1987

A Coasian Model of Insider Trading

Jonathan R. Macey
Yale Law School

David D. Haddock

Follow this and additional works at: https://digitalcommons.law.yale.edu/fss_papers

Part of the Law Commons

Recommended Citation
https://digitalcommons.law.yale.edu/fss_papers/1774

This Article is brought to you for free and open access by the Yale Law School Faculty Scholarship at Yale Law School Legal Scholarship Repository. It has been accepted for inclusion in Faculty Scholarship Series by an authorized administrator of Yale Law School Legal Scholarship Repository. For more information, please contact julian.aiken@yale.edu.
A COASIAN MODEL OF INSIDER TRADING

David D. Haddock*
Jonathan R. Macey**

I. INTRODUCTION

Coase's pioneering observation that contracting parties, absent transactions costs, will reach a Pareto efficient allocation of property rights seems to have particular force when applied to the dilemma of insider trading. In this Article we seek to bring Coase's insight to bear on the insider trading debate: We consider what intrafirm rule shareholders would select if they could decide for themselves whether to permit their insiders to trade on information not yet reflected in the price of their firm's shares. In the context of insider trading, the relevant parties—insiders and shareholders—are in privity of contract1 because of the insiders' employment with the shareholders' firm. As we will see, the

---

* Associate Professor of Economics, Emory University. B.A., Oklahoma State University (1966); Ph.D., University of Chicago (1980). Research for this Article originated while Professor Haddock was a Research Fellow in Civil Liability at the Yale Law School.

** Associate Professor of Law, Emory University School of Law; Visiting Associate Professor of Law, University of Virginia Law School. B.A., Harvard University (1977); J.D., Yale University (1982).

We have received helpful comments on earlier versions of this Article from William J. Carney, Frank H. Easterbrook, Jens Fejo, Victor Goldberg, D. Bruce Johnsen, Barbara Klose-Ullmann, Roberta Romano, Cliff Smith, Peter Zweifel, and particularly Michael Dooley. We also have benefitted from comments received in presentations at the European Association of Law and Economics, at a Liberty Fund Conference on Insider Trading, and at the University of Munich.

1 For a publicly held firm, the preexisting contractual relationship that provides the basis for the privity of contract between shareholders and insiders manifests itself in the firm's articles of incorporation. In addition, the primary purpose of state corporate law is that it serves as a standard set of implied contract terms that free firms from the burden of stipulating these terms anew every time they transact. R. Posner, Economic Analysis of Law 296 (2d ed. 1977). Similarly, an individual firm is free to alter the terms of the state law standard form contract if (net of transactions costs) it finds that such an alteration is advantageous.

The above discussion is a straightforward application of the basic principle of corporate finance that a firm is a nexus of contractual relationships. Shareholders, like other participants in the corporate enterprise such as creditors and employees, define their relationship with the firm in contractual terms. Indeed, the very existence and survival of the corporate form of business organization can be explained by the gains associated with dividing the management and risk-bearing attributes of ownership into separate components through incorporation. See Fama, Agency Problems and the Theory of the Firm, 88 J. POL. ECON. 288, 291-93 (1980).

As applied to insider trading, the fact that a firm's articles of incorporation represent a preexisting contractual relationship between shareholders and managers means that the transactions costs of inserting a prohibition on insider trading within the intrafirm corporate contract is de
nature of this relationship acts as an incentive to both outside shareholders and insiders to allocate the right to trade on inside information to the group that values it most highly. We begin by assuming there are no transactions costs and, perhaps more importantly, no agency costs. In parts V and VI, we relax these assumptions.

Carlton and Fischel were the first to apply Coase's insight to insider trading. Our analysis expands on theirs in three ways. First, we consider how a competitive market for managers affects shareholder demands for an intrafirm rule constraining insider trading. Next we examine the impacts of risk aversion and managerial preference for receiving income from insider trading as opposed to traditional forms of compensation. Finally, we consider the ramifications of both of these phenomena in light of the differing levels of information-processing ability among the shareholding population.


On the other hand, while the costs of writing a prohibition against insider trading into a firm's corporate charter may be quite low, the costs of enforcing such a provision are likely to be extremely high. This will be due, in large part, to the high costs of monitoring and detecting insider trading activity. See Easterbrook, Insider Trading, Secret Agents, Evidentiary Privileges, and the Production of Information, 1982 Sup. Ct. Rev. 309, 334 [hereinafter Easterbrook, Insider Trading]. But, as one of us has explained elsewhere, high enforcement costs and probable economies of scale in enforcement suggest only that firms who wish to ban insider trading may be willing to pay outsiders, such as the SEC or the New York Stock Exchange, to monitor and enforce an intrafirm prohibition on insider trading; they do not justify a general prohibition on insider trading. See Macey, From Fairness to Contract: The New Direction of the Rules Against Insider Trading, 13 Hofstra L. Rev. 9, 59-63 (1984).

The final issue that must be considered when looking at insider trading from a contractual perspective is the question whether firms are so dominated by their managers that they will not insert prohibitions on insider trading into their corporate charters even if the net wealth of the firm would increase if they did so. As Carlton and Fischel have observed in precisely this context, in a competitive capital market the firm that does not provide shareholders with the highest rate of return will not survive. See Carlton & Fischel, supra, at 857. And a famous insight of Jensen and Meckling is that the original owner-entrepreneurs of a firm will bear the full costs of any avoidable anticipated divergence between the interests of public investors and managers because the investors will reduce the price they pay for the firm's stock in the initial public offering by the full amount of any anticipated divergence. Jensen & Meckling, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, 3 J. Fin. Econ. 305 (1976).

In sum, if it is in the interests of the shareholders of particular firms that insider trading be banned or curtailed, it is highly likely that, over time, such bans or restrictions will appear in the charters of such firms. There is, of course, a contrary school of thought which suggests that managers systematically are able to rob shareholders of their invested wealth. See, e.g., A. Berle & G. Means, The Modern Corporation and Private Property (1932); Eisenberg, The Modernization of Corporate Law: An Essay for Bill Cary, 37 U. Miami L. Rev. 187 (1983). This school of thought has been discredited by the available empirical evidence. See Easterbrook, Managers' Discretion and Investors' Welfare: Theories and Evidence, 9 Del. J. Corp. L. 540 (1984) [hereinafter Easterbrook, Managers' Discretion], for a masterful review of the competing hypotheses and the relevant evidence.

2 Carlton & Fischel, supra note 1, at 863.
propriety of insider trading is that the critics and supporters of the practice are talking past each other. Either side can generate examples that make it patently clear that theirs is the sensible view, but since their views are mutually inconsistent, it is logically impossible to reach a mutually satisfactory outcome. Instead, we focus here on the underlying attributes of the trading economy and the law that governs it. We discover situations in which insider trading is beneficial to firms, as well as situations in which it is harmful. More importantly, we discover that outside shareholders in publicly held firms can distinguish between these situations *ex ante* and therefore would be expected, in the absence of transactions costs, to draft contractual agreements that grant insider trading privileges to managers as part of their total compensation package.

We find that in firms in which shareholders are not second in line behind insiders to receive the information that results in trading profits, shareholders will benefit by striking a bargain with insiders that allows the insiders to trade in exchange for a reduction in their wages. By contrast, in firms in which the insiders are risk averse and shareholders are the next-best information processors after insiders, a mutually beneficial bargain that bars insiders from trading would likely be struck between shareholders and insiders. But even here, an externally imposed ban on insider trading seems unnecessary; we suggest instead that shareholders will demand that managers accede to a private contractual ban as a condition of employment. Thus, it is not surprising that each side of the debate can generate plausible scenarios to bolster its position.

Moreover it is not at all clear to us that the current enforcement apparatus of the Securities and Exchange Commission (SEC) is necessary to supplement in the common law courts the regime of private enforcement that would take place if a "Coasian" system of private contracting were permitted to exist. While the SEC's present rules banning insider trading may well be supportable under certain theoretical conditions, the SEC's refusal to permit firms to opt out of its rules suggests to us that the ban is motivated by political rent seeking rather than a quest for economic efficiency.

---

3 See infra text accompanying note 25.
4 See infra text accompanying notes 26-27.
5 As one of us has explained elsewhere, economies of scale in monitoring suggest that it may be efficient to have a single organization monitor and report on insider trading. But it does not follow that it is necessary to have the SEC conduct such monitoring and reporting since it already is being done by the organized stock exchanges and by the National Association of Securities Dealers (NASD). See Macey, supra note 1, at 58-63.
II. THE EFFECTS OF INSIDER TRADING ON SHAREHOLDERS

We begin our analysis by examining the effects of several possible insider trading rules on the price of shares of a hypothetical firm. The effect on share prices of an event that alters the present value of a firm's future net income is indicated in the accompanying figures. (See Appendix A.) In Figure 1, the event has a positive impact on share prices; in Figure 2, a negative one.

The solid lines in Figures 1 and 2 track the movement in the price of the firm's stock over time if there is a perfectly enforced ban on trading by anyone who has an informational advantage over the current shareholder group. The dotted lines represent the movement in the share price if the ban on insider trading is not perfectly enforced and, thus, is only partially effective. This line reflects the expectation that some traders—most likely a combination of insiders and market professionals—will trade on the information before the shareholder group, either by violating the law or by legally acquiring news in advance of its official announcement through research and analysis. The dashed lines represent the price movement with insider trading legalized both by statute and by contract.

As shown by the solid lines in Figures 1 and 2, when insiders are effectively barred from trading, the price of the stock will remain at the preevent level until the event is announced. There is no informed trading which signals the market that something important has taken place or is about to take place. Outside shareholders will not alter their trading patterns, but will continue to make their usual adjustments to their portfolios as though nothing had happened. If the news is good, those outsiders who buy shares of the firm between the event and its announcement will be better off if there is an effective ban of insider trading. Any insider trading would have driven the stock price up more quickly, requiring the buying outsiders to pay more to acquire shares.

Just as buying outsiders are better off, ceteris paribus, if insiders are prohibited from trading when the news is good, selling outsiders are worse off because they do not obtain as much for their shares as they would have if insider trading were permitted. This is ironic, since it is precisely these selling outsiders that the SEC and the courts maintain are harmed by insider trading. Indeed, such selling outsiders are the only group permitted to bring a private cause of action under the SEC's rule 10b-5.

---

7 Of course, outsiders who buy or sell before the event date or after the announcement date are totally unaffected by insider trading.

8 See Macey, supra note 1, at 24-30 (discussing theoretical underpinnings of current liability rules).

Insider Trading

As Figure 2 indicates, if the news is bad, the situation is reversed. Selling by insiders will be expected to drive the price of the stock down more quickly, making it possible for buying outsiders to purchase at a lower price than otherwise. Outsiders who sell between the event and its announcement will be better off without insider trading because they can dispose of their shares at a higher price than if the price had been driven down more promptly by insider trading. But outsiders who buy during the interim period are worse off without insider trading because they pay a higher price for the firm’s shares.

Thus, *ex ante*, outsiders can expect sometimes to gain and sometimes to lose if insiders are effectively prohibited from trading. The accompanying graphs thus indicate that, if we neglect the impact of insider trading on managerial salary and motivation, shareholders who hold a diversified stock portfolio and follow a “buy and hold” strategy are indifferent about whether the insiders of the firms in which they own shares are banned from trading.

If, for example, there is an event that causes a positive shock to the value of a firm, and an outsider happens to be selling his stock during the period between the event date and the date on which the event is publicly disclosed, the outsider is better off if insiders are trading (the insiders, of course, will be buying in expectation that the firm’s share price will rise after the good news is announced) because the value of the firm’s shares will be driven upward by such trading. On the other hand, shareholders who happen to be buying when the insiders are buying are made worse off because, as Figure 1 indicates, the price these shareholders must pay is now higher than it would have been in the absence of insider trading.

It is worth noting that the only diversified outside traders with standing to sue in cases of either upward or downward fluctuations are actually helped by insider trading. It is well established that plaintiffs in cases brought under rule 10b-5 must be actual purchasers or sellers. Purchasers can bring suit only against selling insiders and sellers can bring suit only against buying insiders.10 *Ex ante*, because investors who hold diversified portfolios expect to buy when insiders are buying as often as

---

16(b) of the Securities Exchange Act of 1934, 15 U.S.C. § 78p(b) (1982). Rule 10b-5 was promulgated pursuant to the SEC's authority under section 10(b). Section 10(b) gives the SEC authority to prohibit "any manipulative or deceptive device or contrivance." *Id.* Rule 10b-5 states,

It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails, or of any facility of any national securities exchange,

(a) To employ any device, scheme, or artifice to defraud,
(b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
(c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.


10 *See supra* note 9.
they expect to sell when insiders are buying, such investors are unaffected in the long run by the nature of the rule against insider trading, unless they expect to bring suit to recoup their losses on some occasions while retaining their profits on other occasions. Similar remarks apply when insiders are trading. Consequently, the proponents of the rule against insider trading must be championing the interests of some group other than diversified investors. As we will see, this group inevitably will consist of those traders who will be the first to acquire the valuable information that would have formed the basis for the insiders' trading if they were allowed to trade.

At any moment, those whose trading is not a function of nonpublic information have an equal probability of being a winner or a loser, all else being equal. But all else is not equal. As discussed more fully below, the insiders are employed by these outside shareholders, and insiders will forgo some increment of fixed salary in exchange for the right to engage in insider trading. It is for this reason that the outside shareholders have an incentive to permit insiders to engage in insider trading: it will lower the firm's payroll expenditures.

Another reason why outsiders may be concerned with the insider trading rules is that such trading may affect the variance in a firm's share price. It may well be the case that insider trading will decrease the day-to-day variance in the share price because price adjustments become less abrupt. But, as others have suggested, it is also possible that permitting insiders to trade gives them an incentive to increase the variance in their firm's share price in order to create more trading opportunities.11

In reality, insider trading is not completely prohibited. Even under the present system of rules, market professionals with significant informational advantages over outsiders are permitted to trade at will. Furthermore, certain insiders find the potential for profit from insider trading so enticing that they break the law either by engaging in insider trading themselves or by selling the information to others. The results of this behavior are indicated by the dotted lines in Figures 1 and 2, which reflect stock price movements when partial insider trading occurs.

Since today a ban on insider trading is in place, and we observe some insiders being tried and convicted, we may assume that the legal restrictions are having some effect. As indicated by the dotted lines in Figures 1 and 2, the experience of outsiders when there is partial enforcement of rules against insider trading will fall somewhere between the extreme cases discussed above.12 Any outsider who, on a given occasion, would have benefitted fortuitously from a total ban will benefit to a lesser extent.

---


12 See supra text accompanying notes 7-9.
extent by a partial ban. Similarly, those hurt by a total ban are injured to a lesser extent by a partial ban.

III. INSIDER TRADING: EFFICIENCY AND FAIRNESS

As the figures referred to in the preceding section make clear, insiders can profit by trading in the shares of their company when they possess important company-related information. Empirical studies support this theoretical supposition. If the information bodes well for the company, then the share price will rise once the public learns the good news. But insiders can profit by buying shares from those who are ignorant of the inside information and then selling the shares after the news has elevated the prices. Conversely, if the private information bodes ill for the firm, insiders can quickly dispose of any shares they are holding and then sell future obligations short at relatively high prices, "covering" those obligations at the new lower price after the anticipated publicity has driven the share price down.

The above scenarios are concise descriptions of the world of stock trading when insiders are permitted by law and contract to trade on inside information in their possession, or when proscriptions cannot be enforced. On first sight, these scenarios strike many observers as somehow "unfair" because canny insiders seem constantly to be profiting at the expense of outsiders. Yet there is a rapidly growing literature which argues that insider trading is not unfair at all.

This literature starts with the premise that, while outsiders do not have access to inside information, they do know the approximate extent

---


to which insider trading is apt to occur in the shares of particular firms, of particular industries, and of the stock market in general. Although such outsiders do not know when the insider trading will occur, nor which way or by how much the share price will move when insider trading does occur, they do know that insider trading will occur. They also know that those outsiders who invest in an information search will not benefit from the trading, and may well lose, at least in the short run. Consequently, to compensate for expected trading losses due to insider trading, it is argued that outsiders offer lower prices for new issues and subsequent resales than they would if they knew insider trading was impossible. Conversely, if insider trading cannot be barred, insiders retain the ability to skim off a substantial portion of the value of future inside information, but they have to accept a lower share price from outsiders when the firm initially goes public, because of the expected future skimming. Thus, those who claim that insider trading is fair argue that because outsiders can anticipate insider trading, they make whatever adjustments are appropriate to retain a competitive rate of return on their portfolio.

Moreover, drawing on the seminal work of Henry Manne, those who argue that insider trading is fair also argue that it is efficient.\(^{16}\) One thread of this efficiency argument posits that to the extent that a firm’s good fortune emanates from the actions of insiders, the insiders’ ability to capture a part of the benefit for themselves spurs them to greater efforts on behalf of the firm, since this will create greater opportunities for profitable trades with outsiders.\(^{17}\) The efficiency argument supporting insider trading has been attacked on several fronts. One seemingly persuasive objection that has yet to be answered is that no one has shown that insider trading opportunities actually arise to any important extent from the efforts of those who ultimately capitalize on them.\(^{18}\) If profitable inside information is a casually acquired windfall rather than being deliberately created by the insiders, then banning it, it is asserted, will have no long-run deleterious effects on shareholders.\(^{19}\) To be true, such an assertion requires stronger assumptions than are usually articulated, as we now show. Specifically, the arguments on both sides must expand to encompass the effects on insider salaries from banning insider trading.

\(^{16}\) Carlton & Fischel, supra note 1, at 881-82 (no tension between considerations of fairness and efficiency); Easterbrook, Insider Trading, supra note 1, at 323-30 (refuting fairness arguments).

\(^{17}\) H. MANNE, supra note 15, at 166.


IV. A Dispersion of the Interests of Shareholders

Much of the literature in defense of insider trading misses the central point that there are important distinctions among the shareholding population of any particular firm. Specifically, many investors with small portfolios find it uneconomical to purchase the advice of market professionals. Even though these investors recognize that without such advice they cannot reasonably hope for trading profits because they are at a severe informational disadvantage with respect to their trading partners, such investors will follow a "buy and hold" strategy designed only to acquire dividend-earning assets and to redistribute consumption over their life cycle. Because they trade securities infrequently, they will be relatively insensitive to the bid-ask spread charged by market makers.

But other investors, notably (but not exclusively) the so-called "institutional investors," such as commercial banks, pension funds, mutual funds, and the like, hold portfolios that are sizable enough for them to purchase advice from market professionals. These investors trade relatively frequently in order to reap the trading profits that comprise the benefits of that advice. Even if these large investors do not seek trading profits, they may still trade frequently because of the stochastic nature of the flows of the assets they handle and because of the high opportunity costs of large idle cash balances. Such investors will be quite sensitive to the transactions costs associated with their active trading, which, of course, include the bid-ask spread.

Specialists and other market makers systematically profit from trades with outsiders. But they systematically lose to insiders who are trading on inside information. Because insiders can purchase shares anonymously through third parties, market professionals cannot discriminate in price by requiring higher trading fees from insiders. This results in increased costs in the form of widened bid-ask spreads in markets where insiders have frequent opportunities to trade on inside information. Consequently, all traders bear a share of the increased costs to market makers that are associated with insider trading.

If the legal regime changes from one in which insider trading is permitted to one in which it is effectively banned, market makers benefit in the short run because the resulting short-run decrease in the bid-ask spread will not equal the decreased trading losses to informed insiders. The way these decreased transactions costs will be shared between market makers and outsiders will depend on the relative elasticities of the supply of and the demand for brokerage services.

---


21 See Benston & Hagerman, Determinants of Bid-Asked Spreads in the Over-the-Counter Market, 2 J. FIN. ECON. 353 (1974); Copeland & Galai, supra note 20.
Consequently, some of the more actively trading investors will prefer that insider trading be banned because when it is allowed the resulting increase in their brokerage costs exceeds their share of the salary-reduction and incentive advantages provided by insider trading. Similarly, investors who rarely adjust their portfolios may prefer to permit insider trading, since their shares of the salary reduction and incentive effects exceed the increase in their brokerage costs. The less actively trading investors, however, are often disorganized, and the small scale of their holdings makes it unlikely that they will devote sufficient resources to educate themselves about this rather subtle advantage. In other words, the "rational ignorance" of the small investors permits actively trading investors and market professionals to form a nearly unopposed coalition seeking bans on insider trading.

V. EXOGENOUS SHOCKS TO A FIRM'S VALUE

Suppose that initially all of some firm's shares are owned by shareholders in holdings of equal size. Imagine that some event occurs that is beneficial to the firm, but totally unexpected. Moreover, the event is not caused by any human agent, either in the firm or outside of it, and the event clearly will never recur. In other words, the present realization of the event has no impact on expectations about the future.

If this event comes to the attention of the firm's managers before anyone else learns of it, the managers will profit if they can trade on the basis of their knowledge of this fortuitous event. Just as clearly, the managers will not profit if such insider trading is effectively prohibited by law. But the opportunity to profit from the hypothesized event remains, whether or not insiders trade. The key question becomes who captures that benefit when insiders cannot.

Removing people from the upper tail of a distribution of knowledge leaves a distribution, albeit a truncated one. Those who remain in the upper tail of the truncated distribution that results when insiders are removed will reap the value of the firm's good fortune. Thus, the answer to the question above is not readily apparent, although it is clear that the answer is not "the public," if by that one means that the gains are spread around randomly throughout the set of all noninsiders.

A. With Market Professionals as the Next-Best Information Processors

If, after the insiders are lopped off, the market professionals—brokers, exchange specialists, analysts, and the like—who are in the upper tail of the distribution are not the only present shareholders, then the

22 See infra text accompanying notes 25-27.
23 For a careful argument that valuable property is never left lying about, and that resources are consumed in establishing title, see Cheung, A Theory of Price Control, 17 J. L. & ECON. 53 (1974).
24 Macey & Haddock, supra note 6.
other shareholders will not capture the gains. The relatively more knowledgeable individuals who do comprise the upper tail will trade on the basis of their superior knowledge. If the news is good, the market professionals will buy shares immediately from the ignorant among the shareholders, and sell for higher prices once the knowledge becomes widespread. If the news is bad, then the market professionals will sell shares when they acquire the information, and will sell relatively high-priced future obligations to unsuspecting investors, covering after the stock price has fallen. In other words, when insiders cannot trade, something of exactly the same form as the banned insider trading will still occur, but the set of beneficiaries is altered.

But it is argued that if insider trading is prohibited managers will more quickly announce the firm’s good fortune, since the managers no longer stand to gain from delay. That insiders need, or can even use, any significantly lengthened trading period to capitalize on their knowledge seems unlikely. There is competition among insiders for trading profits. In securities markets, orders are executed with electronic speed, so any insider failing to take quick advantage of advance knowledge will find that other insiders have beaten him to the market. No gains remain for the sluggish. Moreover, the delays that occur between the event and announcement, while useful to inside traders, frequently are required by the firm as it attempts to arrange for inputs or dispose of outputs before those prices are altered by the impeding announcement. Of course, this hints at one way an outsider can move himself up in the distribution of knowledge—stand near the managers (figuratively speaking) in order to hear valuable announcements more quickly.

B. With Shareholders as the Next-Best Information Processors

Consequently, if insider trading is banned, neither managers nor “the public” will capitalize on the firm’s good fortune. Perhaps the beneficiaries will be market professionals, such as brokers, exchange specialists, and financial analysts, who have situated themselves so as to be able to hear news first. But perhaps after managers and the like are barred from trading, the next-best information processors will be the firm’s present shareholders. This may result either because shareholders invest in industries with which they are particularly familiar or because they threaten managers with dismissal if the managers do not inform the shareholders first when new information comes to the managers’ attention. In these cases the shareholders will be the beneficiaries of the firm’s good fortune.

But, as we now demonstrate, if some of our constraints are relaxed, the shareholders will be at least partial beneficiaries even if the insiders are permitted to trade on inside information. By contrast, most shareholders will not benefit if insiders are barred from such trades, and market professionals or other outsiders can beat the shareholders to the
information. At this stage of our analysis a simple arithmetic model is helpful in identifying the effects of insider trading.

C. An Arithmetic Model for Insider Trading

1. Risk-Neutral Insiders.—Suppose, as above, that the firm realizes a purely fortuitous event. This is the “hard case” for our argument. Suppose that shocks to the firm’s value are random events drawn from a known, albeit uncontrollable, distribution. Finally, suppose that the firm’s shareholders profit from inside information if insiders cannot. Assume initially that insider trading is effectively banned. Suppose that in the new period the present value of a firm’s expected future net earnings per share is $1.30 with probability 0.1, $1.40 with probability 0.2, $1.50 with probability 0.4, $1.60 with probability 0.2, and $1.70 with probability 0.1. To keep computations simple, initially, assume that for each shareholder there is one insider, who with unitary probability is paid a salary of $10 per period. The circumstances outlined are shown by Table 1. (See Appendix B.)

The present value of the expected net earnings stream of a shareholder’s holdings next period is $150, and, netting out intervening dividends, that also will be the present market value of his holdings if the shareholder is well diversified. The variance of the value of this typical shareholder’s portfolio next period is $120, since the shareholders are the next-best information processors after the legally disabled insiders. The expected value of the insider’s salary is $10, with a variance of zero.

Alternatively, suppose that insider trading is permitted. Whichever direction the security price moves, insiders gain, but the amount of gain is limited. If the news is positive, the insider will want to buy shares before the price reaches its new equilibrium. The very act of buying, however, will begin to elevate the share price. To anyone who observes the insider’s trading behavior, these purchases will signal an increased probability of an impending announcement of good news, although the precise nature of the news may well remain a mystery to the observer. Consequently, if the insider realizes that the share price is about to go from $1.50 to $1.70, he will not succeed in denying all of the gain to the present shareholders; as observers notice the insider’s trading activity, they will increase their reservation prices.

25 Insiders also trade for reasons other than discovery of new inside information, of course. Like anyone else, they trade to rebalance portfolios and because their consumption and income streams do not track each other precisely. Moreover, many insiders receive a stream of the firm’s shares or options to purchase the firm’s shares as a regular part of their income, and this requires sales to the extent a part of that stream is to be consumed. Consequently, observers have to discount their observations of insider behavior to take account of these other trading motivations, but that discounting is of no particular importance here, and will henceforth be ignored.

Suppose the insider captures one-half of the value of the change in share price. Then our typical shareholder’s portfolio will net him only $160 next period, not $170, and $10 will go to the insider. For simplicity, suppose that the insider also nets $10 by selling shares short for prices above their impending equilibrium level if the share price is going to fall by 20 cents. Notice that the effect of an insider’s short sales is not the mirror image of an insider’s purchases. When the expected price change is positive, the insider moderates the shareholder’s gain by reducing the shareholder’s holdings. But when the expected price change is negative, the insider exacerbates the shareholder’s losses by increasing the shareholder’s holdings. It is as if the quantity of shares held in the economy increases when the insider sells short. This is analogous to increases in the money supply that occur when a party borrows money from a fractional reserve bank. Consequently, insider trading not only reduces the mean return to shareholders; it also skews the distribution and creates a longer downward than upward tail. This is reflected in the modifications to the entries of Table 1 that are shown in Table 2 (see Appendix C).

Notice that the expected value of the shareholder’s portfolio next period, net of losses to insiders, seems to be $146, or $4 less than its value when insider trading was barred. If that were so, then the initial offering price for shares would not have been $150, but $146, reflecting the expected losses to insiders. But as we will see when we examine the insider’s behavior more carefully, this is not the end of the story. The $4 that the shareholder expects to lose is an expected gain to the insider. Coupled with the insider’s hypothesized $10 salary, his expected income next period increases to $14. Fourteen dollars of expected income (with $10 of it assured as salary) will attract more competition for the insider’s job than $10 assured income alone. The increased competition will drive the insider’s base salary down. In the unlikely event that the insider’s closest substitute as a manager is risk neutral and productively indistinguishable from the present occupant of the position, the insider’s salary will fall by exactly $4 to offset precisely the expected insider trading profits.

As a result, the cost to the firm of doing business has fallen by exactly $4 per shareholder. This means that the net income per shareholder increases because $4 in salary costs is no longer being incurred. Consequently, the present value of the shareholder’s shares and the net value of his portfolio (as reflected in the second and third columns of Table 2) must be increased by $4, and the insider’s salary and total income (as reflected in the fourth and sixth columns of Table 2) must be decreased by $4, as shown in Table 3 (see Appendix D). As Table 3 illustrates, under these assumptions the expected value of the shareholder’s portfolio is $150, exactly as it was in Table 1. Under our present assumptions, insider trading has absolutely no impact on the expected
net returns to shareholders and consequently has no impact on share price, because the insider trading profits are returned to shareholders indirectly through their reduced salary obligations to insiders.

2. Risk-Averse Insiders.—Now relax the assumption that insiders are risk neutral. Unlike shareholders, who can widely diversify their securities portfolios, employees usually cannot diversify their human capital to any comparable extent. Consequently, it is likely that insiders will be risk averse. As seen by comparing Table 1 with Table 3, the variance in returns to both insiders and shareholders increases when insider trading is permitted. This variance represents increased risk. Because of aversion to this additional risk, insiders who are permitted to trade on inside information will not reduce their salary demands by the full $4 increase in expected income that otherwise would accompany a license to engage in insider trading.

Suppose the insider’s salary is reduced by only $3. Since shareholders are assumed to be the second-best information processors for data of this firm, there is a mutually beneficial bargain to be struck between shareholders and insiders. For example, the insider’s salary might be raised by $3.50 if the insider agrees not to trade on inside information. The insider is better off by 50 cents because the certainty equivalent of his income has increased from $10 to $10.50. The shareholder’s position also is improved even though his firm’s salary obligation has increased by $3.50, because the shareholder’s expected trading losses from insider trading is reduced by $4. The variance of the shareholder’s returns falls also, although this is of minor interest if his portfolio is well diversified.

Our results are consistent with the notion that if someone gets negative utility from bearing risk, and nobody gets positive utility, it is inefficient to create situations in which the only effect is to increase the risk to be borne. When a firm’s shareholders are the second-best assimilators of firm-specific information, it is plausible that a mutually beneficial arrangement will bar insiders from trading on insider information. But presumably such a bar can be accomplished by contract between the firm and the insider.


27 “A certainty equivalent is the immediate (certain) payment that a person would regard as having a value equal to that of a particular uncertain set of prospects. In other words, a person given a choice should be indifferent between any prospect and its certainty equivalent.” G. GOETZ, LAW AND ECONOMICS: CASES AND MATERIALS 76 (1984).

28 Even if insider trading cannot be effectively barred by contract, it is unclear that the SEC is the best alternative prohibitive mechanism. But even if the SEC is the best alternative, it is unclear why firms cannot opt out of the SEC’s ban whenever insiders or shareholders have different relative risk preferences or exposure than is true for the economy as a whole, or when the inside information is particularly likely to arise directly from desirable productive or innovative efforts by the insiders themselves. It seems clear that it is efficient for some entity, either the SEC, the exchanges, or the
D. The Shareholders' Choice

Given the nature of the shock to the firm's value we have discussed to this point, relaxing the assumption that a firm's shareholders are the second-best assimilators of firm-specific information makes it more likely that shareholders will want insiders to trade. If members of some other group, such as exchange specialists in the firm's stock, market analysts, or arbitrageurs, are better at assimilating firm-specific information than are the firm's own shareholders, the shareholders will lose the trading profits whether or not insiders can trade. The only difference is the identity of the parties to whom the trading profits go—insiders or market professionals. But permitting insiders to trade on inside information will reduce the insiders' salary demands by the certainty equivalent of the expected insider trading profits—that is, by the amount of the expected insider trading profits minus the relevant risk premium needed to compensate for the greater risk associated with an income stream derived from insider trading. Consequently, when insider trading is permitted, part of any windfall to the firm will still accrue to shareholders in the form of reduced salary obligations to insiders.

Subject to the qualifications below, when insiders are barred from trading, the shareholders receive nothing in exchange for the higher salaries they must pay their insiders in compensation for the lack of trading opportunities, unless these shareholders are also the next-best information processors of firm-specific information. For such shareholders a ban reduces incentives to invest in new productive capital. A ban also increases incentives for market professionals to invest in ways that speed the acquisition of firm-specific information. The latter investments constitute a waste of real resources because insiders obtain the same information in the course of their normal duties without having to expend resources searching for it, and they can transfer the information to the securities markets more promptly than do the professionals. When market professionals are the next-best information processors, from the shareholders' perspective a ban on insider trading is the equivalent of a rule requiring insiders to throw money out a window of the firm's corporate headquarters. The market professionals who happen to be passing by at the time the money flutters down certainly benefit. But shareholders who have other productive uses for their time have no chance of grabbing any of these funds and inevitably lose.

The investments undertaken by market professionals striving to ac-
quire and act on firm-specific information are "rent-seeking" investments that transfer wealth rather than create it. But to the individual, the rent-seeking investments look like any other investment. Tullock and Posner have argued that such rent-seeking investments will be pursued until the rents transferred are exactly consumed by the investment required to transfer them.\textsuperscript{29} This is a singularly bad bargain when the investments lead to no net productive benefit, particularly when the arrangement that leads to the rent-seeking investments actually delays the transmission of new information to the market.

In summary, then, when dealing with exogenous shocks we can imagine that a small number of firms may have a plurality of shareholders who are among the second-best processors of information about their firm. Such shareholders may well benefit if their firm bans insider trading. Many of the shareholders of other firms will be less astute observers of their company, and they will be better off paying lower wages to insiders in exchange for permitting the insiders to trade on inside information, since they will not benefit if insiders do not trade.

Those less astute observers of their company are apt to be those who hold relatively small individual portfolios. Consequently, they are less likely to make sufficient investments in information to understand the benefits they could receive if insider trading was permitted.\textsuperscript{30} Such "rational ignorance" permits market professionals to form a coalition with more cognizant shareholders to obtain public financing for policing the ban on insider trading that each desires, although for different reasons.

\section{VI. Endogenous Shocks to a Firm's Value}

Many of the events that give rise to insider trading profits originate within the insider's firm, either through the insider's own efforts or through the efforts of others within the firm. Manne has argued that insiders should be permitted to trade on all such information.\textsuperscript{31} An external observer rarely will be able to distinguish insider trading made possible by that insider's efforts from trading due to events arising from efforts of others within the firm, since corporate employees typically engage in collective efforts as part of widely dispersed teams. Nevertheless, it is clear that specific insiders often have a hand in creating the events, so permitting insiders to profit from them retrospectively increases the incentives to create such events prospectively.

Objections have been raised (and answered) that alternative reward mechanisms provide adequate incentives for insiders to seek shocks to a


\textsuperscript{31} H. Manne, \textit{supra} note 15, at 166.
We do not intend to inform that particular debate beyond noting that no one has responded to Carlton and Fischel's argument that firms should be permitted to opt out of an insider trading ban if the firm's shareholders believe that insider trading opportunities provide the best way to maximize the value of the firm's shares.

Other objections have been raised (and answered) that shocks can be either positive or negative; that negative shocks damage shareholders but profit insiders; that insiders can create negative shocks as easily, or even more easily, than positive ones; and that insider trading consequently should be barred in favor of mechanisms that reward only positive shocks. Again, we do not propose to inform that debate. Rather, our goals in this section are to expand the Manne scenario on one boundary, but to limit it on another.

First, the tabular analysis above also applies here, to an extent. Viewed *ex ante*, insider trading profits do not lead in their entirety to an increase in the income of the insider. If there is competition to hold the insider's post, the potential for trading profits simply will transform a part of the insider's salary into piecemeal rewards. Competition for a post that places trading profits within the employee's grasp will drive the insider's fixed salary down because potential employees may seek shocks to firm value and take the consequent piecemeal rewards that follow. An alternative is for the insider to live the quiet life, and trade only on the opportunities accompanying exogenous shocks or endogenous shocks created by other insiders, and settle for the relatively low income that accompanies this strategy. Even if shareholders tolerate the latter behavior, they benefit partially from the unexploited potential trading profits of the insiders, for salary obligations are reduced by the competition for the insider's post. The rewards to any inside trader are overestimated if we consider only the value of the winnings and neglect the price paid for the opportunity to take the gamble.

But it also matters how the insider trades. If the insider buys shares of his own firm, he is stating implicitly that he expects an increase in the value of his firm, and consequently a benefit to the firm's other shareholders who hold their shares long enough. But if the insider purchases shares of a firm that is about to be acquired by the insider's firm, or if he takes a position in inputs because he knows his firm soon will require them for new production processes, he drives up those prices and by doing so increases the future costs of his own firm. The same increase in

---

32 See Barzel, Some Fallacies in the Interpretation of Information Costs, 20 J. L. & Econ. 291 (1977) (demonstrating how markets provide solutions to perverse incentives to engage in inefficient search for information); R. Leftwich & R. Verrecchia, supra note 11, at 1 (compensation schemes based on insider trading have perverse incentive effects).

costs will result if the insider buys his own firm’s shares, but market professionals are able to deduce from that act the unexploited attractiveness of the target or the inputs.\textsuperscript{34}

Notice again that although there may be situations in which shareholders will want employees to have insider trading rights because of incentive and salary-reduction effects, shareholders are \textit{harmed} if parties unassociated with the firm trade on inside information because that cuts into the rewards that provide incentives for the firm’s employees, and that, in turn, augments the insider’s salary demands. Yet, as we discuss elsewhere, the SEC rules rarely are enforced against external parties such as market professionals, and when they are, the motivation for the enforcement seems more an effort to curtail chiseling on an exchange cartel than any effort to defend the interests of shareholders.\textsuperscript{35}

VII. THE LACK OF DEMAND FOR AN INTRAFIRM BAN ON INSIDER TRADING

A market professional who makes profits trading on a firm’s stock will at least sometimes be a shareholder of that firm. In that case, the dividing line between particularly knowledgeable shareholders and market professionals is indistinct. Perhaps the paradigmatic knowledgeable shareholder would be one who relatively infrequently seeks gains by trading shares, and then only by trading the shares of a single firm with which he is particularly familiar. Perhaps a paradigmatic market professional is one who seeks gains daily by moving investments from security to security, and so from firm to firm. Consequently, the knowledgeable shareholder will want to ban insider trading by those insiders working for the single firm about which he is well informed. If the rest of his portfolio is nonspeculative, our knowledgeable shareholder will benefit if the ban is specific to the firm with which he is particularly familiar, holding the enforcement costs he bears constant. A paradigmatic market professional, however, will prefer that insider trading bans be widely applicable.

One might suppose that knowledgeable shareholders and market professionals would simply form a coalition to alter corporate charters, inserting directives which require employment contracts that forbid insider trading, thereby creating a private antiinsider trading right of action in the common law courts. That supposition would be problematic for several reasons. The most obvious is that the members of the coalition would have to bear a fair share of the costs of private enforcement, whereas SEC enforcement places the bulk of those costs on other shareholders. But a much more telling problem with the supposition is that

\textsuperscript{34} Macey, \textit{supra} note 1 (describing how insider trading might have affected Texas Gulf Sulphur shareholders negatively).

\textsuperscript{35} Macey & Haddock, \textit{supra} note 6.
banning insider trading through alteration of corporate charters would not benefit most market professionals.

Market professionals are gamblers. They gamble on the belief that they know more about the market than do other participants. When they learn they are facing insiders, the market professionals usually have already lost the gamble, but when they face uninformed outsiders, they usually win. If market professionals face only particularly knowledgeable shareholders, or fellow market professionals, then only the most knowledgeable among that group will win, at the expense of the less knowledgeable.

But if a firm bans insider trading by corporate charter, ultimately only knowledgeable shareholders and market professionals will be shareholders in that firm. Then the good professionals will drive out the bad until the firm becomes closely held by a few particularly knowledgeable individuals who control the firm but no longer gamble on it.

To see why this process operates as it does, remember that permitting insider trading confers benefits on ordinary shareholders by enabling the firm to reduce its salary obligations to insiders, and possibly by offering unique incentives for insiders to innovate and to assume risks for the benefit of the firm. Moreover, these benefits cost ordinary shareholders nothing because they will not receive trading profits regardless of the firm's insider trading rules. An insider trading ban, if effective, merely alters the identity of the party to whom the ordinary shareholders yield their trading profits. But because a firm's wage bill rises with the imposition of a ban, while the innovativeness of its employees falls, the performance of the firm will falter. Consequently, ordinary shareholders have an incentive to alter their portfolios in favor of firms that have no insider trading ban. But in these firms the market professionals cannot win because they must gamble against insiders. Consequently, although particularly knowledgeable shareholders may seek, and sometimes may obtain, a private contractual ban on insider trading, they will not be joined in this quest by market professionals unless corporate charters are to be altered across the board.

**VIII. CONCLUSION**

In this Article we developed what may be described as a Coasian model of insider trading to begin to answer the question whether rational, value-maximizing shareholders would agree to permit insiders to trade on the basis of the nonpublic information that routinely comes into their possession. Contrary to all of the existing literature—some of which argues that insider trading is always beneficial to shareholders, and the rest of which argues that it is always harmful—our answer is "it depends."

We posit that the most important questions for evaluating the desirability of insider trading from the shareholders' perspective are the fol-
lowing: (1) Are the insiders risk averse?; and (2) who stands in line after insiders as the second-best processors of information regarding the corporation?

If insiders are risk averse, they will be unwilling to give up salary equivalent to their expected insider trading profits in exchange for the privilege of inside trading. Then shareholders may decide to forbid insider trading when the shareholder group contains an unusually large number of investors who are particularly knowledgeable about the company. But unless shareholders are going to benefit somehow if insiders are prohibited from trading, they will prefer to permit insiders to trade and to share the trading gains in the form of lower wage rates for insider-managers.

Our analysis leads to the conclusion that the legal prohibition against insider trading prevents shareholders from reaching compensation agreements with the managers of their firms that would make both sides better off. Thus, while insider trading law might provide for centralized monitoring of insider activities, the per se prohibitions on insider trading reflected in the current law seem deleterious to ordinary shareholders. Indeed, if insider trading law were intended to benefit ordinary shareholders, the current law could remain largely intact but would permit corporations to opt out of its restrictions if they chose to do so.
APPENDIX A

SHARE PRICE

Old Price

New Price

TIME

Event Date

Announcement Date

no ban

partially effective ban

completely effective ban

FIGURE 1: POSITIVE SHOCK TO FIRM VALUE

SHARE PRICE

Old Price

New Price

TIME

Event Date

Announcement Date

no ban

partially effective ban

completely effective ban

FIGURE 2: NEGATIVE SHOCK TO FIRM VALUE
APPENDIX B

TABLE 1

<table>
<thead>
<tr>
<th>Probability</th>
<th>Present Value of 100 Shares Next Period</th>
<th>Insider’s Income Next Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1</td>
<td>$130</td>
<td>$10</td>
</tr>
<tr>
<td>.2</td>
<td>$140</td>
<td>$10</td>
</tr>
<tr>
<td>.4</td>
<td>$150</td>
<td>$10</td>
</tr>
<tr>
<td>.2</td>
<td>$160</td>
<td>$10</td>
</tr>
<tr>
<td>.1</td>
<td>$170</td>
<td>$10</td>
</tr>
</tbody>
</table>

expected net value: $150  expected net value: $10
variance: $120           variance: 0
## APPENDIX C

### TABLE 2

<table>
<thead>
<tr>
<th>Probability</th>
<th>Present Value of 100 Shares Next Period</th>
<th>Net Value of Portfolio</th>
<th>Insider's Salary</th>
<th>Insider's Trading Profits</th>
<th>Insider's Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1</td>
<td>$130</td>
<td>$120</td>
<td>$10</td>
<td>$10</td>
<td>$20</td>
</tr>
<tr>
<td>.2</td>
<td>$140</td>
<td>$135</td>
<td>$10</td>
<td>$5</td>
<td>$15</td>
</tr>
<tr>
<td>.4</td>
<td>$150</td>
<td>$150</td>
<td>$10</td>
<td>$0</td>
<td>$10</td>
</tr>
<tr>
<td>.2</td>
<td>$160</td>
<td>$155</td>
<td>$10</td>
<td>$5</td>
<td>$15</td>
</tr>
<tr>
<td>.1</td>
<td>$170</td>
<td>$160</td>
<td>$10</td>
<td>$10</td>
<td>$20</td>
</tr>
</tbody>
</table>

**Expected net value:** $146  
**Variance:** $134  
**Expected net value:** $14  
**Variance:** $14

HeinOnline -- 80 Nw. U. L. Rev. 1985-1986
<table>
<thead>
<tr>
<th>(1) Probability</th>
<th>(2) Present Value of 100 Shares Next Period</th>
<th>(3) Net Value of Portfolio</th>
<th>(4) Insider's Salary</th>
<th>(5) Insider's Trading Profts</th>
<th>(6) Insider's Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$134</td>
<td>$124</td>
<td>$6</td>
<td>$10</td>
<td>$16</td>
</tr>
<tr>
<td></td>
<td>$144</td>
<td>$139</td>
<td>$6</td>
<td>$5</td>
<td>$11</td>
</tr>
<tr>
<td></td>
<td>$154</td>
<td>$154</td>
<td>$6</td>
<td>$5</td>
<td>$11</td>
</tr>
<tr>
<td></td>
<td>$164</td>
<td>$159</td>
<td>$6</td>
<td>$5</td>
<td>$11</td>
</tr>
<tr>
<td></td>
<td>$174</td>
<td></td>
<td></td>
<td></td>
<td>$16</td>
</tr>
</tbody>
</table>

**Expected Net Value:** $150
**Variance:** $134