

# The Insider Trading Debate

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**S**ECURITIES TRADING BY OFFICERS, DIRECTORS, AND OTHER KEY EMPLOYEES OF CORPORATIONS WHO HAVE ACCESS TO PRIVATE INFORMATION HAS GENERATED SOME OF THE MOST SENSATIONAL SCANDALS IN THE POPULAR BUSINESS PRESS. ONE OF THE MOST PUBLICIZED CASES OF INSIDER TRADING IS THAT OF IVAN F. BOESKY AND MICHAEL R. MILKEN IN THE LATE 1980S. MILKEN WAS SENTENCED TO TEN YEARS IN PRISON, THE LONGEST SENTENCE IN U.S. HISTORY METED OUT FOR VIOLATION OF INSIDER TRADING CODES. FOR HIS COOPERATION WITH THE GOVERNMENT, BOESKY RECEIVED A MORE LENIENT THREE-YEAR SENTENCE. BOTH WERE ORDERED TO PAY HUNDREDS OF MILLIONS OF DOLLARS IN DAMAGE ASSESSMENTS AND PUNITIVE PENALTIES. IN ADDITION, SEVERAL OTHER INVESTMENT BANKERS AND TRADERS WERE IMPLICATED AND PUNISHED IN THE CASE.<sup>1</sup> ANOTHER CLASSIC CASE OF ILLEGAL INSIDER TRADING, THE CASE OF TEXAS GULF SULPHUR COMPANY, IS BRIEFLY DESCRIBED IN BOX 1.

Unlike other illegal activities, insider trading remains, at least among economists and legal scholars, one of the most controversial economic transactions. A substantial body of academic and legal scholarship questions whether insider trading is even harmful, much less worthy of legal action. The views on insider trading range from moral revulsion to positive evaluations of its economic benefits. In turn, many scholars support the current restrictions placed on insider trading while others advocate a laissez-faire government policy. Why are there such sharply contrasting views? What different rationales are advanced for permitting and prohibiting

insider trading? This article explores the sources of the insider trading controversy and suggests a road map for blending the divergent scholarly opinions into a policy framework for regulating insider trading.

## **Legislating Insider Trading**

**A** publicly listed firm's "insiders" include its directors, officers, and other key employees. While the legal definition of who the insiders are may extend further (see Box 2), this article is concerned with this classic sort of insider. Trading by a firm's insiders on the firm's stock or derivative assets is not illegal unless,

loosely speaking, it is determined that the trading activity takes advantage of their confidential information regarding the firm's future prospects.<sup>2</sup> The essence of the existing laws on insider trading is that insiders must either abstain from trading on such information or release it to the public before they trade. A quick consideration of some particulars of the relevant laws may be helpful.

The governmental body in charge of regulating insider trading is the Securities and Exchange Commission (SEC), which was established by the Securities and Exchange Act of 1934 (referred to subsequently as the 1934 Act). The 1934 Act, its amendments, and additional legislation passed in subsequent decades formulate the legal bounds on insider trading. Among all the code sections, the broad language in Section 10(b)-5 banning any "manipulative or deceptive device" used "in connection with the purchase or sale of any security" is the most often cited legal basis for banning insider trading. The courts have interpreted this section of the law, in cases such as *Speed v Transamerica Corporation* (99 FSupp. 808, 828-32 [D. Del. 151]), as a broad prohibition of insider trading that takes advantage of confidential information. Sections 10(b) and 17(a) of the 1934 Act are interpreted as more generally prohibiting insider trading on material, nonpublic information about the firm. Section 16(b) requires the returning of short-swing profits by insiders to the corporation, with a short swing defined as "round-trip" transactions (a purchase and a sale or a sale and a purchase) within six months; and Section 16(c) prohibits short sales by insiders. As noted earlier, insiders are permitted to trade as long as the trading does not take advantage of confidential information; Section 16(a), however, requires that all trading by insiders be reported to the SEC within the first ten days of the month following the month in which the trading is executed.<sup>3</sup> The SEC publishes such transactions in its monthly *Official Summary of Insider Transactions* on the assumption that making insider trading transparent helps expose any illegal trades and thus serves as a deterrent.

Prosecution of insider trading was not very common until the second half of this century. Since 1961, insider trading regulations have become more restrictive through a number of cases and interpretations. In 1975 Section 32 of the 1934 Act was amended to increase the maximum criminal penalty fines to \$10,000 and the maximum prison sentence to five years. Vigorous enforcement of the stiffer penalties did not happen

until the 1980s though. Between 1966 and 1980 the SEC filed only thirty-seven cases of insider trading, and twenty-five of them were settled out of court; that is an average of only 2.6 cases per year, and the SEC sought or obtained disgorgement of profits in twelve of these (Seyhun 1992). From 1982 to 1986, according to Haddock and Macey (1986, 1987), the SEC initiated seventy-nine cases based on Section 10(b)-5, an average of 17.2 cases per year. Meulbroek (1992) reported that between 1980 and 1989 there were at least 464 defendants in the insider trading cases pursued by the SEC.

In 1984 Congress passed the Insider Trading Sanctions Act of 1984 (ITSA), which provides for up to three times the insiders' illegal profits in civil penalties and a tenfold increase in criminal penalties (from \$10,000 to \$100,000). As enforcement became more vigorous, the courts began imposing prison sentences in 1985, whereas none of the cases prosecuted before 1980 ended with jail sentences. In 1988, Congress passed the Insider Trading and Securities Fraud Enforcement Act (ITSFEA), which creates a bounty program for insider trading informants and holds the top management of a firm responsible for its employees' illegal insider trading activities. Moreover, ITSFEA increased the maximum criminal penalties to \$1 million and the maximum jail sentence to ten years. Trading partners who suffer losses because of insiders' illegal activities have the right to recover their losses under ITSFEA.

Despite the SEC's efforts to curb insider trading that is based on confidential information, there is evidence that insider trading is active and insiders' trading profits are excessive relative to the average market return. Seyhun documents that "corporate insiders earned an average of 5.1 percent abnormal profits over a one-year holding period between 1980 and 1984, increasing further to 7.0 percent after 1984, compared with 3.5 percent before 1980. During the 1980s, insiders increasingly sold stock before bad news. Moreover, after increases in regulations,

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1. For details about this particular insider trading event, see Stewart (1991).

2. A derivative asset is a security for which the payoff at a future time depends on the price of another security or the prices of several other securities.

3. Those who hold more than 10 percent of any equity class must also report their trading activity to the SEC. Whether they are covered by the other insider trading rules depends on whether they have actual access to corporate inside information (see Box 2).

## Insider Trading at Texas Gulf Sulphur Company

Insider trading not only concerns scholars and regulators but also attracts the attention of the general public. To get a practical idea of insider trading, consider the famous Texas Gulf Sulphur Company case (Manne 1966, 49).

Texas Gulf Sulphur Company was established in 1909. In 1959 its exploratory prospecting with magnetic surveying equipment produced some evidence that valuable deposits of copper, zinc, and silver might exist in an area of Ontario. In 1963 the first drilling confirmed the possibility, and the commercial value of the find proved to be enormous. The company instituted tight control of the drilling project so as not to leak the information to outsiders. Meanwhile, various officers, directors, and employees of the company, knowing this information and the fact that it was not released to the public, bought shares of, and call options on, Texas Gulf Sulphur Company or were given stock options by the company and tipped other people to purchase the stock or options of the company. These activities happened between November 12, 1963, and April 16, 1964, a period when the stock prices of Texas Gulf Sulphur Company were relatively low due to its lackluster performance in business.

Rumors about the company's discovery surfaced and became rife in mid-April 1964. By then the stock price had risen to \$29.375 from \$17.375 on November 10, 1963. On April 12, 1964, the company made an announcement, which the Security Exchange Commission (SEC) later accused of misleading the public, that the company's

drilling had "not been conclusive" and "the rumors about the discovery were unreliable . . . premature and possibly misleading," and originated with speculators not connected with the company. Four days later, on April 16, 1964, however, the company announced "a major ore discovery" of about 25 million tons of copper, zinc, and silver. The stock price jumped to \$71 on April 19, 1964. Those who had purchased or acquired stocks and options before this date reaped substantial financial gains.

In April 1965 the SEC filed a suit in the United States District Court for the southern district of New York against a number of individual defendants who were directors, managers, and employees of Texas Gulf Sulphur Company. The charges were based on the defendants' violation of Rule 10(b)-5 of the Securities Exchange Act of 1934 for "engaging in the purchase and sale of securities on the basis of information with respect to material facts relating to Texas Gulf acquired by said defendants in the course of their corporate duties or employment with Texas Gulf which information had not been made available to Texas Gulf, its stockholders and other public investors; (b) making available such information, directly or indirectly, to other persons for the purpose of permitting or allowing such other persons to benefit from the receipt of such information through the purchase and sale of securities; and (c) engaging in other conduct of similar purport and object." The SEC won the case.

data indicate that a larger volume of insider trading activity was followed by greater favorable abnormal price movements. Also, top executives appear to have traded on more valuable private information in the 1980s" (1992, 176). Keown and Pinkerton (1981) note that 40–50 percent of the price increase of an acquisition target firm occurs before the acquisition announcement, suggesting that some people have taken advantage of the information before it is available to the public. Meulbroek (1992), in a study of a pool of illegal insider trading cases, has made a more specific statement that 43 percent of the stock price increase for an acquisition target firm happened on the days when illegal trading occurred. Although insider trading is not prohibited if it technically does not violate the rules of the

SEC, the fact that insiders' trading profits are higher than others' may indicate that the rules currently in place are not serving their intended purposes.

Trading by insiders, whether legal or illegal, is substantial and increasing. Seyhun reports that "the number of shares traded by insiders went up by four times from the pre-1980 period to the post-1984 period" (1992, 176) and the frequency of high-volume insider trading also increased after the ITSA became law in 1984. These developments raise questions about the effectiveness of enforcement and the existence of loopholes in insider trading laws,<sup>4</sup> which are not the topics of this article. This discussion focuses instead on the fundamental question of whether it is desirable to restrict insider trading in the first place.<sup>5</sup>

## Who Is Affected by Insider Trading?

For understanding the effects of insider trading, it is helpful to categorize the agents involved or affected into several groups. Economic analysis of insider trading typically considers the following parties: insiders, market professionals, liquidity traders, and investors, who are defined as follows.

Insiders, as defined earlier, are the officers, directors, and other key employees of a firm who, by the nature of their employment, obtain or possess confidential information regarding the firm's prospects. An example of an insider is the chief executive officer or the chief engineer of the firm.

Market professionals are informed noninsiders, including securities analysts, brokers, or arbitrageurs, who have acquired private information regarding the firm's prospects by spending their own resources and who do not have any fiduciary relationship with the firm. For example, a security analyst may have called the firm's major customers and learned that they are not interested in buying its new product line.

Liquidity traders, sometimes referred to as "noise" traders, are short-term stock market participants who have some, usually negligible, holdings of the firm's shares and trade in order to hedge risk or balance their portfolios without consideration of a firm's prospects. An example of a liquidity trader is a large pension fund that buys and sells the firm's shares from time to time in order to meet the investment and redemption needs of its clients.

Investors may be small or large shareholders who have a long-term investment objective such that they "buy and hold." While not privy to management's private information, investors have a significant beneficial interest in the firm's actual performance. For instance, the heir to a substantial holding of the firm's stock who does not take an active role in its daily management is an investor.

Insider trading involves and affects each of the above classes of agents. If insiders were allowed to trade on their privileged information, they would of course reap trading profits. At the same time, insiders who are professional managers (see Box 2) may receive reduced compensation from investors to reflect the profits managers can earn from trading.

Insider trading also affects liquidity traders, who face the prospects of incurring losses when trading with agents

possessing superior information. On the other hand, if they avoid trading, they will lose the diversification/hedging benefits that prompt them to trade in the first place.

In addition, insider trading implies that informed noninsiders or market professionals face informed competitors in the financial marketplace. The rivalry between informed insiders and informed noninsiders may drive the latter out of the market, making prices less informative, or, by furthering competition, increase the speed with which information is released to uninformed traders. Insider trading has an impact on investors through its effects on both investors' trading profits (when they buy and sell holdings for liquidity reasons) and managerial incentives to create value. If insider trading were not prohibited by law, investors, especially large shareholders, would need to decide their firm's policy toward insider trading.

The legal and economic literature on insider trading attempts to weigh the trade-offs discussed above to formulate optimal policies. Different authors focus on different classes of actors and different types of effects. Given the number of classes of actors involved in and affected by insider trading and the multiplicity of effects, differences in focus have led to rather discordant assessments of insider trading and conflicting policy recommendations. The following sections review this literature. Because the bodies of legal and economic literature on insider trading have evolved somewhat independently, each is discussed separately.<sup>6</sup> A tentative synthesis of the arguments presented in the literature concludes the discussion.

## Legal Scholarship

For the most part the legal literature on insider trading attempts either to support the existing scope of 10(b)-5 or argue for its elimination. A number of rationales have been advanced within the legal community for prohibiting insider trading. These rationales fall into three broad categories—fraud theories, fiduciary-duty theories, and information-access theories. The earliest rationalization for restricting insider trading identified it as a fraudulent or exploitative business practice. In fact, such a perception appears to be the basis for the court interpretation of 10(b)-5 as a prohibition on insider trading.

4. For example, "passive" insider trading is something difficult to detect and not punishable. When there is favorable inside information, insiders may continue holding on to the firm's stock, which they would have sold otherwise. Conversely, they may refrain from buying (more of) the firm's stock when there is adverse inside information about the firm (Fried 1996).
5. There is some evidence that there is not a strong interest on the shareholders' part to restrict insider trading (Seyhun 1992) in the firms' code of ethics. But it should also be noted that this position is against the backdrop of existing restrictions from the SEC.
6. The division is along the line of the research but not the professional identity of the authors. Some legal literature authors are actually accomplished economists and vice versa.

## Who Is Covered by Insider Trading Laws?

No one disagrees that directors, officers, and key employees are corporate insiders, and there is no legal uncertainty about whether they are covered by the existing laws restricting insider trading. Because the purpose of this article is to look into the fundamental logic of whether or not insider trading should be banned instead of how to define insiders, focusing the discussion on the clearly defined “hard core” insiders seems appropriate.

The definition of who insiders are in legal practice is wider than the one used here. The major extension of the definition is based on the idea of fiduciary duty and information misappropriation. Directors, officers, and key employees of a firm bear a fiduciary duty to the firm, and any trading based on the confidential information obtained when they perform their corporate duties may be viewed as (1) breaching their fiduciary duties and (2) misappropriating information that belongs to the firm. With this rationale as the essential basis for banning insider trading, agents who are not directors, officers, or key employees of a firm but who bear fiduciary duties to the firm, such as the firm’s contracted lawyers, consultants, and investment bankers, would also be banned from trading on any information about the firm they have obtained when performing their duties.

This argument may be pushed further. If the information obtained from a firm by someone with a fiduciary duty to the firm is not about the firm itself but about some other firm(s), and the individual trades on such information, is he or she liable for breach of fiduciary duty or misappropriating information?

These are debatable questions regarding the legal definition of insiders, which future court cases are likely to gradually clarify. Some borderline rulings hint about the direction in which the courts are leaning. A famous case is *Chiarella v United States*. Vincent Chiarella was a worker in a financial printing company who figured out the names

of the acquisition target firms of the printing company’s clients and bought the stocks of the target firms prior to the public announcements. He was charged by the SEC with committing illegal insider trading. In 1980 the Supreme Court found him not guilty since he bore no fiduciary duty to the acquisition target firms and was therefore not an insider. A more recent case in point is *James H. O’Hagan v United States*. O’Hagan was a lawyer who made \$4.3 million by trading in stock options of the Pillsbury Company after learning that a client of his law firm was planning a takeover of Pillsbury. The SEC prosecuted O’Hagan with insider trading based on the misappropriation theory, which argues that though he owed no fiduciary duty to Pillsbury, his violation lay in his deceitful acquisition and misuse of information that properly belonged to those to whom he did owe a duty: his law firm and its clients. A federal appeals court rejected the SEC approach as unauthorized by Congress. But when the case went before the Supreme Court this year, the ruling was 6-3 in favor of the SEC.<sup>1</sup>

Another related front of development is that the SEC in 1980 began interpreting Section 14(e)-3 of the Securities and Exchange Act of 1934 as part of its anti-insider trading rules, making illegal the purchase or sale of a security by anyone who is in possession of material information relating to a tender offer if such information is acquired directly or indirectly from the issuer, an officer, or any person acting on the issuer’s behalf (Seyhun 1992). Based on this rule, no fiduciary duty relationship or intent to defraud is needed to convict someone who trades on the information of a tender offer. The SEC, however, experienced a setback in 1990 when its interpretation of Section 14(e)-3 of the 1934 Act was ruled by the court of appeals, in the *Chestman v United States* case, as having exceeded its rule-making authority.

1. *The Fourth and Eighth Circuit Courts in the cases of United States v Bryan (58 F3d 933, 949 [1995]) and United States v O’Hagan (92 F3d 612 [1996]), respectively, have rejected the extension of insider trading restrictions under the “misappropriation theory” to agents who do not have a fiduciary relationship to the firm. But other circuits accept the misappropriation theory. The Supreme Court split 4-4 in its consideration of the misappropriation doctrine (Carpenter v United States, 484 US 19, 24 [1987]).*

The evolution of legal scholarship leading to this view of insider trading is interesting. The common law does not, in general, impose any duty to disclose confidential information regarding material facts on the part of participants in voluntary transactions (Carlton and Fischel 1983). All that is required is that agents not make untruthful or deceptive statements regarding such facts. Because insider trading does not require affirmative misrepresentation, it is not surprising that it was legal before the turn of the century. At that time, concern for the excesses of the capitalism of the Gilded Age led to disparagement of insider trading. Further, some state securities commissions attempted to restrict the practice.

Following the first prohibitions on insider trading with the enactment of the 1934 Act, legal interpretations evolved in the 1940s through the early 1960s through a series of court decisions arguing that insider trading amounts to a dishonest and fraudulent practice used by informed investors to enrich themselves at the expense of uninformed investors and thus violates the general prohibition of manipulative and deceptive practices under Section 10(b)-5. In these accounts, insider trading restrictions protect “those who do not know market conditions from those who do” (*Charles Hughes & Co. v the SEC*, 139 F.2d 434, 437, 2d Cir. 1943). This line of argument emphasizes the adverse effect of insider trading on liquidity traders who incur trading losses. The extent of outrage felt by some scholars regarding these losses can be gauged by the fact that, when Manne (1966) raised economic argument favoring elimination of insider trading restrictions, some opponents of insider trading argued that the wrong inflicted by insider trading on uninformed investors is so great that, even if permitting trading increased economic efficiency, the ethical questions raised by the exploitation of uninformed investors would still weigh heavy enough to rationalize its prohibition because the gains are due to “unfair” behavior (Schotland 1967).

A basic question not addressed by the fraud rationale for prohibiting insider trading concerns the assumption that exploiting informational advantages for the purposes of security trading is unethical. All sorts of economic agents profit from informational advantages in a market economy, and such exploitation is not in gen-

eral viewed as unethical. Why then is exploiting an informational advantage in securities trading unethical?

This question brings the discussion to the second set of rationales the legal literature raises for prohibiting insider trading—those based on fiduciary duty. These arguments emphasize the effect of insider trading on the insider-investor relationship. The basic argument is that the agents engaging in prohibited insider trades obtain their information via fiduciary relationships, and trading on this information for personal gain represents a breach of duty. This position takes two forms. The first is a narrow variant that restricts the scope of fiduciary duty to corporate insiders. A second, more liberal version of the theory, frequently termed the “misappropriation theory” (Merwin 1996), interprets prohibitions against violating fiduciary duty as including third parties in possession of confidential firm-specific information (for example, contracted lawyers and accountants).

A fairly straightforward counterargument, even to the narrow variant of the fiduciary-duty theory, can be made based on the Coase (1960) theorem: If investors have a property right to inside information that is violated by the expropriation of this information by insiders for personal profit, why can investors not legally sell this right to corporate insiders? The Coase theorem implies that, absent regulation, any property right, including that to inside information, will be allocated to the party, investors or insiders, who values the right the most.<sup>7</sup> Thus, if the harm to investors from insider trading exceeds the profits to insiders from engaging in such trade, the firm will voluntarily prohibit insider trading. On the other hand, if the gains to insiders from trading exceed the costs to the firm, trading will be permitted since investors can sell to insiders the right to trade and both can profit. From this perspective, contractual arrangements within the firm, rather than government fiat, should determine insider trading policies.

A rejoinder can be made to this Coasian argument on the basis of transactions costs. The regulation of insider trading by contract is costly on two accounts. First, firms, lacking the enforcement technology available to the state (for example, surveillance of wire transfers), may find enforcement of contractual restrictions on insider trading very expensive. They may therefore

7. The Coase theorem is a classical argument in economics. It argues that regardless of how the legal system initially assigns property rights to agents, if trade is allowed and transactions costs are zero, agents will trade to efficient allocations. The classic example, offered originally by Coase (1960), is that of the allocation of pollution rights between farmers and railroads. Consider two different allocations of pollution rights: railroads may or may not have the right to emit soot that damages the crops of farmers. The Coase theorem argues that, if the economic losses from emitting soot to farmers do not exceed the economic gains to railroads from emission, emission will occur regardless of how the legal system allocates the right to emit soot. If railroads are granted the right to emit soot, they will simply retain this right. If railroads are prohibited from emitting soot, they will be willing to pay farmers enough to buy the right to emit soot. Conversely, if the economic losses to farmers from the emission of soot exceed the gains to railroads, soot will not be emitted; if railroads initially have the right to emit soot, farmers will be willing to pay enough to buy this right from them. Thus, the allocation of the property right to emit soot affects the wealth of farmers and railroad owners but does not affect the amount of soot emitted.

avoid prohibiting trading even if the costs of trading to the firm exceed the private benefits to insiders. Second, the parties affected by insider trading are numerous, including both current and future owners of the firms' shares. Even the interests of the shareholders on record at a given point in time are not the same regarding insider trading. Investors following buy-and-hold policies know that any losses from insider trading incurred when selling their shares will occur in the distant future and thus be fairly insignificant in present-value terms. Thus

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they may prefer compensating managers by offering them insider trading profits. Shareholders who plan to trade actively in the near term, with some liquidity traders in this category, may feel differently. If the cost of case-by-case contracting is high on average, a flat prohibition on such trading may improve welfare.

The third category of legal theories rationalizing insider trading prohibitions moves away

from considering the effect of trading on managers and investors and returns the focus to its impact on liquidity traders. However, in contrast to the arguments cited above that stress the harm to the individual uninformed trader, scholars in this camp stress the aggregate effect of trading on the market. These "information access" theories argue that the information possessed by insiders is special because it either (a) cannot be legally obtained by other investors (Brudney 1979) or (b) is residual, that is, not produced for its own sake but rather as a by-product of other managerial activities (ten Oeuve 1997). Because insiders have the only legal access to certain kinds of information, they have an "insurmountable" advantage when trading with other market participants. The presence of investors with such advantages renders financial markets unfair (Brudney 1979). If information possessed by insiders is residual, prohibiting them from profitably trading on their information will not reduce information acquisition activity (ten Oeuve 1997)—even if not compensated via insider trading profits, managers will still produce information in the course of administering the firm. Banning insider trading, however, by increasing the confidence of uninformed investors may lower the premium they require to transact and in turn lead to more stable and liquid markets. Proponents of informational rationales argue that the primary congressional motivation for Section 10(b)-5 of the 1934 Act was to increase the stability and fairness of the securities mar-

ket (Brudney 1979). (The arguments against insider trading based on its effect on market liquidity will be revisited in a later section.)

These arguments rationalizing the prohibition on insider trading have been countered by arguments from legal scholars representing the "law and economics" school of thought at the University of Chicago. Manne (1966) provides the classic exposition of this viewpoint in favor of insider trading. Manne advances two defenses. The first is that trading by insiders allows information to be rapidly impounded in the prices of securities. As a result, the efficiency of capital markets increases. Because firms use securities prices in making investment and capital budgeting decisions, increases in price efficiency will lead to higher levels of economic output. This argument points to the social gains from insider trading as reasons it should not be prohibited by the state; however, it does not explain how investors, liquidity traders, and market professionals gain from insider trading and thus why investors should permit insider trading. Carlton and Fischel (1983) address this issue by noting that increased price efficiency can benefit firms by reducing investor uncertainty. They also point out that price efficiency established by insider trading, as opposed to direct disclosure, may better protect confidential corporate information.

Manne's second argument in favor of permitting insider trading holds that security trading can improve the alignment of interests between outside claimants and management by allowing managers to profit from the appreciation in firm value their efforts engendered. Of course, the salience of this argument is somewhat muted by the obvious rejoinder, offered by opponents of insider trading, that managers may as easily profit by taking short positions and engendering corporate failures. Manne argues, however, that, although the security market profits may be the same for success as they are for failure, almost all non-trade-related incentives, such as compensation and reputation, favor engendering success and thus, given the neutrality of the trade-related incentives, insiders would never produce "bad news" solely in order to trade on such news. Further, as Macey (1991) points out, even if managers had an incentive to engage in such short trades, it would always be possible to place broad restrictions on the direction of their trading activities, precluding trading on "bad news" (that is, short sales) but permitting trading on "good news" and thereby eliminating this incentive problem.

Manne's arguments on the incentive effects have been extended and clarified by a number of others. Easterbrook (1985) argues that insider trading may increase the managers' willingness to take on risk.<sup>8</sup> This bias toward risk may actually be beneficial because other factors that affect managerial proclivities toward risk taking, such as firm-specific human capital, will bias

managers against risk taking.<sup>9</sup> For example, insider trading opportunities represent an antidote to the propensity toward conservatism and excessive caution generated by managers' desire to protect their jobs by avoiding risky projects. Easterbrook and Fischel (1991) argue that in fact the current prohibition on realizing short-swung profits, even if private information is disclosed as required by 16(b) of the 1934 Act, actually exacerbates the conservatism of managers by forcing them to hold large portions of their wealth in corporate stock rendered illiquid by insider trading restrictions.

Yet another extension of Manne's argument for the incentive-alignment effects of insider trading is provided by Carlton and Fischel (1983). They point out that firms, when hiring managers, frequently have difficulties assessing both the talents of managers and their willingness to take risks necessary to create economic value. Offering contracts for compensation via insider trading rather than fixed salaries would help distinguish the kind of high-quality managers sought and resolve this uncertainty. In other words, by accepting lower levels of explicit compensation in exchange for more opportunities to engage in insider trading on personal accounts, managers would have the opportunity to demonstrate superior abilities and a high level of risk tolerance. Thus, making insider trading opportunities part of the menu of contracts available when hiring managers could resolve some uncertainty regarding managerial attributes and abilities to the benefit of the firm.

### Economic Models

Microeconomic theorists have also addressed the issues surrounding insider trading restrictions by formulating models of the insider trading process. Such models, for reasons of tractability, cannot each include all the groups of agents involved but necessarily concentrate selectively on a limited number of the many effects of insider trading. Their analysis may therefore lead to varied, even opposing, conclusions about those effects, depending on the specification and parameters of the models. On the other hand, a formal analysis forces the researcher to make assumptions explicit and to trace out all the latent causal effects rigorously. The possible costs and benefits to insider trading, some of which are covered in the largely informal and heuristic treatment in the legal literature, may hence be logically confirmed or refuted in these clearly

defined models, providing additional insights into insider trading and a partial foundation for rationally weighing the question of its regulation.

The effects of insider trading considered in economic models may be usefully classified into two categories—effects on aggregate economic performance and effects on the relative welfare of different market participants. Aggregate variables considered include the liquidity of the firm's stock, the firm's capital cost, the information content of the stock price, and the level of investment. Such variables are significant only in certain economic contexts. Liquidity, for example, is an indicator of the ability to sell quickly, which can influence attractiveness to potential buyers. The cost of a firm's capital may affect its future development as it measures its capability to raise new capital. The informativeness of a firm's stock price is relevant to the risk of investing in the firm, which is an important factor in determining demand for it. The investment level indicates how many resources are devoted to expanding the firm's, and possibly therefore the economy's, production capacity.

The second category of economic variables concerns the relative impact of insider trading on the different agents—that is, on who gains and who loses if insider trading is restricted. When discussing relative impact on welfare, any simple categorization of agents involved in or affected by insider trading may not be perfect. In fact, each model used in the economic research may be slightly different in this aspect. Despite this shortcoming, the taxonomy of insiders, market professionals, liquidity traders, and investors serves as a unified if rough framework for summarizing and presenting the existing economic literature.

**Effect on Aggregate Economic Variables.** Several models imply that allowing insider trading of a firm's stock would reduce its liquidity but improve the informational efficiency of its price. Moreover, insider trading would raise the firm's cost of capital. For example, Manove (1989) assumes that a firm's insiders have private information regarding future corporate cash flows. Permitting insider trading increases the trading losses that liquidity traders incur when they sell to meet liquidity needs, thereby discouraging their trading activity and lowering the liquidity of the firm's stock. Insiders and investors, facing the reduced liquidity, will attach a liquidity discount when buying the firm's stock, which drives up the firm's capital cost. At the same time, however,

8. The argument for insider trading increasing risk-taking incentives is as follows: Prices represent unbiased forecasts of true firm value conditioned on all publicly available information. Insiders have better information than the market and thus can earn trading profits by buying if and only if market prices are too low given their private information. Since market prices are not biased, the likelihood of a large difference between true value and market value is proportional to the market's uncertainty regarding future firm value. Thus, insider trading profits will be positively related to the variability of firm cash flows.

9. Bebchuk and Fershtman (1994) formalize the argument.

insiders' private information will be incorporated into the stock price through their trading activity, thus enhancing the informativeness of the stock price and reducing the risk of owning the stock.

Most models also show that the price of a firm's stock will be more responsive to random changes in order flow on stock exchanges if insider trading is permitted because people will infer that such changes are most likely due to insiders' activity based on their superior information. The increased responsiveness further reduces the liquidity of the stock. These results are found, for example, in models by Leland (1992), Noe (1997), Hu and Noe (1997), Dye (1984), and Shin (1996)

but partially refuted by Ausubel (1990) and Fishman and Hagerty (1992), among others.

Shin's argument considers the interaction between insiders and market professionals. He points out that market professionals may have also acquired private information regarding the firm. Competition between market professionals and insiders in using their information will

influence the stock price. Allowing some insider trading may improve the informational efficiency of the stock price while it may also alleviate trading losses by liquidity traders. The key consideration in his conclusion is the "appropriate amount" of insider trading to match market professionals' trading. If the balance is not achieved, then insider trading may not be as salubrious.

Although Shin (1996) considers the interaction between insiders and market professionals, his model does not feature market professionals' decisions about spending resources on information acquisition. Fishman and Hagerty (1992) consider this factor and present a scenario in which insider trading leads to a stock price that is less efficient in providing information. Insider trading may deter market professionals from acquiring information and trading the stock and, consequently, reduce the total amount of information impounded into the stock price. Market professionals have the option of becoming informed by spending resources to investigate the firm's prospects. Insiders have costless access to such valuable information. When insiders' information is too good and is used in their trading, it may not be worthwhile for market professionals to expend resources. Thus under certain conditions, the presence of insiders may discourage market professionals or

crowd them out, leading to less efficient stock prices. Fishman and Hagerty also show that, when insider trading is allowed, the better the information that insiders have, the less efficient the stock price is. For a given aggregate amount of information acquired by all traders, the stock price efficiency increases with the number of market professionals. Finally, for a fixed number of market professionals, stock price efficiency is maximized when information is evenly distributed between professionals and insiders.

Ausubel (1990) offers a contradicting point. He argues that banning insider trading actually takes away the incentive of insiders to hide their private information and may result in its earlier revelation, promoting the informational efficiency of stock prices.

A firm's investment can also be increased or decreased by insider trading. Ausubel (1990), for example, argues that insider trading reduces investment. Because investors expect insiders to take advantage of them, investors may price the investment capital accordingly, resulting in a reduction of their capital injection. Insiders may reduce their contribution to the capital as well because they know that the quality of the investment deteriorates as the capital from outsiders is lower. Banning insider trading therefore provides a greater return on investment, which induces greater investment by investors and in turn improves returns to insiders and encourages greater investment by the insiders as well.

Manove (1989) has concluded that insider trading alters investment levels in two ways. Using an argument similar to Ausubel's, he suggests that insider trading may depress investment activity below the socially optimal level. On the other hand, it may lead to wasteful increase in investment; in his model, investors overinvest to eliminate uncertainty (this idea is discussed in more detail in the next section). Leland's (1992) model also predicts that a firm's investment will rise if insider trading is allowed, but he concludes that such increased investment may have some benefits.

**Effect on Relative Well-Being of Agents.** The welfare effects of insider trading on different agents vary. Economic models help to identify them and serve as guides for weighing the benefits and costs of regulation to each group.

Economists generally agree that any informed trading, including insider trading, hurts liquidity traders, who may be forced to trade in order to balance their portfolios or hedge their positions but are at an informational disadvantage and inevitably lose money to insiders and other informed traders.<sup>10</sup> This argument is confirmed in the analysis by, for example, Manove (1989), Noe (1997), Fishman and Hagerty (1992), and Leland (1992). A clever counter argument is found in Shin (1996), who points out that insiders are not the only ones who profit

**The effects of insider trading considered in economic models may be usefully classified into two categories—effects on aggregate economic performance and effects on the relative welfare of different market participants.**

from information asymmetry at the expense of liquidity traders; market professionals gain as well. According to Shin, allowing a certain amount of insider trading may actually alleviate liquidity traders' losses because insiders and market professionals have to compete with each other in exploiting their informational advantage. This competition results not only in faster and more thorough revelation of insiders' and market professionals' information but also in smaller losses for liquidity traders.

Some studies show that market professionals may be placed in a worse position if insider trading is permitted. Unlike insiders who acquire private information about a firm without incurring any cost other than performing their corporate duties, market professionals obtain this information by deliberately expending effort and money. Allowing insider trading would mean smaller returns on these expenditures and would diminish the value of market professionals' information (Shin 1996; Fishman and Hagerty 1992). In some cases market professionals may drop out of the market because they cannot compete against insiders, who acquire information at no cost (Fishman and Hagerty 1992).

Would insiders always be better served by being able to trade on their privileged information? The answer is not straightforward because of the strategic interaction between insiders and investors. Insiders could be expected to trade on their unique information only if they were able to reap trading profits. But at the same time, the compensation they receive for performing their corporate duties may be adjusted by investors to reflect the profits they can earn from such trading. Investors, if in complete or partial control of the firm's key policies, may also take other actions, such as adjusting the firm's investment to advance their own interests, that can change the welfare of insiders. Therefore the welfare effects of insider trading on investors and insiders are not obvious.

Leland (1992) suggests that insiders are most likely to have net welfare gains if insider trading is permitted, but the welfare effects on investors are mixed. Among investors, those who own the firm from its inception, whom Leland calls "project owners," will gain from allowing insider trading while those who invest later—"outside investors"—will be hurt. Insiders gain because of their trading profits at the expense of liquidity traders and outside investors. Part of the gain for project owners is from the higher stock prices due to insider trading, which give their original investment a higher market value, especially if outside investors respond favorably to a more informative stock price.

Alternatively, as mentioned above, Manove (1989) argues that, when insider trading is permitted, investors may overinvest in the firm to diminish insiders' informational advantage. Increased investment may reduce uncertainty in the firm's prospects by increasing the chance of its success, and the reduced uncertainty in turn renders insiders' confidential information less valuable. Investors have an incentive to decrease the value of insider information because they may ultimately liquidate their own positions, and informationally advantaged insiders could then exploit investors' trades. The overinvestment ultimately results in a reduced return on the firm and an increased relative share of profits for investors, which may harm both insiders and investors. In the same model, Manove provides another scenario, in which investors, understanding that they will lose to insiders when they liquidate their positions, rationally decrease their investment because of lower actual returns. The underinvestment in the firm hurts both investors and insiders. Whether over- or underinvestment occurs depends on the specific parameters of the model. If the confidential information of insiders is about some unusual event that may not be easily diminished by overinvestment, then underinvestment is more likely. When the insiders' confidential information is of some general nature, investors may overinvest to diminish insiders' information advantage.

Ausubel (1990) has provided a technically different model supporting the underinvestment story by Manove. In Ausubel's model, two groups of investors invest in the firm at inception, one of them to process private information while the other does not. Ausubel calls the former insiders and the latter outsiders. Consequently, outsiders have only partial control of the firm or project. With insider trading permitted, not only outsiders but also insiders reduce their investment, decreasing the value of the firm and hurting the welfare of both. In other words, insiders' losses from diminished investor confidence may more than offset their trading gains. Ausubel shows that if insider trading were considered in isolation from its impact on the initial investments by outsiders and insiders, its welfare effect would be merely redistributive—that is, the decreased welfare of outsiders would equal the increased welfare of insiders.

When investors are in complete control of the firm, the question arises about how insider trading opportunities alter the compensation packages of insiders. Noe (1997) presents a model in which the trading profits of insiders are an inexpensive substitute for insiders' wages that ensure the same effort from them. That is to say,

*10. Informed trading by noninsiders is generally tolerated by those opposed to insider trading under the rationale that a non-insider's information does not result from having a special position that allows access to the firm's information. In theory, any investor can become an informed trader if he is willing to invest the necessary resources. The option to become an insider is not generally available.*

investors get a bigger share of the firm's profit if insider trading is allowed and the welfare of investors is increased while the welfare of insiders is decreased. Hu and Noe (1997) show that the information revealed through insider trading may be so valuable to investors that their losses to insiders may be more than compensated for. Investors can use the information to adjust their investment portfolios optimally and modify insiders' compensation packages to their own advantage, probably ending up with a net welfare gain. The welfare of insiders may also be improved because the trading profits can arguably exceed the losses in their direct compensation.

An appropriate measure of overall economic efficiency depends on the economic context as well as on value judgments. It is therefore difficult to define a universal measure for deciding whether overall economic efficiency is improved or impaired by allowing insider trading, except in the case in which the welfare of all the agents involved increases or decreases. As discussed above, most studies have shown different welfare effects of insider trading on different agents. Hu and Noe have provided a possible scenario in which both investors and insiders, who are the only agents in their model, gain from permitting insider trading. On the other hand, Ausubel has provided an example of just the opposite—that is, all agents lose when insider trading is allowed.

### **Policy Implications: An Illustration with Hypothetical Cases**

Two hypothetical situations illustrate how theory, with the help of empirical research, can be translated into policy. First, consider an economy that empirical research has identified as fast-developing, characterized by numerous positive net-present-value projects, a lack of experienced outside analysts, and insiders who tend to have major stakes in firms' ownership. In such an economy, the theoretical consensus indicates that permitting insider trading may be optimal. Ensuring maximal price informativeness and thus optimal allocation of capital across sectors is especially important. Given the lack of other information sources, insider trading will have a strong positive impact on price informativeness and thus will strongly further this goal. Because of the abundance of good projects, an increase in the costs of capital will have little adverse effect on investment. Further, because insiders have major ownership stakes, their interests are closely aligned with the other owners' interests and thus any adverse effects of trading in terms of agency costs can be minimal.

On the other hand, consider an economy characterized by a separation of ownership and management, a sophisticated system of security analysis, and a mature investment climate in which most projects return the average market rate. In this economy prohibiting insider trading may be optimal. The separation between owner-

ship and management implies that investors will have an incentive to substitute cheaper compensation based on insider trading for expensive salary packages designed to ensure high performance. At the same time, managers have an incentive to manipulate project returns to increase risk. The adverse effects of insider trading on market liquidity can decrease investment. The presence of a sophisticated security analysis industry, at the same time, can reduce the importance of insider trading for market efficiency. Thus, in this case the costs of permitting trading may be outweighed by the benefits of prohibiting it.

### **Conclusion**

As the above discussion elucidates, the policy recommendations proposed by scholars regarding the regulation of insider trading differ widely. The disparity can be traced to (a) differences in the criteria used to evaluate insider trading and (b) differences in assumptions regarding the importance of the distinct effects of insider trading activity for overall economic well-being. Differences in criteria for evaluating insider trading, ethical versus economic, are apparent primarily in the legal literature on insider trading. Some legal scholars (for example, Schotland 1967) believe that insider trading is immoral per se and that state regulation should thus prohibit such trading even if it is economically beneficial. It is difficult, if not impossible, to resolve the conflicts in opinion about such issues.

Little if any of the divergence of opinion expressed in the economic literature can be attributed to disagreements over the basic criteria for evaluating insider trading. Instead, the divergence can primarily be ascribed to disagreement over which effects of insider trading will have the most significant impacts on economic well-being. Despite these disagreements, there is a common core of opinion regarding the effects of insider trading on certain economic variables under some circumstances. In fact, this common core of opinion can be summarized fairly simply in three points: (1) Whenever other informationally advantaged investors are absent or insignificant, insider trading increases trading losses to investors and liquidity traders and makes markets less liquid. Otherwise, insider trading, by increasing competition between informed investors, may assist investors and liquidity traders. (2) Unless other informed agents are crowded out of the financial market, insider trading renders prices more informative, potentially increasing the efficiency of investment and capital budgeting decisions. (3) Insider trading opportunities provide low-cost, high-powered incentives for managerial performance. However, the incentives provided are imperfect for two reasons: insider trading encourages managers to undertake risky activities and investors to underprovide more traditional forms of compensation that may lead to increased managerial performance and reduced risk taking.

Policymakers' decision to regulate insider trading may depend on the structural characteristics of the economy. For any given economy, this issue is an empirical one to be addressed by research. The results of this research could then be effectively combined with the conclusions of theory to produce practical policy guidelines.

In general, deriving policy from theory will not be as easy as it was in the two hypothetical examples given. It may be difficult to assess empirically the values of the key variables, or the estimated value of the variables

considered in isolation may point toward conflicting policies. However, this discussion does show that the voluminous literature on insider trading identifies a number of important variables to be considered when formulating policy on insider trading. Designing such policy requires a detailed assessment of the structure of the economy, some sensitivity to cultural attitudes toward the appropriateness of such trading activity, and careful consideration of the enforcement costs associated with regulating trade.

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