costs. Among other things, companies would have to estimate and value the future prospect of substitute trading in either direction; and companies would find it nearly impossible to monitor whether the other company or its employees were complying with a trading ban (on material nonpublic information).

V. POLICY RECOMMENDATIONS

Our analysis suggests substitute trading is apt to be inefficient; and that in non-privity situations we cannot reply on companies to contractually limit such trading to those cases in which trading enhances welfare. For policy purposes, our analysis raises four sets of questions: (1) Is it economically or practically feasible to determine the stock substitutes for any given company?; 2) What disclosure rules would be appropriate for regulators, investors and employees?; (3)What substantive changes in the law might be required and how might they be implemented?; and 4) What cognate securities restrictions are affected by trading in stock substitutes?

A. *Defining Stock Substitutes*

The first step in regulating or even studying the real world practice of trading in stock substitutes is to come up with a workable definition of stock substitute; that is, a definition that can produce for each company a set of companies that serve as stock substitutes. This is a daunting task, because as in antitrust market definition, the definition of trading substitutability is one of degree; in some sense, the movement of virtually every stock is correlated with virtually every other stock. We outline below a set of definitions and compilation rules that we believe will produce a list of most significant stock substitutes for most companies. Our approach will require virtually no additional social resources, and can easily be incorporated into the disclosure regime we recommend.

1. *Supplier's and Customers.*

Rule SK currently requires firms to report in its Form 10-K filing (as part of its "description of business") the names of any customer, "if sales to the customer by one or more segments are made in an aggregate amount equal to 10 percent or more of the registrant's consolidated revenues and the loss of such customer would have a material adverse effect on the registrant and its subsidiaries taken as a whole."[146] We would expand this rule to also require firms identify those firms that supply goods or services representing more than 10% of the firm's non-labor expenditure. The disclosure of a firm's major customers and suppliers would go a long way toward identifying an important class of privity substitutes -- i.e., those external firms to which the disclosing firm is vulnerable. These rules would not, however, identify the class of firms that are vulnerable to the disclosing firm. To understand why this is the case, imagine a small firm that sells a high proportion of its output to a large company such as Intel. The firm might well be a source of trading gains for Intel or its

[146] 17 CFR § 229.101(c)(1)(vii).

employees. It's fortunes might be tied to Intel's fortunes, or purchasing decisions by Intel. Any system that required disclosure of purchases in stock substitutes would want to require Intel or its employees to disclosure purchases in the smaller firm. A waivable default prohibition on trading in stock substitutes might require Intel to include this firm on a list of "prohibited investments" to its employees – at least under circumstances in which the employees could not trade in Intel stock. The difficulty is that the smaller firm would not be listed in Intel's SK because it did not account for 10% of Intel's supplies. However, the smaller firm would list Intel as a 10% customer on its SK. The SEC could at virtually no cost send Intel a computer-produced list of all companies that listed Intel in their SK; these companies, together with the companies Intel lists in its SK, could comprise a list of suppliers and customers with respect to which substitute trading might prove profitable.

2. *Rivals.*

Deriving a list of non-privity substitutes (chiefly, rivals and complementors) is difficult because it requires a disclosing firm to identify firms with whom it does not have a contractual arrangements. Rule SK currently does not require firms to disclose their rivals' identity – unless the rival is a "dominant" firm in the industry.[147] However, a list could easily be compiled at the administrative level by requiring each firm to list the four digit SIC code for its industry; the SEC could produce a list that for each firm would contain the other firms with that same SIC classification.

3. *A Quantitative definition of stock substitutions.*

The lists described above – of customers, suppliers, rivals and complementors – are intended to

[147] See 17 C.F.R. §229.101(c)(1)(x) ("Generally, the names of cmpetitors need not be disclosed .... Where, however, the registrant knows or has reason to know that one or a samll number of competitors is dominant in the industry it shall be identified.")

tell us which firm is a substitute of another. There is another, and in some ways superior method of making that determination: the SEC might determine, for each company, a list of other companies whose abnormal returns have a statistically significant correlation with the abnormal returns of the reporting firm. The abnormal returns of a stock are simply the changes in the stock's value on a particular day that cannot be explained (using the Capital Asset Pricing Model) by general market movements.[148] This statistical correlation alternative to defining a firm's stock substitutes would be to regress the abnormal returns of other publically traded firms on the abnormal returns of the reporting firm (plus a constant) to see if there is a statistically significant positive or negative correlation. Under the semi-strong form of the Efficient Capital Markets Hypothesis, this regression would tend to show whether publicly disclosed information that unexpectedly moved the reporting company's stock also tended to move the price of another firm's stock. As emphasized above, particular kinds of information might induce positive correlations between two rivals' value, while other kinds of information might induce negative correlations between the rivals' value. Hence, the foregoing regression might be under-inclusive -- because some firms on average may have no average positive or negative correlation, even though, for insiders, particular types of information could be expected to have predictable positive or negative effects.[149] While this statistical alternative would require the estimation of many alternative regressions – one for every other publicly traded

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[148]Abnormal returns and similar "CAPM" regressions are discussed in RONALD J. GILSON & BERNARD S. BLACK, (SOME OF) THE ESSENTIALS OF FINANCE AND INVESTMENT 124, 194 (1993).

[149]*See supra* text accompanying notes 15-17 (discussing event studies showing that one firm's unexpected increase in costs tended to produce negative correlation in its rival's stock price, while one firm's unexpected increase in demand tended to produce a positive correlation in its rival's stock price). One way the aforementioned regression might be made less underinclusive would be to test whether the absolute value of another firm's abnormal returns was correlated with (the absolute value of) the abnormal returns of the reporting firm.

firm, this task could easily be centralized and performed by the SEC or its designate. The individual regressions are trivial, and while there are thousands of permutations that would need to be estimated, the job could be handled by a single individual with a medium-sized workstation.

4. *Other possibilities*

It would be easy to supplement lists compiled from the above-described sources. For example, the SEC could compile, for every company within a four digit SIC code, a list of suppliers and customers listed by other companies within that same code. This would produce, as a potential stock substitute for Compaq, a company such as Motorola, which produces processors for Apple (but not Compaq).

We might finally require reporting firms to disclose the names of all other firms whose activities (success or failure in the market) are likely materially to affect the profitability of the reporting firm. This list could be combined with a list of firms that had named the reporting firm in this fashion to comprise a qualitative set of possible stock substitutes.

B. *Disclosure Rules*

1. *Disclosure of Firm Policy*

An appropriate disclosure policy would require firms to state whether they had (1) granted or denied permission to their own employees the right to trade substitute stocks (on the basis of material, non-public information); or (2) opted to retain the right to trade the stock of specific related firms (on the basis of material, non-public information).[150]

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[150]This disclosure rule would represent a kind of "affirmative choice" default – forcing the disclosing firm to make an affirmative choice or face a penalty for remaining silent. Alternatively, one might argue in favor of a default prohibition (which would infer from a reporting firms' silence that it had not granted trading permission to itself or its employees). But for clarity sake, we prefer

This disclosure rule would clarify the legality of trading for employees. As noted above, the law governing employee trading is unclear in stock substitutes in the absence of contractual permission or prohibition is unclear. Our disclosure policy would force each firm to outline it policy and in that manner remove the ambiguity. Under existing law, employee trading in stock substitutes is illegal in firms that explicitly ban such trading and legal in firms that allow such trading. Our disclosure rule would simply force firms to announce their policy.

Our disclosure rule would also provide information to investors. As noted above, in the absence of a coordination rule, even inefficient stock substitute trading might well be in the interests of shareholders. But such employee trading may dramatically increase compensation to management; investors therefore should know whether management receives trading rights. Investors may also want to know whether, and to what extent, such trading constitutes a component of investment returns.

Perhaps most importantly, disclosure will provide policymakers with information as to industry practice.

2. *Disclosure of Trades*

While ex ante disclosure of trading policy will provide important information to policymakers and investors, ex post disclosure of trading results would provide much more useful information. Rule 16b current requires certain statutorily defined insiders and major stakeholders to disclose, ex post, their trading on their firm's own stock. Rule 16 could be amended to require ex post disclosure of their trading -- how many shares and at what price -- on stock that had been previously identified

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the affirmative choice default as it eliminates the need of reading the entire disclosure document to learn whether the firm has opted out.

by their employer as a stock substitute. Disclosure of such trading (whether or not on the basis of material non-public information) would help assess whether this form of compensation was excessive in relation to the reduction in the employee's salary. It would also give the firm, its shareholders, and policy makers a much greater insight into whether the potentials for substitute trading abuse (chiefly, externalized negative effects, deleterious internal conflicts of interest and uncompensated self-dealing by managers) were empirically important.

The ex post disclosure rules described above could be modified in one of two ways. First, to the extent disclosure is intended to guide policymakers, the rules might be applied only to a sampling of firms or industry. On the other hand, at least in technology industries, where information might be located below top management, disclosure could be extended to a greater subset of employees than those covered by 16b.

3. *Disclosure of the Implicit Value of Stock Trading as Executive Compensation*

If a firm does grant its employees the right to profit from trading on its privity and non-privity substitutes (and duly reports it as required in the previous section), it might worthwhile to also require the firm to estimate the value the trading right as part of the executive compensation reporting requirement.[151] As detailed above, a firm/employer has an absolute right to prohibit such

[151]Currently, detailed rules govern the disclosure of executive compensation. *See* 17 C.F.R. § 229.402 (2000). Corporations are required to disclose the compensation of (i) "[a]ll individuals serving as the registrant's chief executive officer or acting in a similar capacity during the last completed fiscal year, regardless of compensation level, (ii) four most highly compensated executive officers other than the CEO . . . ," and other individuals as well in some circumstances. *Id*. at § 229.402(a)(3). "Compensation," is defined broadly to include "all plan and non-plan compensation." *Id*. at § 229.402(a)(2). Therefore, under the current rules, any arrangement–"whether or not set forth in any formal documents"–involving, among other things, cash, stock, stock options, stock appreciation rights, warrants, convertible securities, and similar instruments need to be disclosed. Instructions to Items 402(a)(3), 17 C.F.R. § 229.402 (2000).

trading under *O'Hagan*. A firm's failure to prohibit the trading can give rise to huge potential profits for the manager. Such profits were vividly illustrated by the managerial profits reaped by a Cisco manager.[152] If Henry Manne is correct that granting managers the right to trade on inside information results in reduced salaries,[153] then it is important for this trading option to be valued so that the market can better value whether managers are being appropriately compensated.

But contrary to Manne's argument, we believe it will be exceedingly difficult for a firm to accurately price the substitute trading option. We would therefore insulate such disclosure from any private litigation and would only allow the SEC to find a disclosure violation if the firm did not exercise due diligence in making their estimate. To the extent that the substitute trading rights had a seasoned track record, the firm would be required to relate the expected future value to the demonstrated past profitability on such trades.

C. *Changes in Substantive Law*

The proposals outlined thus far would leave the decision to allow substitute trading with the firm that possesses, or whose employees posses, material nonpublic information. However, our

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One wrinkle to the disclosure rules is that corporations may exclude some executive officers from the disclosure requirement if their compensation in a particular year is "unusual," i.e., when "the distribution or accrual of an unusually large amount of cash compensation (such as a bonus or commission) that is not part of a recurring arrangement and is unlikely to continue." *Id.* Nonetheless, the rules make it quite clear that exclusion is appropriate only in "limited circumstances." Furthermore, trading in stock substitutes, to the extent that it occurs in some industries, cannot fairly be said to be outside of "a recurring arrangement" that "is unlikely to continue."

[152] *See* Glenn R. Simpson & Scott Thurm, *Web of Interests: At Cisco, Executives Accumulates Stakes in Clients, Suppliers*, WALL ST. J., Oct. 3, 2000, at A1; *see also supra* Part III.

[153] HENRY MANNE, INSIDER TRADING AND THE STOCK MARKET 138-41 (1966); *see also* Carlton & Fischel, *supra* note 4, at 862-83 (analyzing insider trading as a form of compensation scheme).

analysis suggests that substitute trading is apt to be an inefficient practice. The costs and gains of substitute trading are externalized, and there is likely to be too much substitute trading. This paper is the first paper to examine substitute trading in any length; and the first to offer any thoughts on the efficiency of such trading. We are too realistic to believe that a single paper is likely to (or even should) lead to fundamental change in the securities law. However, the direction in which our analysis points is clear: serious consideration ought to be given to placing limits on substitute trading. Our analysis, if confirmed, suggests that corporate trading on material information in a stock substitute should be illegal unless the trading firm had permission from the firm whose stock was being traded.[154] The rule would give each firm a negative property right that would enable the firm to prevent trading in its own stock. Presumably, the firm would grant trading rights in those cases in which the trading is on balance efficient. Employee trading rights would follow from employer rights and the rule outlined in V.B. above. Employees could trade if employers could trade and if their employer had announced a policy which permitted such trading.

While a granting the traded firm a negative property right to block substitute trading is theoretically more consistent with the goal of finding a decisionmaker who internalizes the costs and benefits of substitute trading, our less ambitious recommendation that the trading firm must merely disclose that it or its employees might engage in future substitute trading is likely to move us toward a more efficient equilibrium. Substitute trading by firms themselves may not be a large risk because of the huge liquidity demands discussed above, and we predict that the majority of firms would not

[154] An alternative approach would be to adopt a variant of the pretrade disclosure system that Jesse Fried has proposed with respect to other forms of insider trading. See Fried, Reducing the Profitability of Insider Trading through Pretrading Disclosure, supra note __.

grant their employees unrestricted rights to engage in substitute trading.[155]

D. *Other Possible Changes in Substantive law.*

1. *Section 10b(5)*

Our analysis also has implications for other aspects of Section 10(b) and Rule 10b-5. One of these implications has been discussed in IV.A., supra. Our analysis of "traditional" insider trading suggests that the present prohibition be replaced by a default prohibition waivable by the firm. The firm would also be given the right to allow its employees to trade. Because we conclude that trading by employees is unlikely to be efficient and management approval of such trading raises self-dealing issues, we would subject employee trading to the scrutiny afforded under the duty of loyalty standard.

A second implication revolves around the "material misstatement" clause of Section 10(b). As is perhaps obvious, a material misrepresentation by a corporation or its officers may affect the stock price of other companies. In a world in which substitute trading becomes popular, one of the purposes of such misrepresentation may be to affect the prices of other company's stocks. A person who makes a misstatement about one firm and then profits from trading on another firm should face civil liability.

The predictable tendency of related firms' stock prices to move based on particular pieces of information also suggests a basis for extending fraud on the market liability to what we call "fraud on a substitute. Imagine that a firm (through its managers) intentionally misrepresents that it is about

[155]Subjecting such permission to self-dealing scrutiny and potentially pricing the value of this trading right as a component of executive compensation may further deter the grant of such trading permission.

to win an important patent race that has been engaged in with a particular rival. The impact of the misrepresentation predictably would be to raise the stock price of the misrepresenting firm and to reduce the stock price of its rival. Individuals who purchased shares of the misrepresenting firm after the misrepresentation had been made but before its falsity had been public would (given certain pre-conditions) have a strong "fraud on the market" case against the firm for having purchase at too high a price.[156] But what about the shareholders of the rival who sold during the interim period in which the rival's stock price was artificial depressed. The same logic that undergird "fraud on the market" liability suggests that the firm or person making a misrepresentation should also be liable for "fraud on a substitute."for the losses suffered by shareholders of other company's whose stocks are affected by the misstatement.[157]

Finally, adoption of any substantive limitations on stock substitute trading will require a (somewhat obvious) amendment to the definition of what constitutes material information. In traditional insider trading, the company whose stock is traded is the same company that is trading or whose employees are trading. When stock substitutes are traded, it is necessary to determine whether restrictions information that is material with respect to the trader's company or the traded company. The correct rule, of course, is that materiality should be defined with respect to the company whose stock is traded. Thus, for an executive of Ford who is trading on a supplier stock, any restrictions on the trade would require that the information upon which the trade is based be

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[156] See Basic v. Levinson, 485 U.S. 224, 224 (1988); Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA. L. REV. 945, 995 (1991).

[157] See Semerenko v. Cedent Corporation, 223 F.3d 165 (3d. Cir. 2000) (misrepresentation by a merger partner gives may support civil liability to shareholders of other partner to merger if there is sufficient nexus between misrepresentation and loss).

material to the supplier.

2. *Rule 14e and Section 16(b).*

Our analysis also has implications for at least two other sections of the securities laws, Rule 14e-3 and Section 16b. Presently, 14e-3 prohibits any person from using nonpublic information traceable to a party making a tender offer from purchasing the stock of the target of the tender offer.[158] But it does not currently prohibit any individual from profiting on this non-public information by trading on firms that are related to the target of the tender offer. Thus the same information that cannot be used to purchase the target of a tender offer can be used to purchase other firms in the same industry – even though in many cases it will be easy to predict how the merger announcement will impact the value of the legally traded firm.[159] The same rationale that supports Rule 14e-3 may support extending its reach to stock substitutes.

Section 16b requires insiders to surrender profits realized from short-term investments in their company's securities; the rule is designed as a prophylactic measure, on the assumption that such profits are apt to be due to nonpublic material information. If future analysis supports our conclusion that substitute trading is apt to be inefficient, and limitations on that trading are imposed, consideration should be given to extending the reach of 16(b) disgorgement to trading in stock substitutes.

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[158] 17 C.F.R. §240.14e-3 ("Rule 14e-3(a) is a disclosure provision. It creates a duty in those traders who fall within its ambit to abstain or disclose, *without regard to whether the trader owes a pre-existing fiduciary duty* to respect the confidentiality of the information." United States v. O'Hagan, 521 U.S. 642, 669 (1997) (quoting United States v. Chestman, 947 F.2d 551, 557 (1991))).

[159] In some cases, an industry participant make expect the traded firm to rise in value due to oligopolistic pricing or the now-increased prospect that the traded firm will itself be acquired; in other cases, increased competition by the soon-to-be-combined firms may create an expectation that the traded firm will fall in value.

At present, we do not advocate substantive limits of trading in stock substitutes; even if limits are imposed, it is not clear that the above-described extensions of the limits are desirable. It may be, for example, that the aggressive role of the plaintiff's bar, together with the transactions costs involved, make even the current administration of civil penalties for material misstatements excessive. If that is the case, extension of 10b liability to shareholders of other firms, while analytically appealing, is unnecessary and socially wasteful. Strong objections can also be made to extension of 14e-3 and 16b liability.[160] Our central point, however, remains: in an increasingly sophisticated economic marketplace, the securities law must be concerned not only with transactions in a given stock, but in substitutes for that stock.

CONCLUSION

Under current law, employees cannot use material nonpublic information to trade in their employer's stock; an employer cannot use such information to trade in its own stock. In many cases, however, that same information can be used to profitably trade on the stock of other companies.

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[160] Rule 14e-3 was adopted in response to the decision in Chiarella v. United Sates 445 U.S. 222 (1980) in which an employee of a financial printer traded on information in the possession of his employer. The facts in Chiarella would now give rise to liability under the misappropriation doctrine; this is true for most 14e-3 cases. Chiarella still has some residual power; for example, it prohibits an "innocent" eavesdropper from trading on an upcoming tender offer. The Rule may perhaps be justified on efficiency grounds: Tenders are an important means of removing entrenched but underperforming management, and trading in advance of a tender may raises the price the offeror must pay to acquire control. Trading on a stock substitute affects the tender offer only derivatively (for example, to the extent an increase in stock substitute price increases the price of the subject of the tender offer). In other respects, trading on a stock substitute in advance of a tender seems similar to "garden variety" outsider or analyst trading. It is unclear, therefore, whether there is an efficiency grounds to ban such trading. See supra (discussing the efficiency effects of analyst or outsider trading). [Add para. on 16(b)]

Employers may trade in stock substitutes without legal restrictions. The treatment of employees is less clear. Our reading of the law suggests that such trading is legal unless their employer has established explicit or implicit rules banning such trading, or unless such trading harms their employer. The opportunities for profit in such trading seem substantial; and there is evidence that such trading is common, at least among employees.

Surprisingly, our analysis suggests that trading in stock substitutes is apt to be less efficient than traditional insider trading. Costs and benefits of traditional insider trading are apt to be internalized to the firm permitting or undertaking such trading; costs and benefits of trading in stock substitutes are externalized. There is no reason to think that an efficient amount of trading will occur and under plausible assumptions, there will be too much trading in stock substitutes.

We suggest ways in which the stock substitutes for a given company can be compiled at virtually no cost; and recommend a set of ex ante disclosure rules for firms and ex post disclosure rules for persons trading in stock substitutes. The disclosure rules should clarify the law for employees, and provide valuable information for investors and policymakers. We also describe substantive legal changes that might limit trading in stock substitutes; we also describe changes in related provisions of the securities law. We hold off recommending adoption of these substantive rule changes until more is learned about the extent of trading in stock substitutes and the policymaking community has a chance to respond to our analysis.

Finally, while this article has focused primarily on the legal implications for informational trading substitutes, along the way we have contributed to traditional insider trading theory more generally. Our thought experiment of a hypothetical auction suggests that firms will often be better placed to trade on insider information than their employees, because firm-level trading on its own

stock does not give rise to the perverse incentive effects of managerial insider trading. This quasi-dominance result suggests that, under a default regime, implicit or explicit agreements allowing managers to trade their own stock (on the basis of material, non-public information) should be strictly scrutinized for both procedural and substance fairness as a suspect self-dealing transaction.