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INSIDER TRADING

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Abstract

Insider trading is one of the most controversial aspects of securities regulation, even among the law and economics community. One set of scholars favors deregulation of insider trading, allowing corporations to set their own insider trading policies by contract. Another set of law and economics scholars, in contrast, contends that the property right to inside information should be assigned to the corporation and not subject to contractual reassignment. Deregulatory arguments are typically premised on the claims that insider trading promotes market efficiency or that assigning the property right to inside information to managers is an efficient compensation scheme. Public choice analysis is also a staple of the deregulatory literature, arguing that the insider trading prohibition benefits market professionals and managers rather than investors. The argument in favor of regulating insider trading traditionally was based on fairness, which predictably has had little traction in the law and economics community. Instead, the economic argument in favor of mandatory insider trading prohibitions has typically rested on some variant of the economics of property rights in information.

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1. Introduction

The law of insider trading is one way society allocates the property rights to information produced by a firm. In the United States, early common law permitted insiders to trade in a firm's stock without disclosure of inside information. Over the last three decades, however, a complex federal prohibition of insider trading emerged as a central feature of modern US securities regulation. Other countries have gradually followed the US trend, although enforcement levels continue to vary substantially from country to country.

Prohibiting insider trading is usually justified on fairness or equity grounds. Predictably, these arguments have had little traction in the law and economics community. At the same time, however, that community has not coalesced

around a single view of the prohibition; instead, competing economic arguments produced an extensive debate that is still active. Those law and economics scholars who favor deregulation of insider trading typically argue that efficiency is the sole basis for analyzing a legal regime, and that the prohibition lacks any rational economic basis. Those who favor regulating insider trading typically respond either by rejecting the claim that efficiency is the controlling criterion or by attempting to show that the prohibition is justifiable on efficiency grounds. Most observers of the literature likely would conclude that neither side has carried the field, but that the argument in favor of regulation probably is winning at the moment.

A. Overview of US Insider Trading Law

Because the vast bulk of law and economics scholarship on insider trading refers to United States law, a brief overview of the current state of that law seems appropriate. Insider trading, generally speaking, is trading in securities while in possession of material nonpublic information. Under current United States law, there are three basic theories under which trading on inside information becomes unlawful. The disclose or abstain rule and the misappropriation theory were created by the courts under Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5 thereunder. Pursuant to its rule-making authority under Exchange Act Section 14(e), the Securities and Exchange Commission (SEC) adopted Rule 14e-3 to proscribe insider trading involving information relating to tender offers. (Insider trading may also violate other statutes, such as the mail and wire fraud laws, which are beyond the scope of this chapter.)

2. The Disclose or Abstain Rule

The modern federal insider prohibition began taking form in *SEC v. Texas Gulf Sulphur Co. TGS*, as it is commonly known, rested on a policy of equality of access to information. Accordingly, under *TGS* and its progeny, virtually anyone who possessed material nonpublic information was required either to disclose it before trading or abstain from trading in the affected company's securities. If the would-be trader's fiduciary duties precluded him from disclosing the information prior to trading, abstention was the only option.

In *Chiarella v. United States* and *Dirks v. SEC*, the United States Supreme Court rejected the equal access policy. Instead, the Court made clear that liability could be imposed only if the defendant was subject to a duty to disclose prior to trading. Inside traders thus were no longer liable merely because they

had more information than other investors in the market place. Instead, a duty to disclose only arose where the inside traders breached a pre-existing fiduciary duty owed to the person with whom they traded. (*Chiarella*; *Dirks*, pp. 653-655).

Creation of this fiduciary duty element substantially narrowed the scope of the disclose or abstain rule. But the rule remains quite expansive in a number of respects. In particular, it is not limited to true insiders, such as officers, directors and controlling shareholders, but picks up corporate outsiders in two important ways. Even in these situations, however, liability for insider trading under the disclose or abstain rule can only be found where the trader - insider or outsider - violates a fiduciary duty owed to the issuer or the person on the other side of the transaction.

First, the rule can pick up a wide variety of nominal outsiders whose relationship with the issuer is sufficiently close to the issuer of the affected securities to justify treating them as 'constructive insiders', but only in rather narrow circumstances. The outsider must obtain material nonpublic information from the issuer. The issuer must expect the outsider to keep the disclosed information confidential. Finally, the relationship must at least imply such a duty. If these conditions are met, the putative outsider will be deemed a 'constructive insider' and subjected to the disclose or abstain rule in full measure (see *Dirks*, p. 655 n.14). If they are not met, however, the disclose or abstain rule simply does not apply. The critical issue thus remains the nature of the relationship between the parties.

Second, the rule also picks up outsiders who receive inside information from either true insiders or constructive insiders. There are a number of restrictions on tippee liability, however. Most important for present purposes, the tippee's liability is derivative of the tipper's, 'arising from his role as a participant after the fact in the insider's breach of a fiduciary duty' (*ibid.* p. 659). As a result, the mere fact of a tip is not sufficient to result in liability. What is proscribed is not merely a breach of confidentiality by the insider, but rather a breach of the duty of loyalty imposed on all fiduciaries to avoid personally profiting from information entrusted to them (see *ibid.* pp. 662-664). Thus, looking at objective criteria, a court must determine whether the insider personally will benefit, directly or indirectly, from his disclosure. So once again, a breach of fiduciary duty is essential for liability to be imposed: a tippee can be held liable only when the tipper has breached a fiduciary duty by disclosing information to the tippee, and the tippee knows or has reason to know of the breach of duty.

3. The Gap-Fillers

Chiarella created a variety of significant gaps in the insider trading prohibition's coverage. Consider this standard law-school hypothetical: Law Firm is hired by Raider Corp. to represent it in connection with a planned takeover bid for Target Co. Alex Associate is one of the lawyers assigned to the project. Before Raider Corp. publicly discloses its intentions, Associate purchases a substantial block of Target stock. Under the disclose or abstain rule, he has not violated the insider trading prohibition. Whatever the scope of the duties he owed Raider Corp., he owed no duty to the shareholders of Target Co. Accordingly, the requisite breach of fiduciary duty is not present in his transaction. Rule 14e-3 and the misappropriation theory were created to fill this gap.

4. Rule 14e-3

Rule 14e-3 was the SEC's immediate response to *Chiarella*. The rule prohibits insiders of the bidder and target from divulging confidential information about a tender offer to persons who are likely to violate the rule by trading on the basis of that information. The rule also, with certain narrow and well-defined exceptions, prohibits any person who possesses material information relating to a tender offer by another person from trading in target company securities if the bidder has commenced or has taken substantial steps towards commencement of the bid.

Note that the rule's scope is very limited. One prong of the rule (the prohibition on trading while in possession of material nonpublic information) is not triggered until the offeror has taken substantial steps towards making the offer. More important, both prongs of the rule are limited to information relating to a tender offer. As a result, most types of inside information remain subject to the duty-based analysis of *Chiarella* and its progeny.

5. Misappropriation

The misappropriation theory grew out of then-Chief Justice Burger's dissent in *Chiarella*. As an employee of a financial printer, Chiarella had access to tender offer documents being prepared for takeover bidders. Although Chiarella owed no duties to the investors with whom he traded, he did owe a duty of confidentiality to his employer and thereby to the bidders. Chief Justice Burger argued that Chiarella's misappropriation of material nonpublic information that

had been entrusted to his employer was a sufficient breach of duty to justify imposing Rule 10b-5 liability (*Chiarella v. U.S.*, 240-243, (Burger, C.J., dissenting)). Although Justices Blackmun, Brennan and Marshall supported the Chief Justice's argument, the majority declined to reach the misappropriation question because that theory of liability had not been presented to the jury. The Second Circuit nevertheless adopted the misappropriation theory as a basis for inside trading liability in *U.S. v. Newman*, 664 F.2d 12 (2nd Cir. 1981), and followed it in a number of subsequent decisions; see, for example, *U.S. v. Chestman*, *U.S. v. Carpenter* *SEC v. Materia*.

Like the traditional disclose or abstain rule, the misappropriation theory requires a breach of fiduciary duty before trading on inside information becomes unlawful. It is not unlawful, for example, for an outsider to trade on the basis of inadvertently overheard information (*SEC v. Switzer*). The fiduciary relationship in question, however, is a quite different one. Under the misappropriation theory, the defendant need not owe a fiduciary duty to the investor with whom he trades. Nor does he have to owe a fiduciary duty to the issuer of the securities that were traded. Instead, the misappropriation theory applies when the inside trader violates a fiduciary duty owed to the source of the information. Had the misappropriation theory been available against *Chiarella*, for example, his conviction could have been upheld even though he owed no duties to those with whom he traded. Instead, the breach of the duty he owed to Pandick Press would have sufficed.

After two Circuit Courts of Appeals rejected the misappropriation theory, the United States Supreme Court took a case raising the theory's validity (see *U.S. v. O'Hagan*, also concluding that the SEC lacked authority to adopt Rule 14e-3; *U.S. v. Bryan*). James O'Hagan was a partner in the Minneapolis law firm of Dorsey & Whitney. In July 1988, Grand Metropolitan PLC (Grand Met), retained Dorsey & Whitney in connection with its planned takeover of Pillsbury Company. Although O'Hagan was not one of the lawyers on the Grand Met project, he learned of their intentions and began buying Pillsbury stock and call options on Pillsbury stock. When Grand Met announced its tender offer in October, the price of Pillsbury stock rose to nearly \$60 per share. O'Hagan then sold his Pillsbury call options and common stock, making a profit of more than \$4.3 million. Following a SEC investigation, O'Hagan was indicted on various charges. The most pertinent charges for our purposes are: (1) O'Hagan violated 1934 Act Section 10(b) and Rule 10b-5 by trading on misappropriated nonpublic information; and (2) O'Hagan violated 1934 Act Rule 14e-3 by trading while in possession of nonpublic information relating to a tender offer. The Supreme Court upheld O'Hagan's conviction on both counts. With respect to the misappropriation charge, the Court validated the theory as being designed to 'protect the integrity of the securities markets

against abuses by “outsiders” to a corporation who have access to confidential information that will affect the corporation’s security price when revealed, but who owe no fiduciary or other duty to that corporation’s shareholders’.

B. The Argument for Deregulation

Henry Manne’s book *Insider Trading and the Stock Market* must be ranked among the truly seminal events in the economic analysis of corporate law (Manne, 1966a). It is only a slight exaggeration to suggest that Manne stunned the corporate law academy by daring to propose the deregulation of insider trading. The traditionalists’ response was immediate and vitriolic (see, for example, Schotland, 1967; Mendelson, 1969; see also Manne, 1970). In the long run, however, Manne’s daring was vindicated in at least one important respect. Although it is hard to believe at this remove, corporate law was regarded as moribund during much of the middle part of this century. Manne’s work on insider trading played a major role in ending that long intellectual drought by stimulating interest in economic analysis of corporate law. Whether one agrees with Manne’s views on insider trading or not, one must give him due credit for helping to stimulate the outpouring of important law and economics scholarship in corporate law and securities regulation during the 1980s and 1990s.

Manne identified two principal ways in which insider trading benefits society and/or the firm in whose stock the insider traded. First, he argued that insider trading causes the market price of the affected security to move toward the price that the security would command if the inside information were publicly available. If so, both society and the firm benefit through increased price accuracy. Second, he posited insider trading as an efficient way of compensating managers for having produced information. If so, the firm benefits directly (and society indirectly) because managers have a greater incentive to produce additional information of value to the firm.

6. The Effect of Insider Trading on the Price of Securities

There is general agreement that both firms and society benefit from accurate pricing of securities. The ‘correct’ price of a security is that which would be set by the market if all information relating to the security had been publicly disclosed. Accurate pricing benefits society by improving the economy’s allocation of capital investment and by decreasing the volatility of security prices. This dampening of price fluctuations decreases the likelihood of individual windfall gains and increases the attractiveness of investing in

securities for risk-averse investors. The individual corporation also benefits from accurate pricing of its securities through reduced investor uncertainty and improved monitoring of management's effectiveness.

Although US securities laws purportedly encourage accurate pricing by requiring disclosure of corporate information, they do not require the disclosure of all material information. Where disclosure would interfere with legitimate business transactions, disclosure by the corporation is usually not required unless the firm is dealing in its own securities at the time.

When a firm lawfully withholds material information, its securities are no longer accurately priced by the market. If the undisclosed information is particularly significant, the error in price can be substantial. In the famous *Texas Gulf Sulphur* case, for example, TGS discovered an enormously valuable mineral deposit in Canada. When the deposit was discovered, TGS common stock sold for approximately \$18 per share. By the time the discovery was disclosed, four months later, the price had risen to over \$31 per share. One month after disclosure, the stock was selling for approximately \$58 per share (*SEC v. Texas Gulf Sulphur Co.*). Pricing errors of this magnitude eliminate the benefits of accurate pricing. However, requiring TGS to disclose what it knew would have reduced the value of the information and thus the incentive to discover it.

Manne essentially argued insider trading is an effective compromise between the need for preserving incentives to produce information and the need for maintaining accurate securities prices. Manne offered the following example of this alleged effect: A firm's stock currently sells at \$50 per share. The firm has discovered new information that, if publicly disclosed, would cause the stock to sell at \$60. If insiders trade on this information, the price of the stock will gradually rise toward but will not reach the 'correct' price. Absent insider trading or leaks, the stock's price will remain at \$50 until the information is publicly disclosed and then rapidly rise to the correct price of \$60. Thus, insider trading acts as a replacement for public disclosure of the information, preserving market gains of correct pricing while permitting the corporation to retain the benefits of nondisclosure (Manne, 1966a, pp. 80-90)

Texas Gulf Sulphur provides anecdotal evidence for this effect. The TGS insiders began active trading in its stock almost immediately after discovery of the ore deposit. During the four months between discovery and disclosure, the price of TGS common stock gradually rose by over \$12. Arguably, this price increase was due to inside trading. In turn, the insiders' profits were the price society paid for obtaining the beneficial effects of enhanced market efficiency.

Despite this and similar anecdotes, empirical justification for the deregulatory position remains scanty. Early market studies indicated insider trading had an insignificant effect on price in most cases (Schotland, 1967, p. 1443). Subsequent studies suggested the market reacts fairly quickly when

insiders buy securities, but the initial price effect is small when insiders sell (Finnerty, 1976). In an important study, Givoly and Palmon (1985) found that while transactions by insiders were followed by a strong price effect, identifiable insider transactions were only rarely based on exploitation of nonpublic information. If they are correct, then the market efficiency rationale for deregulation loses much of its force: insider trading simply is not communicating inside information to the market. These and similar studies are problematic, however, because they relied principally (or solely) on the transactions reports corporate officers, directors, and 10 percent shareholders are required to file under §16(a). Because insiders are unlikely to report transactions that violate rule 10b-5, and because much illegal insider trading activity is known to involve persons not subject to the §16(a) reporting requirement, conclusions drawn from such studies may not tell us very much about the price and volume effects of illegal insider trading. Accordingly, it is significant that a more recent and widely-cited study of insider trading cases brought by the SEC during the 1980s found that the defendants' insider trading led to quick price changes (Meulbroek, 1992). That result supports Manne's empirical claim, subject to the caveat that reliance on data obtained from SEC prosecutions arguably may not be conclusive as to the price effects of undetected insider trading due to selection bias, although Meulbroek's study addressed that concern by segmenting the sample into subsets, one of which was less likely to be contaminated by selection bias, and finding that the results did not differ significantly across the subsets. Finally, the SEC's chief economist has reached the perhaps debatable conclusion that pre-announcement price and volume run-ups in takeovers are most likely attributable to factors other than insider trading (Rosenbaum and Bainbridge, 1988, p. 235).

In theory, of course, the supply/demand effects of insider trading should have only a minimal impact on the affected security's price. A given security 'represents only a particular combination of expected return and systematic risk, for which there is a vast number of substitutes' (Gilson and Kraakman, 1984, p. 630). The correct measure for the supply of securities is not simply the total of the firm's outstanding securities, but the vastly larger number of securities with a similar combination of risk and return. Therefore, the supply/demand effect of a relatively small number of insider trades should not have a significant price effect.

The price effect of undisclosed insider trading is an example of what Gilson and Kraakman (1984, p. 630) call the 'derivatively informed trading mechanism' of market efficiency. Derivatively informed trading affects market prices through a two-step mechanism. First, those individuals possessing material nonpublic information begin trading. Their trading has only a small effect on price. Some uninformed traders become aware of the insider trading

through leakage or tipping of information or through observation of insider trades. Other traders gain insight by following the price fluctuations of the securities. Finally, the market reacts to the insiders' trades and gradually moves toward the correct price. The problem is that while derivatively informed trading can affect price, it functions slowly and sporadically. Given the inefficiency of derivatively informed trading, the market efficiency justification for insider trading loses much of its force.

7. Insider Trading as an Efficient Compensation Scheme

Even Manne (1966a, p. 110) admitted that price effect is not a strong argument against a bar on insider trading. Instead, Manne's deregulatory argument rested mainly on the claim that allowing insider trading was an effective means of compensating entrepreneurs in large corporations. Manne (1966b, p. 116) distinguished corporate entrepreneurs from mere corporate managers. The latter simply operate the firm according to predetermined guidelines. Because the firm and the manager know what the manager will do and what his abilities are, salary is an appropriate method of compensation. By contrast, an entrepreneur's contribution to the firm consists of producing new valuable information. The entrepreneur's compensation must have a reasonable relation to the value of his contribution to give him incentives to produce more information. Because it is rarely possible to ascertain the information's value to the firm in advance, predetermined compensation, such as salary, is inappropriate for entrepreneurs.

8. Insider Trading as Entrepreneurial Compensation

Manne (1966a, pp. 116-119) asserted insider trading is an effective way to compensate corporate agents for innovations. The increase in the price of the security following public disclosure provides an imperfect but comparatively accurate measure of the value of the innovation to the firm. The entrepreneur can recover the value of his discovery through buying the firm's securities prior to disclosure and selling them after the price rises. (Manne, 1970) later implicitly retreated from the distinction between entrepreneurs and managers, which vitiated some of the criticisms directed at his thesis. Because Manne did not retreat from the more general claim that insider trading was an efficient compensation scheme, most of the criticisms discussed in the next section remained viable.)

Carlton and Fischel (1983, pp. 869-871) suggested a further refinement of Manne's compensation argument. They likewise believed advance payment

contracts fail to compensate agents for innovations. The firm could renegotiate these contracts later to account for innovations, but renegotiation is costly and thus may not occur frequently enough to provide appropriate incentives for entrepreneurial activity. Carlton and Fischel suggested that one of the advantages of insider trading is that an agent revises his compensation package without renegotiating his contract. By trading on the new information, the agent self-tailors his compensation to account for the information he produces, increasing his incentive to develop valuable innovations. Because insider trading provides the agent with more certainty of reward than other compensation schemes, it also provides more incentives.

9. Evaluating the Compensation Thesis

In evaluating compensation-based justifications for deregulating inside trading, it is crucial to determine whether the corporation or the manager owns the property right to the information in question. Some of those who favor deregulating insider trading deny that the property rights of firms to information produced by their agents include the right to prevent the manager from trading on the basis of that information. In contrast, those who favor regulation contend that when an agent produces information the property right to that information belongs to the principal. Where the property right to agent-produced information should be assigned is a question deferred to Section 20 below. This section focuses on the contention by those who favor regulating insider trading that it is an inefficient form of compensation.

Manne (1966b, pp. 117-119) rejected contractual and bonus forms of compensation as inadequate incentives for entrepreneurial inventiveness on the ground that they fail to accurately measure the value of the innovation to the firm. Some contend, however, that insider trading is not any more accurate. They assert, for example, that even assuming the change in stock price accurately measures the value of the innovation, the insider's compensation is limited by the number of shares he can purchase. This, in turn, is limited by his wealth. As such, the insider's trading returns are based not on the value of his contribution, but on his wealth.

Another objection to the compensation argument is the difficulty of restricting trading to those who produced the information. Where information is concerned, production costs normally exceed distribution costs. As such, many firm agents may trade on the information without having contributed to its production.

A related objection is the difficulty of limiting trading to instances in which the insider actually produced valuable information. In particular, why should

insiders be permitted to trade on bad news? Allowing managers to inside trading reduces the penalties associated with a project's failure because trading managers can profit whether the project succeeds or fails. If the project fails, the manager can sell his shares before that information becomes public and thus avoid an otherwise certain loss. The manager can go beyond mere loss avoidance into actual profitmaking by short selling the firm's stock.

Easterbrook (1981) focused on the contingent nature of insider trading as a ground for rejecting compensation-based arguments. Because the agents trading returns cannot be measured in advance, neither can the true cost of his reward. As a result, selection of the most cost-effective compensation package is made more difficult. Moreover, the agent himself may prefer a less uncertain compensation package. If an agent is risk averse, he will prefer the certainty of \$100,000 salary to a salary of \$50,000 and a 10 percent chance of a bonus of \$500,000 from insider trading. Thus, the shareholders and the agent would gain by exchanging a guaranteed bonus for the agents promise not to trade on inside information (see also Levmore, 1982).

As with the market efficiency argument, little empirical evidence supports or counters the compensation argument. The only useful empirical evidence is Givoly and Palmon's (1985) finding that while insiders do earn abnormal returns from trading in their firm's securities, these abnormal returns are based on the insiders' superior assessment of their firm's status and not on exploitation of inside information. If so, the compensation argument rests on fundamentally flawed assumptions.

10. Public Choice

Some critics of the insider trading prohibition contend that the prohibition can be explained by a public choice-based model of regulation in which rules are sold by regulators and bought by the beneficiaries of the regulation. This section focuses on slightly different, but wholly compatible, stories about insider trading told by Dooley (1980) and Haddock and Macey (1987). One explains why the SEC wanted to sell insider trading regulation, while the other explains to whom it has been sold.

11. The Sellers' Story

Dooley (1980) explained the federal insider trading prohibition as the culmination of two distinct trends in the securities laws. First, as do all government agencies, the SEC desired to enlarge its jurisdiction and enhance

its prestige. Administrators can maximize their salaries, power and reputation by maximizing the size of their agency's budget. A vigorous enforcement program directed at a highly visible and unpopular law violation is surely an effective means of attracting political support for larger budgets. Given the substantial media attention directed towards insider trading prosecutions, and the public taste for prohibiting insider trading, it provided a very attractive subject for such a program.

Second, during the prohibition's formative years, there was a major effort to federalize corporation law. In order to maintain its budgetary priority over competing agencies, the SEC wanted to play a major role in federalizing matters previously within the state domain. Regulating insider trading was an ideal target for federalization. Rapid expansion of the federal insider trading prohibition purportedly demonstrated the superiority of federal securities law over state corporate law. Because the states had shown little interest in insider trading for years, federal regulation demonstrated the modernity, flexibility and innovativeness of the securities laws. The SEC's prominent role in attacking insider trading thus placed it in the vanguard of the movement to federalize corporate law and ensured that the SEC would have a leading role in any system of federal corporations law.

12. The Buyers' Story

Haddock and Macey (1987) argue that the insider trading prohibition is supported and driven in large part by market professionals, a cohesive and politically powerful interest group, which the current legal regime effectively insulates from insider trading liability (see also Macey, 1991). Only insiders and quasi-insiders such as lawyers and investment bankers have a greater degree of

access to nonpublic information that might affect a firm's stock price than do market professionals. By basing insider trading liability on breach of fiduciary duty, and positing that the requisite fiduciary duty exists with respect to insiders and quasi-insiders but not with respect to market professionals, the prohibition protects the latter's ability to profit from new information about a firm.

Market professionals benefit in a variety of ways from the present ban. When an insider trades on an impersonal secondary market, the insider takes advantage of the fact that the market maker's or specialist's bid-ask prices do not reflect the value of the inside information. Because market makers and specialists cannot distinguish insiders from non-insiders, they cannot protect themselves from being taken advantage of in this way. When trading with insiders, the market maker or specialist thus will always be on the wrong side of the transaction. If insider trading is effectively prohibited, however, the

market professionals are no longer exposed to this risk.

Professional securities traders likewise profit from the fiduciary duty-based insider trading prohibition. Because professional investors are often active traders, they are highly sensitive to the transaction costs of trading in securities. Prominent among these costs is the specialist's and market-maker's bid-ask spread. If a ban on insider trading lowers the risks faced by specialists and market makers, some portion of the resulting gains should be passed on to professional traders in the form of narrower bid-ask spreads.

Analysts and traders are further benefited by a prohibition on insider trading, because only insiders are likely to have systematic advantages over market professionals in the competition to be the first to act on new information. Market professionals specialize in acquiring and analyzing information. They profit by trading with less well-informed investors or by selling information to them. If insiders can freely trade on nonpublic information, however, some portion of the information's value will be impounded into the price before it is learned by market professionals, which will reduce their returns (Haddock and Macey, 1987).

Circumstantial evidence for Haddock and Macey's thesis is provided by SEC enforcement patterns. The frequency of insider trading prosecutions rose dramatically after the US Supreme Court's decision in *Chiarella v. U.S.*, 445 U.S. 222 (1980), which held that insider trading is only unlawful if the trader violated a fiduciary duty owed to the party with whom he trades. Strikingly, however, in the years immediately prior to *Chiarella*, enforcement proceedings often targeted market professionals. After *Chiarella*, market professionals were rarely charged (Dooley, 1995, pp. 832-834).

C. The Argument for Regulation

Efficiency-based arguments for regulating insider trading (as opposed to those grounded on legislative intent, equity, or fairness) fall into three main categories: (1) insider trading harms investors and thus undermines investor confidence in the securities markets; (2) insider trading harms the issuer of the affected securities; and (3) insider trading amounts to theft of property belonging to the corporation and therefore should be prohibited even in the absence of harm to investors or the firm. This section considers these arguments seriatim.

13. Does Insider Trading Injure Investors?

Insider trading is said to harm the investor in two principal ways. Some contend that the investor's trades are made at the 'wrong price'. A more sophisticated theory posits that the investor is induced to make a bad purchase or sale. Neither argument proves convincing on close examination.

An investor who trades in a security contemporaneously with insiders having access to material nonpublic information likely will allege injury in that he sold at the wrong price; that is, a price that does not reflect the undisclosed information. If a firm's stock currently sells at \$10 per share, but after disclosure of the new information will sell at \$15, a shareholder who sells at the current price thus will claim a \$5 loss. The investor's claim, however, is fundamentally flawed. It is purely fortuitous that an insider was on the other side of the transaction. The gain corresponding to shareholder's 'loss' is reaped not just by inside traders, but by all contemporaneous purchasers whether they had access to the undisclosed information or not (Bainbridge, 1986, p. 59).

To be sure, the investor might not have sold if he had had the same information as the insider, but even so the rules governing insider trading are not the source of his problem. The information asymmetry between insiders and public investors arises out of the federal securities laws' mandatory disclosure rules, which allow firms to keep some information confidential even if it is material to investor decision making. Unless immediate disclosure of material information is to be required, a step the law has been unwilling to take, there will always be winners and losers in this situation. Irrespective of whether insiders are permitted to inside trade or not, the investor will not have the same access to information as the insider. It makes little sense to claim that the shareholder is injured when his shares are bought by an insider, but not when they are bought by an outsider without access to information. To the extent the selling shareholder is injured, his injury thus is correctly attributed to the rules allowing corporate nondisclosure of material information, not to insider trading.

A more sophisticated argument is that the price effects of insider trading induce shareholders to make poorly advised transactions. In light of the evidence and theory recounted above in Section 6, however, it is doubtful whether insider trading produces the sort of price effects necessary to induce shareholders to trade. While derivatively informed trading can affect price, it functions slowly and sporadically (Gilson and Kraakman, 1984, p. 631). Given the inefficiency of derivatively informed trading, price or volume changes resulting from insider trading will only rarely be of sufficient magnitude to induce investors to trade.

Assuming for the sake of argument that insider trading produces noticeable price effects, however, and further assuming that some investors are misled by

those effects, the inducement argument is further flawed because many transactions would have taken place regardless of the price changes resulting from insider trading. Investors who would have traded irrespective of the presence of insiders in the market benefit from insider trading because they transacted at a price closer to the 'correct' price; that is, the price that would prevail if the information were disclosed (Dooley, 1980, pp. 35-36; Manne, 1966b, p. 114). In any case, it is hard to tell how the inducement argument plays out when investors are examined as a class. For any given number who decide to sell because of a price rise, for example, another group of investors may decide to defer a planned sale in anticipation of further increases.

14. Does Insider Trading Undermine Investor Confidence?

In the absence of a credible investor injury story, it is difficult to see why insider trading should undermine investor confidence in the integrity of the securities markets. Instead, any anger investors feel over insider trading appears to arise mainly from envy of the insider's greater access to information.

The loss of confidence argument is further undercut by the stock market's performance since the insider trading scandals of the mid-1980s. The enormous publicity given those scandals put all investors on notice that insider trading is a common securities violation. At the same time, however, the years since the scandals have been one of the stock market's most robust periods. One can but conclude that insider trading does not seriously threaten the confidence of investors in the securities markets.

Macey (1991, p. 44) contends that the experience of other countries confirms this conclusion. For example, Japan only recently began regulating insider trading and its rules are not enforced. The same appears to be true of India. Hong Kong has repealed its insider trading prohibition. Both have vigorous and highly liquid stock markets.

15. Does Insider Trading Injure Issuers?

Unlike tangible property, information can be used by more than one person without necessarily lowering its value. If a manager who has just negotiated a major contract for his employer then trades in his employer's stock, for example, there is no reason to believe that the managers conduct necessarily lowers the value of the contract to the employer. But while insider trading will not always harm the employer, it may do so in some circumstances. Specifically, there are four significant potential harms connected with insider

trading that are worth considering. First, insider trading may delay the transmission of information or the taking of corporate action. Second, it may impede corporate plans. Third, it gives managers an incentive to manipulate stock prices. Finally, it may injure the firm's reputation.

16. Delay

Insider trading becomes a plausible source of injury to the firm if it creates incentives for managers to delay the transmission of information to superiors. Decision making in any entity requires accurate, timely information. In large, hierarchical organizations, such as publicly traded corporations, information must pass through many levels before reaching senior managers. The more levels, the greater the probability of distortion or delay intrinsic to the system. This inefficiency can be reduced by downward delegation of decision making authority, but not eliminated. Even with only minimal delay in the upward transmission of information at every level, where the information must pass through many levels before reaching a decision maker, the net delay may be substantial.

If a manager discovers or obtains information (either beneficial or detrimental to the firm), he may delay disclosure of that information to other managers so as to assure himself sufficient time to trade on the basis of that information before the corporation acts upon it. As noted, even if the period of delay by any one manager is brief, the net delay produced by successive trading managers may be substantial (see Haft, 1982, pp. 1053-1060; but see Macey, 1991, pp. 36-37). Unnecessary delay of this sort harms the firm in several ways. The firm must monitor the manager's conduct to ensure timely carrying out of his duties. It becomes more likely that outsiders will become aware of the information through snooping or leaks (Easterbrook, 1981). Some outsider may even independently discover and utilize the information before the corporation acts upon it.

Although delay is a plausible source of harm to the issuer, its importance is easily exaggerated. The available empirical evidence scarcely rises above the anecdotal level, but does suggest that measurable delay attributable to insider trading is rare (Dooley, 1980, p. 34). Given the rapidity with which securities transactions can be conducted in modern secondary trading markets, moreover, a manager need at most delay corporate action long enough for a five minute telephone conversation with his stockbroker. Even if the manager wished to cover his tracks by trading through an elaborate network of off-shore shell corporations, very little delay is entailed once the network is up and running.

Delay (either in transmitting information or taking action) also often will be readily detectible by the employer. Finally, and perhaps most importantly,

insider trading may create incentives to release information early just as often as it creates incentives to delay transmission and disclosure of information.

17. Interference with Corporate Plans

Trading during the planning stage of an acquisition is the paradigm example of how insider trading may affect corporate plans. If the managers charged with overseeing the acquisition buy shares in the target, the price of the target's shares may rise, making the takeover more expensive. Price and volume changes caused by their trading also might tip off others to the secret, interfering with the bidder's plans, as by alerting the target to the need for defensive measures.

The trouble with this argument, of course, is its dependence upon price and volume effects. As the theory and empirical evidence recounted above in Section 6 suggest, price or volume changes resulting from insider trading may raise the marginal cost of corporate plans but will only rarely pose significant obstacles to carrying corporate plans forward.

The risk of premature disclosure poses a more serious threat to corporate plans. The issuer often has just as much interest in *when* information becomes public as it does in *whether* the information becomes public. Suppose Target, Inc., enters into merger negotiations with a potential acquirer. Target managers who inside trade on the basis of that information will rarely need to delay corporate action in order to effect their purchases. Having made their purchases, however, the managers now have an incentive to cause disclosure of Target's plans as soon as possible. Absent leaks or other forms of derivatively informed trading, the merger will have no price effect until it is disclosed to the market, at which time there usually is a strong positive effect. Once the information is disclosed, the trading managers will be able to reap substantial profits, but until disclosure takes place, they bear a variety of firm-specific and market risks. The deal, the stock market, or both may collapse at any time. Early disclosure enables the managers to minimize those risks by selling out as soon as the price jumps in response to the announcement.

If disclosure is made too early, a variety of adverse consequences may result. If disclosure triggers competing bids, the initial bidder may withdraw from the bidding or demand protection in the form of costly lock-ups and other exclusivity provisions. Alternatively, if disclosure does not trigger competing bids, the initial bidder may conclude that it overbid and lower its offer accordingly. In addition, early disclosure brings the deal to the attention of regulators and plaintiffs' lawyers sooner than necessary.

An even worse case scenario is suggested by the classic insider trading case, *SEC v. Texas Gulf Sulphur Co.* In *TGS*, insiders who knew of a major ore

discovery traded over an extended period of time. During that period the corporation was attempting to buy up the mineral rights to the affected land. Had the news leaked prematurely, the issuer at least would have had to pay much higher fees for the mineral rights, and may well have lost some land to competitors. Given the magnitude of the strike, which eventually resulted in a 300-plus percent increase in the firm's market value, the harm that would have resulted from premature disclosure was immense.

Although insider trading probably only rarely causes the firm to lose opportunities, it may create incentives for management to alter firm plans in less drastic ways to increase the likelihood and magnitude of trading profits. For example, trading managers can accelerate receipt of revenue, change depreciation strategy, or alter dividend payments in an attempt to affect share prices and insider returns (Brudney, 1979). Alternatively, the insiders might structure corporate transactions to increase the opportunity for secret-keeping. Both types of decisions may adversely affect the firm and its shareholders. Moreover, as Levmore (1982, p. 149) suggests, this incentive may result in allocative inefficiency by encouraging overinvestment in those industries or activities that generate opportunities for insider trading.

Easterbrook (1981, p. 332) identifies a related perverse incentive created by insider trading. Managers may elect to follow policies that increase fluctuations in the price of the firm's stock. 'They may select riskier projects than the shareholders would prefer, because if the risks pay off they can capture a portion of the gains in insider tradings and, if the project flops, the shareholders bear the loss.' In contrast, Carlton and Fischel (1983, pp. 874-876) assert that Easterbrook overstates the incentive to choose high-risk projects. Because managers must work in teams, the ability of one or a few managers to select high-risk projects is severely constrained through monitoring by colleagues. Cooperation by enough managers to pursue such projects to the firm's detriment is unlikely because a lone whistle-blower is likely to gain more by exposing others than he will by colluding with them. Further, Carlton and Fischel argue managers have strong incentives to maximize the value of their services to the firm. Therefore they are unlikely to risk lowering that value for short-term gain by adopting policies detrimental to long-term firm profitability. Finally, Carlton and Fischel alternatively argue that even if insider trading creates incentives for management to choose high-risk projects, these incentives are not necessarily harmful. Such incentives would act as a counterweight to the inherent risk aversion that otherwise encourages managers to select lower risk projects than shareholders would prefer.

Carlton and Fischel are correct that shareholders may prefer higher-risk projects. Because shareholders hold residual claims, they will prefer that the firm invest in projects with a significant upside potential. This is true even if

such ventures pose a substantial risk because shareholders earn no return until all prior claims are paid. However, shareholders would not approve high-risk projects where the increased risk is not matched by a commensurate increase in potential return. Allowing insider trading may encourage management to select negative net present value investments, not only because shareholders bear the full risk of failure, but also because failure presents management with an opportunity for profit through short-selling. As a result, shareholders might prefer other incentive schemes.

18. Manipulation

Manipulation of stock prices, as a form of fraud, harms both society and individuals by decreasing the accuracy of pricing by the market. Some of those who favor regulation of insider trading argue that if managers are permitted to trade on inside information they have a strong interest in keeping the stock pricing stable or in moving it in the correct direction while they are trading. Therefore, they have a strong incentive to use manipulative practices (see, for example, Schotland, 1967, pp. 1449-1450).

Manne (1970, p. 575) acknowledged that manipulation is harmful and that manipulation of stock prices would cease if insider trading could be effectively eliminated because nobody would then benefit from it. Manne's principal response to the manipulation argument is not that it is wrong, but that the costs of producing perfect compliance with a prohibition against insider trading are unacceptably high. Like most arguments in this debate, the thrust of the manipulation rationale depends on whose estimate of the costs is correct.

19. Injury to Reputation

Suppose that insider trading was shown to harm not the issuer, but the issuer's shareholders. It has been said that insider trading by corporate managers may 'cast a cloud on the corporation's name, injure stockholder relations and undermine public regard for the corporation's securities' (*Diamond v. Oreamuno*; compare Macey, 1984, pp. 42-43; discussing threat of reputational injury posed for the *Wall Street Journal* when one of its reporters traded on confidential information. But see *Freeman v. Decio*, arguing that injury to reputation is 'speculative'.) Reputational injury of this sort translates into direct financial injury, by raising the firm's cost of capital, if investors demand a premium (by paying less) when buying stock in a firm whose managers inside trade.

Because shareholder injury is a critical underlying premise of the reputational injury story, however, this argument would appear to collapse at the starting gate. As we have seen, it is very hard to create a plausible shareholder injury story.

As such, the reputational injury story must turn to more generalized notions of fairness. At this stage in the analysis, virtually all commentators make one of two moves. One group tries to find sources of unfairness unrelated to the question of shareholder injury, while the other simply asserts that insider trading is not unfair absent a credible story of investor injury. The former move fails. As Bainbridge (1986, pp. 56-61) argues, insider trading is not unfair to investors in any meaningful sense of the term (see also Easterbrook, 1981, pp. 323-330; Macey, 1991, pp. 23-31).

Some contend that the latter move also fails precisely because most people do not examine the problem dispassionately. Even though insider trading is not *actually* unfair, the reputational injury story may remain viable if most investors *believe* it to be unfair. This perception of unfairness most likely proceeds from resentment of the insider's informational advantage, which suggests that it may be based on envy as much as on fairness norms. As an advertising slogan once put it, however, image is everything. If one's definition of efficiency takes into account seemingly irrational preferences, perhaps a prohibition of insider trading can be justified as a means of avoiding this sort of reputational injury. Whether efficiency should include such preferences is a question beyond the scope of this essay.

Assuming the validity of the reputational injury story, *arguendo*, the reputational impact of insider trading probably is minimal in most cases. The principal problem is the difficulty investors have in distinguishing those firms in which insider trading is frequent from those in which it is infrequent. If they are unable to do so, individual firms are unlikely to suffer a serious reputational injury in the absence of a truly major scandal.

20. Insider Trading as Theft: A Property Rights Analysis

There is an emerging consensus that the federal insider trading prohibition is most easily justified as a means of protecting property rights in information (see, for example, *U.S. v. Chestman*; Bainbridge, 1993, pp. 21-23; Dooley, 1995, pp. 820-823; Easterbrook, 1981; Macey, 1984). For an argument that the property rights approach has explanatory as well as justificatory power, see Bainbridge (1995, pp. 1256-1257). In contrast, for a vociferous critique of the law and economics literature on insider trading generally and the property rights approach in particular, see Karmel (1993).

There are essentially two ways of creating property rights in information: allow the owner to enter into transactions without disclosing the information or prohibit others from using the information. In effect, the federal insider trading prohibition vests a property right of the latter type in the party to whom the insider trader owes a fiduciary duty to refrain from self-dealing in confidential information. To be sure, at first blush, the insider trading prohibition admittedly does not look very much like most property rights. Enforcement of the insider trading prohibition admittedly differs rather dramatically from enforcement of, say, trespassing laws. The existence of property rights in a variety of intangibles, including information, however, is well-established. Trademarks, copyrights, and patents are but a few of the better-known examples of this phenomenon. In context, moreover, even the insider trading prohibition's enforcement mechanisms are not inconsistent with a property rights analysis. Where public policy argues for giving someone a property right, but the costs of enforcing such a right would be excessive, the state often uses its regulatory powers as a substitute for creating private property rights. Insider trading poses just such a situation. Private enforcement of the insider trading laws is rare and usually parasitic on public enforcement proceedings (Dooley, 1980, pp. 15-17). Indeed, the very nature of insider trading arguably makes public regulation essential precisely because private enforcement is almost impossible. The insider trading prohibition's regulatory nature thus need not preclude a property rights-based analysis.

The rationale for prohibiting insider trading is precisely the same as that for prohibiting patent infringement or theft of trade secrets: protecting the economic incentive to produce socially valuable information. (An alternative approach is to ask whether the parties, if they had bargained over the issue, would have assigned the property right to the corporation or the inside trader. For a hypothetical bargain-based argument that the property right would be assigned to the corporation in the lawyer-corporate client context, see Bainbridge (1993, pp. 27-34).)

As the theory goes, the readily appropriable nature of information makes it difficult for the developer of a new idea to recoup the sunk costs incurred to develop it. If an inventor develops a better mousetrap, for example, he cannot profit on that invention without selling mousetraps and thereby making the new design available to potential competitors. Assuming both the inventor and his competitors incur roughly equivalent marginal costs to produce and market the trap, the competitors will be able to set a market price at which the inventor likely will be unable to earn a return on his sunk costs. *Ex post*, the rational inventor should ignore his sunk costs and go on producing the improved mousetrap. *Ex ante*, however, the inventor will anticipate that he will be unable to generate positive returns on his up-front costs and therefore will be deterred

from developing socially valuable information. Accordingly, society provides incentives for inventive activity by using the patent system to give inventors a property right in new ideas. By preventing competitors from appropriating the idea, the patent allows the inventor to charge monopolistic prices for the improved mousetrap, thereby recouping his sunk costs. Trademark, copyright, and trade secret law all are justified on similar grounds.

This argument does not provide as compelling a justification for the insider trading prohibition as it does for the patent system. A property right in information should be created when necessary to prevent conduct by which someone other than the developer of socially valuable information appropriates its value before the developer can recoup his sunk costs. Insider trading, however, often does not affect an idea's value to the corporation and probably never entirely eliminates its value. Legalizing insider trading thus would have a much smaller impact on the corporation's incentive to develop new information than would, say, legalizing patent infringement.

The property rights approach nevertheless has considerable justificatory power. Consider the prototypical insider trading transaction, in which an insider trades in his employer's stock on the basis of information learned solely because of his position with the firm. There is no avoiding the necessity of assigning the property right to either the corporation or the inside trader. A rule allowing insider trading assigns the property right to the insider, while a rule prohibiting insider trading assigns it to the corporation.

From the corporation's perspective, we have seen that legalizing insider trading would have a relatively small effect on the firm's incentives to develop new information. In some cases, however, insider trading will harm the corporation's interests and thus adversely affect its incentives in this regard. This argues for assigning the property right to the corporation, rather than the insider.

Those who rely on a property rights-based justification for regulating insider trading also observe that creation of a property right with respect to a particular asset typically is not dependent upon there being a measurable loss of value resulting from the asset's use by someone else. Indeed, creation of a property right is appropriate even if any loss in value is entirely subjective, both because subjective valuations are difficult to measure for purposes of awarding damages and because the possible loss of subjective values presumably would affect the corporation's incentives to cause its agents to develop new information. As with other property rights, the law therefore should simply assume (although the assumption will sometimes be wrong) that assigning the property right to agent-produced information to the firm maximizes the social incentives for the production of valuable new information.

Because the relative rarity of cases in which harm occurs to the corporation weakens the argument for assigning it the property right, however, the critical issue may be whether one can justify assigning the property right to the insider. On close examination, the argument for assigning the property right to the insider is considerably weaker than the argument for assigning it to the corporation. As we have seen, some have argued that legalized insider trading would be an appropriate compensation scheme. In other words, society might allow insiders to inside trade in order to give them greater incentives to develop new information. As we have also seen, however, this argument appears to founder on grounds that insider trading is an inefficient compensation scheme. Even assuming that the change in stock price that results once the information is released accurately measures the value of the innovation, the insider's trading profits are not correlated to the value of the information. This is so because his trading profits are limited not by the value of the information, but by the amount of shares the insider can purchase, which in turn depends mainly upon his *ex ante* wealth or access to credit.

A second objection to the compensation argument is the difficulty of restricting trading to those who produced the information. The costs of producing information normally are much greater than the costs of distributing it. Thus, many firm employees may trade on the information without having contributed to its production.

The third objection to insider trading as compensation is based on its contingent nature. If insider trading were legalized, the corporation would treat the right to inside trade as part of the manager's compensation package. Because the manager's trading returns cannot be measured *ex ante*, however, the corporation cannot ensure that the manager's compensation is commensurate with the value of her services.

The economic theory of property rights in information thus cannot justify assigning the property right to insiders rather than to the corporation. Because there is no avoiding the necessity of assigning the property right to the information in question to one of the relevant parties, the argument for assigning it to the corporation therefore should prevail.

D. Open Questions

If the property rights justification for regulating insider trading is accepted, several questions remain open. Among these are: (1) Should the insider trading prohibition apply to all confidential information relating to the firm, or only to information whose use by an insider poses some serious threat of injury to the corporation? (2) Should the insider trading regulatory scheme consist of a

mandatory prohibition or a default rule? (3) In the United States, the regulatory purview of the federal securities laws is normally regarded as being limited to issues of disclosure and fraud. Questions of theft and fiduciary duty are usually relegated to state law. Why is insider trading an exception to that scheme? We consider these questions seriatim.

21. Scope of the Prohibition

In *Diamond v. Oreamuno* the New York (state) Court of Appeals concluded that a shareholder could properly bring a derivative action against corporate officers who had traded in the corporation's stock. The court explicitly relied on a property rights-based justification for its holding: 'The primary concern, in a case such as this, is not to determine whether the corporation has been damaged, but to decide, as between the corporation and the defendants, who has a higher claim to the proceeds derived from exploitation of the information.' Critics of *Diamond* have frequently pointed out that the corporation could not have used the information at issue in that case for its own profit. The defendants had sold shares on the basis of inside information about a substantial decline in the firm's earnings. Once released, the information caused the corporation's stock price to decline precipitously. The information was thus a historical accounting fact of no value to the corporation. The only possible use to which the corporation could have put this information was by trading in its own stock, which it could not have done without violating the antifraud rules of the federal securities laws.

The *Diamond* case thus rests on an implicit assumption that, as between the firm and its agents, all confidential information about the firm is an asset of the corporation. Critics of *Diamond* contend that this assumption puts the cart before the horse: the proper question is to ask whether the insiders' use of the information posed a substantial threat of harm to the corporation. Only if that question is answered in the affirmative should the information be deemed an asset of the corporation (see, for example, *Freeman v. Decio*).

Proponents of a more expansive prohibition might respond to this argument in two ways. First, they might reiterate that, as between the firm and its agents, there is no basis for assigning the property right to the agent. See above, Section 20. Second, they might focus on the secondary and tertiary costs of a prohibition that encompassed only information whose use posed a significant threat of harm to the corporation. A regime premised on actual proof of injury to the corporation would be expensive to enforce, would provide little certainty or predictability for those who trade, and might provide agents with perverse incentives.

22. Mandatory or Default Rules

For law and economics supporters of the insider trading prohibition, an interesting question is whether the corporate employer should be allowed to authorize its agents to inside trade. Because most property rights are freely alienable, treating confidential information as a species of property suggests that the information's owner is presumptively entitled to decide whether someone may use it to inside trade. In other words, the insider trading prohibition arguably should be treated as simply a special case of the laws against theft.

Another way of phrasing the question is to ask whether the prohibition of insider trading should be a default or a mandatory rule. Default rules in corporate law are analogous to alienable property rights. Just as shareholders generally are protected by the doctrine of limited liability unless they give a personal guarantee of the corporation's debts, patentholders have exclusive rights to their inventions unless they authorize another's use by granting a license. Continuing the analogy, mandatory rules in corporate law are comparable to inalienable property rights. Just as corporate law proscribes vote buying, the law prohibits one from selling one's vote in a presidential election.

So phrased, the insider trading problem becomes a subset of one of the fiercest debates in the corporate law academy; namely, the extent to which mandatory rules are appropriate in corporate law. A detailed analysis of this debate is beyond this chapter's scope. Accordingly, it perhaps suffices to observe that the question of whether the insider trading prohibition should be cast as an alienable or an inalienable property right remains open (see generally Fischel, 1984; Macey, 1984; Ule, 1993).

23. How Should Insider Trading be Regulated?

Even among those who agree that insider trading should be regulated on property rights grounds, there is no agreement as to how insider trading should be regulated. Bainbridge (1995, pp. 1262-1266) contends that the federal Securities and Exchange Commission has a comparative advantage in prosecuting insider trading questions, which justifies treating the prohibition as a matter of concern for the federal securities laws. Macey (1991, pp. 40-41) agrees that insider trading is difficult to detect and, moreover, that centralized monitoring of insider trading by the SEC and the self-regulatory organizations within the securities industry may be more efficient than private party efforts to detect insider trading. He nevertheless draws a distinction between SEC monitoring of insider trading and a federal prohibition of insider trading. Macey contends that the SEC should monitor insider trading, but refer detected

cases to the affected corporation for private prosecution. A third option, favored by some commentators, would be to leave insider trading to state corporate law, just as is done with every other duty of loyalty violation and, accordingly, divest the federal SEC of any regulatory involvement. Although this debate has considerable theoretical interest, it is essentially mooted by the public choice arguments recounted in Section 10 above. There is no constituency that would support repealing the federal insider trading prohibition, while proposals to do so would meet strong opposition from the SEC and its securities industry constituencies that benefit from the current prohibition.

24. Some Suggestions for Further Empirical Research

Those who approach the insider trading proposition assuming that the property right to inside information belongs to managers in the absence of a compelling reason for assigning it to firms will necessarily draw different conclusions than those who start out with the opposite assumption. Unfortunately, in the absence of decisive empirical evidence, the insider trading debate turns on who gets to choose the null hypothesis - the proposition that the other side must refute - and on that issue there is unlikely to be agreement.

The problem is that serious empirical research on insider trading is obviously impeded by the subject matters illegality. The two principal sources of raw data for US transactions are insider stock transaction reports filed under Securities Act Section 16(a) and case files of actions brought under Securities Exchange Act Rules 10b-5 and 14e-3. The first option is unattractive for two reasons: (1) only a small percentage of individuals with access to inside information are obliged to file under Section 16(a); and (2) it seems unlikely that insiders would knowingly report the most interesting transactions - those that violate Rules 10b-5 or 14e-3.

The second option is unattractive because of the potential for selection bias. Many insider trading cases result from computer analysis of stock market activity. As such, empirical studies of SEC case files will be inherently biased towards cases in which insider trading coincident with noticeable price or volume effects.

A third option is cross-cultural studies, focusing on stock markets operating in countries where insider trading is either legal or not vigorously prosecuted. One must be careful, of course, to ensure that focusing on only one aspect of cross-cultural comparisons does not invalidate the results.

Having said all of that, there remain several areas in which further empirical research might be helpful. First, the data on the price and volume effects of insider trading remain confused. Further research on this issue seems

warranted. A related area of research would focus on the incentive effects of insider trading by corporate managers. Is there any empirical basis for the compensation argument?

Second, it would be helpful to gather better data on the effect of insider trading on investor confidence. Here is one area in which cross-cultural comparisons are both promising and yet fraught with danger. As Macey (1991, p. 44) observes, Japan only recently began regulating insider trading and its rules are not enforced. Hong Kong has repealed its insider trading prohibition. Yet, both have vigorous and highly liquid stock markets. The question is to what extent the Japanese and Hong Kong experiences are relevant to an understanding of US capital markets. Assuming the validity of such comparisons, however, studying the effects of insider trading regulation (or the lack thereof) on other markets would be instructive with respect to the panoply of questions relating to investor confidence and injury.

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Bibliography on Insider Trading (5650)

- Agrawal, Arun and Jaffe, J. (1995), 'Does Section 16b Deter Insider Trading by Target Managers?', **39** *Journal of Financial Economics*, 295-319.
- Aldave, Barbara Bader (1988), 'The Insider Trading and Securities Fraud Enforcement Act of 1988: An Analysis and Appraisal', **52** *Albany Law Review*, 893-921.
- Aldave, Barbara Bader and Carroll, Peter G. (1988), 'The Misappropriation Theory: Carpenter and its Aftermath', **49** *Ohio State Law Journal*, 373-391.
- Allen, Franklin and Gale, Douglas (1992), 'Stock-Price Manipulation', **5** *Review of Financial Studies*, 503-529.
- Allen, Steven A. (1990), 'The Response of Insider Trading to Changes in Regulatory Standards', **29** *Quarterly Journal of Business and Economics*, 47-78.
- Allen, William R. (1993), 'Professor Schepple's Middle Way: On Minimizing Normativity and Economics in Securities Law', **56** *Law and Contemporary Problems*, 175-184.
- Anabtawi, Icmann (1989), 'Note: Toward a Definition of Insider Trading', **41** *Stanford Law Review*, 377-399.

- Anderson, Alison Grey (1982), 'Fraud, Fiduciaries, and Insider Trading', **10** *Hofstra Law Review*, 341-377.
- Arruñada, Benito (1990), *Control y Regulación de la Sociedad anónima* (Control and Regulation of Joint-Stock Companies), Madrid, Alianza Editorial.
- Arshadi, Nasser and Eyssell, Thomas H. (1995), 'On Corporate Governance: Public Corporations, Corporate Takeovers, Defensive Tactics, and Insider Trading', **4** *Financial Markets, Institutions, and Instruments*, 74-103.
- Ausubel, Lawrence M. (1990), 'Insider Trading in a Rational Expectations Economy', **80** *American Economic Review*, 1022-1041.
- Back, Kerry (1992), 'Insider Trading in Continuous Time', **5** *Review of Financial Studies*, 387-409.
- Back, Kerry (1993), 'Asymmetric Information and Options', **6** *Review of Financial Studies*, 435-472.
- Baesel, Jerome B. and Stein, Garry R. (1979), 'The Value of Information: Inferences from the Profitability of Insider Trading', **4** *Journal of Financial and Quantitative Analysis*, 553-571.
- Bagnoli, Mark and Khanna, Naveen (1992), 'Insider Trading in Financial Signaling Models', **47** *Journal of Finance*, 1905-1934.
- Baiman, Stanley and Verrecchia, Robert E. (1996), 'The Relation among Capital Markets, Financial Disclosure, Production Efficiency, and Insider Trading', **34** *Journal of Accounting Research*, 1-22.
- Bainbridge, Stephen M. (1985), 'Note: A Critique of the Insider Trading Sanctions Act of 1984', **71** *Virginia Law Review*, 455-498.
- Bainbridge, Stephen M. (1986), 'The Insider Trading Prohibition: A Legal and Economic Enigma', **38** *University of Florida Law Review*, 35-68.
- Bainbridge, Stephen M. (1993), 'Insider Trading Under the Restatement of the Law Governing Lawyers', **19** *Journal of Corporate Law*, 1-40.
- Bainbridge, Stephen M. (1995), 'Incorporating State Law Fiduciary Duties into the Federal Insider Trading Prohibition', **52** *Washington and Lee Law Review*, 1189 ff. Reprinted in **38** *Corporate Practice Commentator*, 1996, 1.
- Barry, John F. III (1981), 'The Economics of Outside Information and Rule 10b-5', **129** *University of Pennsylvania Law Review*, 1307-1391.
- Bauman, Todd A. (1984), 'Comment: Insider Trading at Common Law', **51** *University of Chicago Law Review*, 838-867.
- Bebchuck, Lucian Arye and Fershtman, Chaim (1993), 'The Effects of Insider Trading on Insiders' Effort in Good and Bad Times', **9** *European Journal of Political Economy*, 469-481.
- Bebchuck, Lucian Arye and Fershtman, Chaim (1994), 'Insider Trading and the Managerial Choice among Risky Projects', **29** *Journal of Financial and Quantitative Analysis*, 1-14.
- Beck-Dudley, Caryn L. and Stephens, Alan A. (1989), 'The Efficient Market Theory and Insider Trading: Are we Headed in the Right Direction?', **27** *American Business Law Journal*, 441-465.
- Beeson, John R. (1996), 'Rounding the Peg to Fit the Hole: A Proposed Regulatory Reform of the Misappropriation Theory', **144** *University of Pennsylvania Law Review*, 1077-1148.
- Benesh, Gary A. and Pari, Robert A. (1987), 'Performance of Stocks Recommended on Basis of Insider Trading Activity', **22** *Financial Review*, 145-158.

- Bernardo, Antonia Eugenio (1991), *An Integrated Analysis of Insider Trading, Executive Compensation, and Corporate Investment*, Stanford University, unpublished Ph.D. dissertation.
- Bernhardt, Dan, Hollifield, Burton and Hughson, Eric (1995), 'Investment and Insider Trading', **8** *Review of Financial Studies*, 501-543.
- Bhattacharya, Uptal and Spiegel, Matthew (1991), 'Insiders, Outsiders, and Market Breakdowns', **4** *Review of Financial Studies*, 255-282.
- Biais, Bruno and Hillion, Pierre (1994), 'Insider and Liquidity Trading in Stock and Options Markets', **7** *Review of Financial Studies*, 743-780.
- Botha, D. (1991), 'Aspects of Capital Market Efficiency and Statutory Regulation of Insider Trading in South Africa', **15** *Journal for Studies in Economics and Econometrics*, 57-69.
- Bowles, Roger A. (1991), 'Comment (on Fenn, McGuire and Prentice, Insider Trading Regulation after 1992)', in Weigel, Wolfgang (ed), *Economic Analysis of Law - A Collection of Applications*, Vienna, Sterreichischer Wirtschaftsverlag, 143-145.
- Boyle, James (1992), 'A Theory of Law and Information: Copyright, Spleens, Blackmail, and Insider Trading', **80** *California Law Review*, 1413-1540.
- Briggs, Thomas W. (1992), 'Insider Trading and the Prospective Investor after the Chestman Decision', **20** *Securities Regulation Law Journal*, 296-312.
- Brown, Keith C., Harlow, W.V. and Tinic, Seha M. (1988), 'Risk Aversion, Uncertain Information, and Market Efficiency', **22** *Journal of Finance and Economics*, 355-385.
- Brudney, Victor (1979), 'Insiders, Outsiders and Informational Advantages under the Federal Securities Laws', **93** *Harvard Law Review*, 322-376.
- Campbell, David (1996), 'Why Insider Dealing Is Wrong', **16** *Legal Studies*, 185-199.
- Carbone, Paolo (1991), 'Nuovi Illeciti attinenti alla Negoziazione di "Valori mobiliari"'. Profili della Disciplina. Spunti Critici (New Torts Concerning Securities Exchange. Outlines of the Rules. Critical Hints)', **5** *Il Foro Italiano*, 466-490.
- Carbone, Paolo (1993), *Tutela Civile del Mercato e Insider Trading* (Private Law Protection of the Market and Insider Trading), Padova, CEDAM.
- Carlton, Dennis W. and Fischel, Daniel R. (1983), 'The Regulation of Insider Trading', **35** *Stanford Law Review*, 857-895.
- Carney, William J. (1987), 'Signalling and Causation in Insider Trading', **36** *Catholic University Law Review*, 863-898.
- Chowdhry, Bhagwan and Nanda, Vikram (1991), 'Multimarket Trading and Market Liquidity', **4** *Review of Financial Studies*, 483-511.
- Cleeton, David L. and Reeder, Paul A. (1987), 'Stock and Option Markets: Are Insider Trading Regulations Effective?', **27** *Quarterly Review of Economics and Business*, 63-76.
- Colvin, Oliver Perry (1991), 'A Dynamic Definition of and Prohibition Against Insider Trading', **31** *Santa Clara Law Review*, 603-640.
- Conard, Alfred F. (1992), 'Enterprise Liability and Insider Trading', **49** *Washington and Lee Law Review*, 913-955.
- Cook, William J. (1992), 'From Insider Trading to Unfair Trading: Chestman II and Rule 14e-3', **22** *Stetson Law Review*, 171-208.
- Corgill, Dennis S. (1996), 'Insider Trading, Price Signals, and Noisy Information', **71** *Indiana Law Review*, 355-417.

- Cornell, Bradford and Sirri, Erik R. (1992), 'The Reaction of Investors and Stock Prices to Insider Trading', *47 Journal of Finance*, 1031-1059.
- Cox, James D. (1986a), 'Insider Trading and Contracting: A Critical Response to the "Chicago School"', *Duke Law Journal*, 628-659.
- Cox, James D. (1986b), 'Insider Trading Regulation and the Production of Information: Theory and Evidence', *64 Washington University Law Quarterly*, 475-505.
- Cox, James D. (1988), 'Choices: Paving the Road Toward a Definition of Insider Trading', *39 Alabama Law Review*, 381-397.
- Cox, James D. (1990), 'An Economic Perspective of Insider Trading Regulation and Enforcement in New Zealand', *4 Canterbury Law Review*, 268-283.
- Damodaran, Aswath and Liu, Crocker H. (1993), 'Insider Trading as a Signal of Private Information', *6 Review of Financial Studies*, 79-119.
- Datta, Sudip and Iskandar-Datta, Mai E. (1996), 'Does Insider Trading Have Information Content for the Bond Market?', *20 Journal of Banking and Finance*, 555-575.
- De Grauwe, Paul (1987), 'Financial Deregulation in Developing Countries', *32 Tijdschrift voor Economie en Management*, 381-401.
- Dedek, Oldrich (1994), 'Insider Trading, Investor Protection and an Orderly Capital Market: Lessons for the Czech Republic', *3 Prague Economic Papers*, 201-215.
- Demsetz, Harold (1986), 'Corporate Control, Insider Trading, and Rates of Return', *76 American Economic Review. Papers and Proceedings*, 313-316.
- Dennert, Jürgen (1991), 'Insider Trading', *44 Kyklos*, 181-202.
- Dennis, Roger J. (1988), 'This Little Piggy Went to Market: The Regulation of Risk Arbitrage after Boesky', *52 Albany Law Review*, 841-892.
- Dinehart, Stephen J. (1986), 'Insider Trading in Futures Markets: A Discussion', *6 Journal of Futures Markets*, 325-333.
- Dooley, Michael P. (1980), 'Enforcement of Insider Trading Restrictions', *66 Virginia Law Review*, 1-89.
- Dooley, Michael P. (1995), *The Fundamentals of Corporation Law*, Mineola, NY, Foundation Press.
- Doorenbos, D.R. and Roording, J.F.L. (1990), 'Rechtseconomie en Strafrecht: een Rechtseconomische Analyse van de Bestrijding van Misbruik van Voorwetenschap bij de Handel in Effecten (Law and Economics and Criminal Law: A Law and Economics Analysis of Insider Trading in Securities)', *39 Ars Aequi*, 733-742.
- Douglas, Norman S. (1988), 'Insider Trading: The Case Against the "Victimless Crime"', *23 Financial Review*, 127-142.
- Dunleavy, Patrick S. (1986), 'Leveraged Buyout, Management Buyout, and Going Private Corporate Control Transactions: Insider Trading or Efficient Market Economics', *14 Fordham Urban Law Journal*, 685-722.
- Dutta, Prajit K. and Madhavan, Ananth (1995), 'Price Continuity Rules and Insider Trading', *30 Journal of Financial and Quantitative Analysis*, 199-221.
- Dyer, Boyd Kimball (1992), 'Economic Analysis, Insider Trading, and Game Markets', *1992 Utah Law Review*, 1-66.
- Easterbrook, Frank H. (1981), 'Insider Trading, Secret Agents, Evidentiary Privileges, and the Production of Information', *1981 Supreme Court Review*, 309-365.
- Easterbrook, Frank H. and Fischel, Daniel R. (1984), 'Mandatory Disclosure and the Protection of Investors', *70 Virginia Law Review*, 669-715.
- Elitzur, R. Ramy and Yaari, Varda (1995), 'Executive Incentive Compensation and Earnings

- Manipulation in a Multi-Period Setting', **26** *Journal of Economic Behavior and Organization*, 201-219.
- Elliot, John E., Morse, Dale and Richardson, Gordon (1984), 'The Association Between Insider Trading and Information Announcements', **15** *Rand Journal of Economics*, 521-536.
- Engelen, Peter-Jan (1996), 'De Regelgeving omtrent Handel met Voorkennis: een Juridisch-Economische Benadering (The Legal Rules on Insider Trading: a Legal and Economic Approach)', **51(24)** *Weekberichten, Kredietbank*, 1-7. Translated and reprinted as 'La Reglementation en Matière de Delit d'Initie: une Approche Economico-Juridique', **51(24)** *Bulleting Hebdomadaire, Kredietbank*, 1-7.
- Engelen, Peter-Jan (1997a), *In Defense of Insider Trading*, Working Paper, University of Antwerp (UFSIA), Department of Business Economics, No. 97-247.
- Engelen, Peter-Jan (1997b), 'Is the Enforcement of Insider Trading Regulation Enforceable?', **5** *European Journal of Crime, Criminal Law and Criminal Justice*, 105-111.
- Engelen, Peter-Jan (1997c), 'In Defense of Insider Trading. An Economic Analysis of Belgian Insider Trading Regulation', **156** *Cahiers Economiques de Bruxelles*, 349-372.
- Epstein, Richard A. (1995), *Simple Rules for a Complex World*, Cambridge, MA, Harvard University Press.
- Estrada, Javier (1994), 'Insider Trading: Regulation, Deregulation, and Taxation', **5** *Swiss Review of Business Law*, 209 ff.
- Estrada, Javier (1995), 'Insider Trading: Regulation, Securities Markets, and Welfare Under Risk Aversion', **35** *Quarterly Review of Economics and Finance*, 421-449.
- Eyssel, Thomas H. (1991), 'Corporate Insiders and the Death of the Firm: Evidence on the Incidence of Insider Trading in Corporate Dissolutions', **26** *Financial Review*, 517-533.
- Eyssel, Thomas H. and Reburn, James P. (1993), 'The Effects of the Insider Trading Sanctions Act of 1984: The Case of Seasoned Equity Offerings', **16** *Journal of Financial Research*, 161-170.
- Fenn, Paul T., McGuire, Alistair and Prentice, Dan (1991), 'Insider Trading Regulation after 1992: An Economic Analysis', in Weigel, Wolfgang (ed), *Economic Analysis of Law - A Collection of Applications*, Vienna, Sterreichischer Wirtschaftsverlag, 135-141.
- Ferreira, Eurico J. (1995), 'Insider Trading Activity, Different Market Regimens, and Abnormal Returns', **30** *Financial Review*, 193-210.
- Filbeck, Greg and Mullineaux, Donald J. (1995), 'Insider Trading and Regulation: A Look at Bank Holding Companies', **19** *Journal of Economics and Finance*, 71-84.
- Finnerty, Joseph E. (1976), 'Insiders and Market Efficiency', **31** *Journal of Finance*, 1141-1148.
- Fisch, Jill E. (1991), 'Start Making Sense: An Analysis and Proposal for Insider Trading Regulation', **26** *Georgia Law Review*, 179-251.
- Fischel, Daniel R. (1984), 'An Economic Analysis of Dirks v. Securities and Exchange Commission', **13** *Hofstra Law Review*, 127-146.
- Fischer, Paul E. (1992), 'Optimal Contracting and Insider Trading Restrictions', **47** *Journal of Finance*, 673-694.
- Fishman, Michael J. and Hagerty, Kathleen M. (1992), 'Insider Trading and the Efficiency of Stock Prices', **23** *Rand Journal of Economics*, 106-122.
- Fitzsimons, Peter G. (1995), 'Enforcement of Insider Trading Laws by Shareholders in New Zealand: An Analysis and Proposals for Reform', **3** *Waikato Law Review*, 101-125.

- Fortin, Rich and Michelson, Stuart (1995), 'Option Introduction and Insider Trading in the NASDAQ/NMS Equity Market', **19** *Journal of Economics and Finance*, 31-50.
- Fox, Merritt B. (1992), 'Insider Trading in a Globalizing Market: Who Should Regulate What?', **55** *Law and Contemporary Problems*, 263-302.
- Fox, Merritt B. (1994), 'Insider Trading Deterrence Versus Managerial Incentives: A Unified Theory of Section 16(b)', **92** *Michigan Law Review*, 2088-2203.
- Fried, Jesse M. (1997), 'Towards Reducing the Profitability of Corporate Insider Trading', **70** *Southern California Law Review*.
- Friedman, Howard M. (1982), 'Efficient Market Theory and Rule 10b-5 Non-Disclosure Claims: A Proposal for Reconciliation', **47** *Missouri Law Review*, 745-762.
- Garten, Helen A. (1987), 'Insider Trading in the Corporate Interest', **1987** *Wisconsin Law Review*, 573-640.
- Georgakopoulos, Nicholas L. (1990), 'Classical and Cross Insider Trading: Variations on the Theme of Rule 10b-5', **28** *American Business Law Journal*, 109-144.
- Georgakopoulos, Nicholas L. (1993), 'Insider Trading as a Transaction Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation', **26** *Connecticut Law Review*, 1-51.
- Gerson, Philip (1970), 'Comment: Section 16(b): Re-evaluation is Needed', **25** *University of Miami Law Review*, 144 ff.
- Gilson, Ronald J. and Kraakman, Reinier H. (1984), 'The Mechanisms of Market Efficiency', **70** *Virginia Law Review*, 549-644.
- Givoly, Dan and Palmon, Dan (1985), 'Insider Trading and the Exploitation of Inside Information: Some Empirical Evidence', **58** *Journal of Business*, 69-87.
- Glosten, Lawrence R. (1989), 'Insider Trading, Liquidity, and the Role of the Monopolist Specialist', **62** *Journal of Business*, 211-235.
- Goelzer, Daniel L. and Berueffy, Max (1988), 'Insider Trading: The Search for a Definition', **39** *Alabama Law Review*, 491-530.
- Goldie, Raymond and Ambachtsheer, Keith (1981), 'The Battle of Insider Trading vs. Market Efficiency: Comment', **7** *Journal of Portfolio Management*, 88 ff.
- Good, Coni Rae (1984), 'Comment: An Examination of Investment Analyst Liability Under Rule 10b-5', *Arizona State Law Journal*, 129-159.
- Gosnell, Thomas, Keown, Arthur J. and Pinkerton, John M. (1992), 'Bankruptcy and Insider Trading: Differences between Exchange-Listed and OTC Firms', **47** *Journal of Finance*, 349-362.
- Grossman, Sanford J. (1986), 'An Analysis of the Role of 'Insider Trading' on Futures Markets', **59S** *Journal of Business*, 129-146.
- Guo, Enyang Sen, Nilanjan and Shome, Dilip K. (1995), 'Analysts' Forecasts: Low-Balling, Market Efficiency, and Insider Trading', **30** *Financial Review*, 529-539.
- Gupta, Atul and Misra, Lalatendu (1988), 'Illegal Insider Trading: Is it Rampant before Corporate Takeovers', **23** *Financial Review*, 453-464.
- Gupta, Atul and Misra, Lalatendu (1989), 'Public Information and Pre-Announcement Trading in Takeover Stocks', **41** *Journal of Economics and Business*, 225-233.
- Haddock, David D. and Macey, Jonathan R. (1986a), 'Controlling Insider Trading in Europe and America: The Economics of the Politics', in Graf Von Der Schulenburg, J.-Matthias and Skogh, Göran (eds), *Law and Economics and The Economics of Legal Regulation*, Dordrecht, Kluwer, 149-167.

- Haddock, David D. and Macey, Jonathan R. (1986b), 'A Coasian Model of Insider Trading', **80** *Northwestern University Law Review*, 1449-1472.
- Haddock, David D. and Macey, Jonathan R. (1987), 'Regulation on Demand: A Private Interest Model, with an Application to Insider Trading Regulation', **30** *Journal of Law and Economics*, 311-352.
- Haft, Robert J. (1982), 'The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation', **80** *Michigan Law Review*, 1051-1071.
- Hanson, Robert C. and Song, Moon H. (1995), 'Managerial Ownership Change and Firm Value: Evidence from Dual-Class Recapitalizations and Insider Trading', **18** *Journal of Financial Research*, 281-297.
- Harp, Hilary (1984), 'Note: Insider Trading After Dirks v. SEC', **18** *Georgia Law Review*, 593-638.
- Hauch, Jeanne M. (1987), 'Note: Insider Trading by Intermediaries: A Contract Remedy for Acquirer's Increased Costs of Takeovers', **97** *Yale Law Journal*, 115-134.
- Heinkel, Robert and Kraus, Alan (1987), 'The Effect of Insider Trading on Average Rates of Return', **20** *Canadian Journal of Economics*, 588-611.
- Heller, Harry (1982), 'Chiarella, SEC Rule 14e-3 and Dirks: "Fairness" versus Economic Theory', **37** *The Business Lawyer*, 517-558.
- Herzel, Leo and Katz, Leo (1987), 'Insider Trading: Who Loses?', **165** *Lloyds Bank Review*, 15-26.
- Hetherington, J.A.C. (1967), 'Insider Trading and the Logic of the Law', **1967** *Wisconsin Law Review*, 720-737.
- Hiler, Bruce A. (1984), 'Dirks v. SEC: A Study in Cause and Effect', **43** *Maryland Law Review*, 292-341.
- Hirschey, Mark and Zaima, Janis K. (1989), 'Insider Trading, Ownership Structure, and the Market Assessment of Corporate Sell-Offs', **44** *Journal of Finance*, 971-980.
- Hirschey, Mark Slovin, Myron B. and Zaima, Janis K. (1990), 'Bank Debt, Insider Trading, and the Return to Corporate Selloffs', **14** *Journal of Banking and Finance*, 85-98.
- Hirschleifer, David (1971), 'The Private and Social Value of Information and the Reward to Incentive Activity', **61** *American Economic Review*, 561 ff.
- Horman, Timothy J. (1996), 'In Defense of United States v. Bryan: Why the Misappropriation Theory is Indefensible', **64** *Fordham Law Review*, 2455-2506.
- Jaffe, Jeffrey F. (1974a), 'The Effect of Regulation Changes on Insider Trading', **5** *Bell Journal of Economics*, 93-121.
- Jaffe, Jeffrey F. (1974b), 'Special Information and Insider Trading', **47** *Journal of Business*, 410-428.
- Jagannathan, Ravi and Palfrey, Thomas R. (1989), 'Effects of Insider Trading Disclosures on Speculative Activity and Future Prices', **27** *Economic Inquiry*, 411-430.
- Jarrell, Gregg A. and Poulsen, Annette B. (1989), 'Stock Trading Before the Announcement of Tender Offers: Insider Trading or Market Anticipation?', **5** *Journal of Law, Economics, and Organization*, 225-248.
- Jennings, Marianne Moody and Hudson, Carl D. (1989), 'The Ultimate Inside Information: Financial Institutions and Auditors as a Control of Market Response to Clients' Securities Offerings', **42** *Arkansas Law Review*, 467-518.
- Jennings, R.W. and Smith, R.B. (1976), 'Insider Trading and the Analyst', **5** *Institutional Securities Regulation*, 261 ff.
- John, Kose, John, Teresa and Lang, Larry H.P. (1991), 'Insider Trading around Dividend

- Announcements: Theory and Evidence', **46** *Journal of Finance*, 1361-1389.
- John, Kose, John, Teresa and Mishra, Banikanta (1990), 'Information Content of Insider Trading around Corporate Announcements: The Case of Capital Expenditures', **45** *Journal of Finance*, 835-855.
- Johnson, Dana J., Serrano, Jan M. and Thompson, G. Rodney (1996), 'Seasoned Equity Offering for New Investment and the Information Content of Insider Trading', **19** *Journal of Financial Research*, 91-103.
- Jun, Meeka (1993), 'New Capital Markets and Securities Regulations in Hungary: A Comparative Analysis of the Insider Trading Regulations in Hungary and the United States', **19** *Brooklyn Journal of International Law*, 1047-1100.
- Kabir, R. (1990), *Security Market Regulation: An Empirical Investigation of Trading Suspension and Insider Trading Restriction*, Maastricht, Datawyse.
- Kabir, R. and Vermaelen, T. (1996), 'Insider Trading Restrictions and the Stock Market : Evidence from the Amsterdam Stock Exchange', **40** *European Economic Review*, 1591-1603.
- Kahan, Marcel (1992), 'Securities Laws and the Social Costs of "Inaccurate" Stock Prices', *Duke Law Journal*, 977-1044.
- Karjala, Dennis S. (1982), 'Statutory Regulation of Insider Trading in Impersonal Markets', **1982** *Duke Law Journal*, 627-649.
- Karmel, Roberta S. (1993), 'The Relationship Between Mandatory Disclosure and Prohibitions Against Insider Trading: Why a Property Rights Theory of Inside Information is Untenable', **59** *Brooklyn Law Review*, 149-174.
- Kelly, William A., Jr, Nardinelli, Clark and Wallace, Myles S. (1987), 'Regulation of Insider Trading: Rethinking SEC Policy Rules', **7** *Cato Journal*, 441-448.
- Keown, Arthur J. and Pinkerton, John M. (1981), 'Merger Announcements and Insider Trading Activity: An Empirical Investigation', **36** *Journal of Finance*, 855-869.
- Kerr, Halbert S. (1980), 'The Battle of Insider Trading vs. Market Efficiency', **6** *Journal of Portfolio Management*, 47-50.
- Kidd, Ronald F. (1993), 'Insider Trading: The Misappropriation Theory Versus an 'Access to Information' Perspective', **18** *Delaware Journal of Corporate Law*, 101-137.
- King, Raymond D. and O'Keefe, Terrence B. (1986), 'Lobbying Activities and Insider Trading', **61** *Accounting Review*, 76-90.
- Kitch, Edmund W. (1980), 'The Law and Economics of Rights in Valuable Information', **9** *Journal of Legal Studies*, 683-723.
- Kitch, Edmund W. (1995), 'The Theory and Practice of Securities Disclosure', **61** *Brooklyn Law Review*, 761 ff.
- Klein, Spencer Derek (1988), 'Insider Trading, SEC Decision-Making, and the Calculus of Investor Confidence', **16** *Hofstra Law Review*, 665-704.
- Klock, Mark (1994), 'Mainstream Economics and the Case for Prohibiting Inside Trading', **10** *Georgia State University Law Review*, 297-335.
- Kraakman, Reinier H. (1991), 'The Legal Theory of Insider Trading Regulation in the United States', in Hopt, K. and Wymeersch, E. (eds), *European Insider Dealing*, Butterworths, London, 39-54.
- Kripke, Homer (1985), 'Manne's Insider Trading Thesis and Other Failures of Conservative Economics', **4** *Cato Journal*, 945-957.
- Kyle, Albert S. (1985), 'Continuous Auctions and Insider Trading', **53** *Econometrica*, 1315-1335.

- Laffont, Jean-Jacques and Maskin, Eric S. (1990), 'The Efficient Market Hypothesis and Insider Trading on the Stock Market', **98** *Journal of Political Economy*, 70-93.
- Langevoort, Donald C. (1982), 'Insider Trading and the Fiduciary Principle: A Post-Chiarella Restatement', **70** *California Law Review*, 1-53.
- Langevoort, Donald C. (1984), 'The Insider Trading Sanctions Act of 1984 and its Effect on Existing Law', **37** *Vanderbilt Law Review*, 1273-1298.
- Langevoort, Donald C. (1990), 'Investment Analysts and the Law of Insider Trading', **76** *Virginia Law Review*, 1023-1054.
- Langevoort, Donald C. (1993), 'Fraud and Insider Trading in American Securities Regulation: Its Scope and Philosophy in a Global Marketplace', **16** *Hastings International and Comparative Law Review*, 175-187.
- Langevoort, Donald C. (1995), 'Words from On High about Rule 10b-5: Chiarella's History, Central Bank's Future', **20** *Delaware Journal of Corporate Law*, 865-897.
- Lee, Moon H. and Bishara, Halim (1985), 'Securities Regulation and Market Efficiency', **5** *International Review of Law and Economics*, 247-254.
- Lee, Wayne Y. and Solt, Michael E. (1986), 'Insider Trading: A Poor Guide to Market Timing', **12** *Journal of Portfolio Management*, 65-71.
- Leland, Hayne E. (1992), 'Insider Trading: Should it be Prohibited?', **100** *Journal of Political Economy*, 859-887.
- Levmore, Saul (1982), 'Securities and Secrets: Insider Trading and the Law of Contracts', **68** *Virginia Law Review*, 117-160.
- Levmore, Saul (1988), 'In Defense of the Regulation of Insider Trading', **11** *Harvard Journal of Law and Public Policy*, 101-109.
- Lin, Ji-Chai and Howe, John S. (1990), 'Insider Trading in the OTC Market', **45** *Journal of Finance*, 1273-1284.
- Liu, Pu, Smith, Stanley D. and Syed, Azmat A. (1992), 'The Impact of the Insider Trading Scandal on the Information Content of the Wall Street Journal's "Heard on the Street"', **15** *Journal of Financial Research*, 181-188.
- Loh, Charman (1992), 'Poison Pill Securities: Shareholder Wealth and Insider Trading', **27** *Financial Review*, 241-257.
- Long, D. Michael and Rao, Spuma (1995), 'The Wealth Effects of Unethical Business Behavior', **19** *Journal of Economics and Finance*, 65-73.
- Lorie, James H. (1980), 'Insider Trading: Rule 10b-5, Disclosure and Corporate Privacy: A Comment', **9** *Journal of Legal Studies*, 819-822.
- Lorie, James H. and Niederhoffer, Victor (1968), 'Predictive and Statistical Properties of Insider Trading', **11** *Journal of Law and Economics*, 35-53.
- Lundholm, Russell J. (1988), 'Price-Signal Relations in the Presence of Correlated Public and Private Information', **26** *Journal of Accounting Research*, 107-118.
- MacCabrini, Franco (1995), 'Insider Trading e Analisi Economica del Diritto (Insider Trading and Economic Analysis of Law)', **1** *Giurisprudenza Commerciale*, 598-622.
- Macey, Jonathan R. (1984), 'From Fairness to Contract: The New Direction of the Rules Against Insider Trading', **13** *Hofstra Law Review*, 9-64.
- Macey, Jonathan R. (1988), 'Ethics, Economics, and Insider Trading: Ann Rand Meets the Theory of the Firm', **11** *Harvard Journal of Law and Public Policy*, 785-804.
- Macey, Jonathan R. (1988b), 'From Judicial Solutions to Political Solutions: The New, New Direction of the Rules Against Insider Trading', **39** *Alabama Law Review*, 355-380.
- Madura, Jeff and Wiant, Kenneth J. (1995), 'Information Content of Bank Insider Trading', **5** *Applied*

- Financial Economics*, 219-227.
- Manne, Henry G. (1966a), *Insider Trading and the Stock Market*, New York, Free Press, 189ff.
- Manne, Henry G. (1966b), 'In Defence of Insider Trading', **44** *Harvard Business Review*, 113-122.
- Manne, Henry G. (1967), 'Insider Trading and the Administrative Process', **35** *George Washington Law Review*, 473-511.
- Manne, Henry G. (1970), 'Insider Trading and the Law Professors', **23** *Vanderbilt Law Review*, 547-590.
- Manne, Henry G. (1987), 'Insider Trading and Property Rights in New Information', in Dorn, James A. and Manne, Henry G. (eds), *Economic Liberties and the Judiciary*, Fairfax, George Mason University Press, 317-327.
- Mannolini, Justin J. (1996), 'Insider Trading: The Need for Conceptual Clarity', **14** *Company and Securities Law Journal*, 151-156.
- Manove, Michael (1989), 'The Harm from Insider Trading and Informed Speculation', **104** *Quarterly Journal of Economics*, 823-845.
- Marinelli, Arthur J., Jr (1988), 'Liability for Insider Trading: Expansion of Liability in Rule 10b-5 Cases', **22** *Akron Law Review*, 45-60.
- Masson, Robert T. and Madhavan, Ananth (1991), 'Insider Trading and the Value of the Firm', **39** *Journal of Industrial Economics*, 333-353.
- McGee, Robert W. (1992), *Business Ethics and Common Sense*, Westport, Quorum Books, 302 p.
- McGee, Robert W. and Block, Walter E. (1989), 'Information, Privilege, Opportunity and Insider Trading', **10** *Northern Illinois University Law Review*, 1-35.
- Mellet, Marc (1996), 'Is There Life After Bryan?: The Validity of Rule 10b-5's Misappropriation Theory', **34** *Duquesne Law Review*, 1057-1082.
- Mendelson, Morris (1969), 'Book Review: The Economics Board of Insider Trading Reconsidered', **117** *University of Pennsylvania Law Review*, 470-492.
- Meulbroek, Lisa K. (1992), 'An Empirical Analysis of Illegal Insider Trading', **47** *Journal of Finance*, 1661-1699.
- Miller, Geoffrey P. and Macey, Jonathan R. (1990), 'Good Finance, Bad Economics: An Analysis of the Fraud on the Market Theory', **42** *Stanford Law Review*, 1059-1092.
- Miller, Geoffrey P. and Macey, Jonathan R. (1991), 'The Fraud on the Market System Revisited', **77** *Virginia Law Review*, 1001-1016.
- Miller, Joseph E., Jr (1994), 'SEC v. Peters: Stabilizing the Regulation of Tender Offer Insider Trading without a Fiduciary Duty', **71** *Denver University Law Review*, 783-799.
- Milton, Elisabeth A. (1984), 'Note: The Supreme Court's Highwire Act: Balancing SEC Enforcement and Market Efficiency in *Dirks v. SEC*', **45** *University of Pittsburg Law Review*, 923-947.
- Mirman, Leonard J. and Samuelson, Larry (1989), 'Information and Equilibrium with Inside Traders', **99** *Economics Journal*, 152 ff.
- Mitchell, Lawrence E. (1988), 'The Jurisprudence of the Misappropriation Theory and the New Insider Trading Legislation: From Fairness to Efficiency and Back', **52** *Albany Law Review*, 775-839.
- Mitchell, P.L. (1982), *Directors' Duties and Insider Dealing*, London, Butterworths.
- Mofsky, J.S. (1972), 'SEC Financial Requirements for Broker-Dealers: Economic Implications of Proposed Revisions', **47** *Indiana Law Journal*, 232-248.

- Morgan, Richard J. (1987), 'Insider Trading and the Infringement of Property Rights', **48** *Ohio State Law Journal*, 79-116.
- Netter, Jeffrey M., Poulsen, Annette B. and Hersch, Philip L. (1988), 'Insider Trading: The Law, the Theory, the Evidence', **6** *Contemporary Policy Issues*, 1-13.
- Nicodano, Giovanna (1992), *Corporate Information Sales and Market Liquidity: A Property Right Approach to Insider Trading*, published Working Paper, Centre for Economic Policy Research, European Science Foundation.
- O'Brien, Stephen J. (1995), *Illegal Insider Trading, Mergers, and Market Efficiency*, unpublished Ph.D. dissertation, University of North Carolina.
- Ocana, Carlos (1995), 'Mergers and Takeovers in Spain: Empirical Evidence on Abnormal Returns and Insider Trading', *Journal of Business Accounting and Finance*.
- O'Connor, Marleen A. (1989), 'Toward a More Efficient Deterrence of Insider Trading: The Repeal of Section 16(b)', **58** *Fordham Law Review*, 309-381.
- Odaiyappa, Ramasamy and Nainar, S.M. Khalid (1992), 'Economic Consequences of SFAS No. 33 - An Insider Trading Perspective', **67** *Accounting Review*, 599-609.
- Okamoto, Karl Shumpei (1992), 'Rereading Section 16(b) of the Securities Exchange Act', **27** *Georgia Law Review*, 183-251.
- Painter, W.H. (1965), 'Inside Information: Growing Pains for the Development of Federal Corporation Law under Rule 10b-5', **65** *Columbia Law Review*, 1361-1393.
- Penman, Stephen H. (1982), 'Insider Trading and the Dissemination of Firms' Forecast Information', **55** *Journal of Business*, 479-503.
- Penman, Stephen H. (1985), 'A Comparison of the Information Content of Insider Trading and Management Earnings Forecasts', **20** *Journal of Financial and Quantitative Analysis*, 1-17.
- Pfeil, Ursula C. (1996), 'Finanzplatz Deutschland: Germany Enacts Insider Trading Legislation', **11** *American University Journal of International Law and Policy*, 137-193.
- Pitt, Harvey L. and Shapiro, Karen L. (1988), 'The Insider Trading Proscriptions Act of 1987: A Legislative Initiative for a Sorely Needed Clarification of the Law Against Insider Trading', **39** *Alabama Law Review*, 415-437.
- Pitt, Harvey L., Hardison, David B. and Shapiro, Karen L. (1987), 'Problems of Enforcement in the Multinational Securities Market', **375** *University of Pennsylvania Journal of International Business*, 452 ff.
- Posner, Richard A. (1992), *Economic Analysis of Law* (4th edn), Boston, Little Brown., §14.9, 417-418.
- Raad, Elias and Wu, H.K. (1995), 'Insider Trading Effects on Stock Returns Around Open-Market Stock Repurchase Announcements: An Empirical Study', **18** *Journal of Financial Research*, 45-57.
- Rider, Barry A. (1977), 'Should Insider Trading be Regulated? Some Initial Considerations', **94** *South African Law Journal*, 79-101.
- Rochet, Jean-Charles and Vila, Jean-Luc (1994), 'Insider Trading without Normality', **61** *Review of Economic Studies*, 131-152.
- Rosenbaum, Robert D. and Bainbridge, Stephen M. (1988), 'The Corporate Takeover Game and Recent Legislative Attempts to Define Insider Trading', **26** *American Criminal Law Review*, 229 ff.
- Rozeff, Michael S. and Zaman, Mir A. (1988), 'Market Efficiency and Insider Trading: New Evidence', **61** *Journal of Business*, 25-44.
- Saari, Christopher P. (1977), 'Note: The Efficient Capital Market Hypothesis, Economic Theory and

- the Regulation of the Securities Industry', **29** *Stanford Law Review*, 1031-1076.
- Salbu, Steven R. (1990), 'A Legal and Economic Analysis of Insider Trading', **8** *Business and Professional Ethics Journal*, 2 ff.
- Salbu, Steven R. (1992a), 'Differentiated Perspectives on Insider Trading: The Effect of Paradigm Selection on Policy', **66** *St. John's Law Review*, 373-405.
- Salbu, Steven R. (1992b), 'Regulation of Insider Trading in a Global Market Place: A Uniform Statutory Approach', **66** *Tulane Law Review*, 837-869.
- Salbu, Steven R. (1992c), 'The Misappropriation Theory of Insider Trading: A Legal, Economic and Ethical Analysis', **15** *Harvard Journal of Law and Public Policy*, 223-253.
- Salbu, Steven R. (1993), 'Tipper Credibility, Noninformation Tippee Trading, and Abstention from Trading: An Analysis of Gaps in the Insider Trading Laws', **68** *Washington Law Review*, 307-350.
- Sampaio E Mello, Antonio (1989), 'Insider Trading and Dealer Pricing', **13** *Economia (Portuguese Catholic University)*, 163-177.
- Samuelson, S.S. (1988), 'The Prevention of Insider Trading: A Proposal for Revising Section 16 of the Securities Exchange Act of 1934', **25** *Harvard Journal on Legislation*, 511-531.
- Sanders, Ralph W., Jr and Zdanowicz, John S. (1992), 'Target Firm Abnormal Returns and Trading Volume around the Initiation of Change in Control Transactions', **27** *Journal of Financial and Quantitative Analysis*, 109-129.
- Schäfer, Hans-Bernd and Ott, Claus (1992), 'Economic Effects of EEC Insider Trading Regulation Applied to Germany', **12** *International Review of Law and Economics*, 357-375.
- Schnitzlein, Charles R. (1996), 'Call and Continuous Trading Mechanisms under Asymmetric Information: An Experimental Investigation', **51** *Journal of Finance*, 613-636.
- Schotland, Roy A. (1967), 'Unsafe at Any Price: A Reply to Manne, "Insider Trading and the Stock Market"', **53** *Virginia Law Review*, 1425-1478.
- Schulte, David J. (1985), 'Note: The Fraud on the Market Theory: Efficient Markets and the Defenses to an Implied 10b-5 Action', **70** *Iowa Law Review*, 975-993.
- Schwert, G. William (1996), 'Markup Pricing in Mergers and Acquisitions', **41** *Journal of Financial Economics*, 153-192.
- Scott, David F., Jr and Petty, J. William (1973), 'An Analysis of Corporate Insider Trading Activity', **26** *Journal of Economics and Business*, 19-24.
- Scott, Kenneth E. (1980), 'Insider Trading: Rule 10b-5, Disclosure, and Corporate Privacy', **9** *Journal of Legal Studies*, 801-818.
- Scribner, Douglas G. (1994), 'When Greed is No Longer Good: An Analysis of the Policy Considerations Underlying Rule 10b-5's Misappropriation Theory', **26** *University of Toledo Law Review*, 205-235.
- Seligman, Joel, Stock (1985), 'The Reformulation of Federal Securities Law Concerning Nonpublic Information', **73** *Georgetown Law Journal*, 1083-1140.
- Seyhun, H. Nejat (1986), 'Insiders' Profits, Costs of Trading, and Market Efficiency', **16** *Journal of Financial Economics*, 189-212.
- Seyhun, H. Nejat (1988a), 'The Information Content of Aggregate Insider Trading', **61** *Journal of Business*, 1-24.
- Seyhun, H. Nejat (1988b), 'The January Effect and Aggregate Insider Trading', **43** *Journal of*

- Finance*, 129-141.
- Seyhun, H. Nejat (1992a), 'Why Does Aggregate Insider Trading Predict Future Stock Returns?', **107** *Quarterly Journal of Economics*, 1303-1331.
- Seyhun, H. Nejat (1992b), 'The Effectiveness of the Insider Trading Sanctions', **35** *Journal of Law and Economics*, 149-182.
- Shin, Hyun Song (1141), 'Measuring the Incidence of Insider Trading in a Market for State-Contingent Claims', **1153** *Economic Journal*.
- Shin, Jhinyoung (1996), 'The Optimal Regulation of Insider Trading', **5** *Journal of Financial Intermediation*, 49-73.
- Silver, Carole B. (1985), 'Penalizing Insider Trading: A Critical Assessment of the Insider Trading Sanctions Act of 1984', **1985** *Duke Law Journal*, 960-1025.
- Stout, Lynn A. (1988), 'The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation', **87** *Michigan Law Review*, 613-709.
- Stout, Lynn A. (1990), 'Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law', **99** *Yale Law Journal*, 1235-1296.
- Strickler, Jeffrey P. (1985), 'Inside Information and Outside Traders: Corporate Recovery of the Outsider's Unfair Gain', **73** *California Law Review*, 483-524.
- Sunder, Shyam (1992), *Insider Information and its Role in Security Markets*, published Working Paper, Carnegie-Mellon University, Graduate School of Industrial Administration.
- Syed, Azmat A., Liu, Pu and Smith, Stanley D. (1989), 'The Exploitation of Inside Information at the Wall Street Journal: A Test of Strong Form Efficiency', **24** *Financial Review*, 567-579.
- Thel, Steve (1991), 'The Genius of Section 16: Regulating the Management of Publicly Held Companies', **42** *Hastings Law Journal*, 391-503.
- Thompson, A.R. and Ward, M.J.D. (1995), 'The Johannesburg Stock Exchange as an Efficient Market: A Review', **19(Nov)** *Journal for Studies in Economics and Econometrics*, 33-63.
- Thurber, Stephen (1994), 'The Insider Trading Compensation Contract as an Inducement to Monitoring by the Institutional Investor', **1** *George Mason University Law Review*, 119-134.
- Titus, Robert B. and Carroll, Peter G. (1986), 'Netting the Outsider: The Need for a Broader Restatement of Insider Trading Doctrine', **8** *Western New England Law Review*, 127-155.
- Tripp, Malcolm A. (1985), 'Note: Access, Efficiency, and Fairness in *Dirks v. SEC*', **60** *Indiana Law Journal*, 535-557.
- Trivoli, George William (1980), 'How to Profit from Insider Trading Information', **6(summ)** *Journal of Portfolio Management*, 51-56.
- Trueman (1983), 'Motivating Management to Reveal Inside Information', **38** *Journal of Finance*, 1253 ff.
- Ulen, Thomas S. (1993), 'The Coasean Firm in Law and Economics', **18** *Journal of Corporate Law*, 301 ff.
- Vahtoranta, Tapani (1988a), 'Setting the Agenda for Legislative Reform: Some Fallacies, Anomalies and Other Curiosities in the Prevailing Law of Insider Trading', **39** *Alabama Law Review*, 399-413.
- Vahtoranta, Tapani (1988b), 'A Note on Insider Trading: An Example of How Not To Make Law', **39** *Alabama Law Review*, 349-354.

- Vaahantoranta, Tapani (1996), 'The German Securities Trading Act 1994: A Ban on Insider Trading and An Issuer's Affirmative Duty to Disclose Material Nonpublic Information', **30** *International Lawyer*, 555-558.
- Vaahantoranta, Tapani and Michener, Ron (1994), 'The Political Economy of Insider Trading Laws', **84** *American Economic Review*, 164-168.
- Wang, George (1985), 'Dirks v. SEC: An Outsider's Guide to Insider Trading Liability Under Rule 10b-5', **22** *American Business Law Journal*, 569-582.
- Wang, William K.S. (1981), 'Trading on Material Nonpublic Information on Impersonal Stock Markets: Who is Harmed, and Who Can Sue Whom Under SEC Rule 10b-5?', **54** *Southern California Law Review*, 1217-1321.
- Wang, William K.S. (1982), 'Post-Chiarella Developments in Rule 10b-5', **15(4)** *Review of Securities Regulation*, 956-965.
- Wang, William K.S. (1983), 'Recent Developments in the Federal Law Regulating Stock Market Inside Trading', **6** *Corporation Law Review*, 291-328. Reprinted in Bloomenthal, H. (ed.) (1984), *Securities Law Review*, 219-256. Reprinted in slightly different form as chapter two of Steinberg, M. (ed) (1988), *Contemporary Issues in Securities Regulations*, 59-99.
- Wang, William K.S. (1987), 'The 'Contemporaneous' Traders Who Can Sue an Inside Trader', **38** *Hastings Law Journal*, 1175-1194.
- Wang, William K.S. (1988), 'A Cause of Action for Option Traders Against Insider Option Traders', **101** *Harvard Law Review*, 1056-1060.
- Wang, William K.S. (1991), 'ITSFEA's Effect on Either an Implied Cause of Action for Damages by Contemporaneous Traders or an Action for Damages or Rescission by the Party in Privity with the Inside Trader', **16** *Journal of Corporation Law*, 445-490. Reprinted in Langevoort, Donald (ed.) (1993), *Securities Law Review*, 427-472.
- Wang, William K.S. and Steinberg, Marc I. (1996), *Insider Trading*, Boston, Little Brown.
- Wihlborg, Clas G. and (1990), 'The Incentive to Acquire Information and Financial Market Efficiency', **13** *Journal of Economic Behavior and Organization*, 347-365.
- Winslow, Donald Arthur and Anderson, Seth C. (1993), 'From "Shoeless" Joe Jackson to Ivan Boesky: A Sporting Response to Law and Economics Criticism of the Regulation of Insider Trading', **81** *Kentucky Law Journal*, 295-321.
- Wolfson, Nicholas (1987), 'Comment: Civil Liberties and Regulation of Insider Trading', in Dorn, James A. and Manne, Henry G. (eds), *Economic Liberties and the Judiciary*, Fairfax, George Mason University Press, 329-334.
- Wolfson, Nicholas (1988), 'Trade Secrets and Secret Trading', **25** *San Diego Law Review*, 95-124.
- Wu, H.K. (1968), 'An Economist Looks at Section 16 of the Securities and Exchange Act of 1934', **68** *Columbia Law Review*, 260-269.
- X (1976), 'Note: Framework for the Allocation of Prevention Resources with a Specific Application to Insider Trading', **74** *Michigan Law Review*, 975-1022.
- X (1976), 'Note: Economic Analysis of Section 16(b) of the Securities Exchange Act of 1934', **18** *William and Mary Law Review*, 389-428.
- X (1987), 'Note: Private Causes of Action for Option Investors Under SEC Rule 10b-5: A Policy, Doctrinal, and Economic Analysis', **100** *Harvard Law Review*, 1959-1978.
- X (S.B.) (1985), 'Note: A Critique of the Insider Trading Sanctions Act of 1984', **71** *Virginia Law Review*, 455-498.

Cases

- SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833 (2d Cir. 1968), cert. denied, 394 U.S. 976 (1969).
Diamond v. Oreamuno, 248 N.E.2d 910, 912 (N.Y. 1969)
Freeman v. Decio, 584 F.2d 186, 194 (7th Cir. 1978)
Chiarella v. United States, 445 U.S. 222 (1980)
U.S. v. Newman, 664 F.2d 12 (2d Cir. 1981)
Dirks v. SEC, 463 U.S. 646 (1983)
SEC v. Switzer, 590 F. Supp. 756, 766 (W.D. Okla. 1984)
SEC v. Materia, 745 F.2d 197 (2d Cir. 1984), cert. denied, 471 U.S. 1053 (1985)
U.S. v. Carpenter, 791 F.2d 1024 (2d Cir. 1986) aff'd on other grounds 484 U.S. 19 (1987)
U.S. v. Chestman, 947 F.2d 551 (2d Cir. 1991) (en banc), cert. denied, 112 S.Ct. 1759 (1992)
U.S. v. Bryan, 58 F.3d 933 (4th Cir. 1995)
U.S. v. O'Hagan, 92 F.3d 612 (8th Cir. 1996)