

Informed Trading and Its Regulation

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ABSTRACT. *Informed trading—trading on information not yet reflected in a stock’s price—drives the stock market. Such informational advantages can arise from astute analysis of varied pieces of public news, from just released public information, or from confidential information from inside a firm. We argue that these disparate types of trading are all better understood as part of the broader phenomenon of informed trading. Informed trading makes share prices more accurate, which enhances the allocation of capital, but also makes markets less liquid, which is costly to the efficiency of trade. Informed trading thus poses a fundamental trade-off in how it affects the two principal functions served by the stock market – information and liquidity.*

This paper takes this basic tradeoff and develops an analytic framework, drawing on microstructure economics, modern finance theory, and the theory of the firm, to identify which types of informed trade are socially desirable, which are undesirable, and how best to regulate the market as a result. A key observation is that the time horizon of the information on which an informed trade is based – the latency before it would otherwise be reflected in price – crucially determines both the strategies of those trading on it and the social value of such trading.

Disaggregating traders and trading strategies in this way provides powerful new insights into how we can use regulation to deter socially undesirable forms of informed trading and promote socially desirable ones. The central contribution of this Article is the systematic application of the insights of our framework to illuminate a vast array of legal rules and doctrines—typically considered in isolation—in light of their effects on different kinds of informed trade. This includes Section 10(b) and insider trading, Section 16(b), Reg. NMS, mandatory disclosure rules, Reg. FD, so-called “Insider Trading 2.0”, and various stock exchange regulations. The Article thus lays the foundation for evaluating this array of rules, and based on this suggests a series of reforms to the current framework of securities law.

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INTRODUCTION

Informed trading—trading on information not yet reflected in a stock’s price—drives much of the stock market.¹ Such information involves a more accurate appraisal of a stock’s value than what its current price implies. The trader may have obtained this information from astute analysis of varied bits of publicly available information, from newly disclosed public information yet to be incorporated into a stock’s price, or from confidential information possessed by the stock’s issuer or some other entity, such as a potential acquirer.

No securities law issue has garnered more attention from law and economics scholars and the larger public alike, than the desirability of trading based on the latter two types of information: trading by insiders based on confidential information possessed by an issuer or some other entity.² We argue that these two types of trading are better understood as instances of a more general phenomenon – informed trading – and that securities regulation can contribute more to social welfare if it is designed with an awareness of both what all kinds of informed trading have in common and how each kind differs.³

All informed trading leads to more accurate share prices,⁴ which in turn increase the efficiency with which the economy produces goods and services.⁵ However, all informed trading also reduces market liquidity,⁶ which makes trading costlier and leads to variety of inefficiencies in the economy.⁷ There is thus a fundamental tradeoff in how informed trading affects the two principal social functions served by equity markets – providing accurate prices and facilitating liquidity. This Article takes this basic tradeoff and goes back to first principles – using the tools of microstructure economics, modern finance theory, and the theory of the firm – to try to identify which forms of informed

¹ See, e.g., LAWRENCE E. HARRIS, *TRADING AND EXCHANGES* 243 (2002) (explaining the pervasive role of trading in the stock market based on nonpublic information); Kenneth French & Richard Roll, *Stock Return Variances: The Arrival of New Information and the Reaction of Traders*, 17 J. FIN. 5, 9 (1986).

² For just a sampling of seminal early work in this area, see HENRY MANNE, *INSIDER TRADING AND THE STOCK MARKET* 131-145 (1966) (arguing that insider trading is efficient because it promotes pricing accuracy and entrepreneurialism); Stephen M. Bainbridge, *Insider Trading Under the Restatement of the Law Governing Lawyers*, 19 J. CORP. L. 1, 21 (1993) (arguing that the prohibition on insider trading is best justified as a property right protection for information); Victor Brudney, *Insiders, Outsiders, and Informational Advantages Under the Federal Securities Laws*, 93 HARV. L. REV. 322, 343, 347-48 (1979) (analyzing the proper scope of the disclose-or-abstain rule); Dennis W. Carlton & Daniel R. Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857, 862 (1983) (arguing that permitting insider trading may be an efficient way to compensate corporate managers); Zohar Goshen & Gideon Parchomovsky, *On Insider Trading, Markets, and “Negative” Property Rights in Information*, 87 VA. L. REV. 1229, 1238-1243 (2001) (arguing that widespread insider trading would drive market analysts out of business with deleterious consequences for the informational quality of securities prices); Roy A. Schotland, *Unsafe at Any Price: A Reply to Manne, Insider Trading and the Stock Market*, 53 VA. L. REV. 1425 (1967) (arguing that insider trading may be injurious because it deters offended investors from in trading securities).

³ See HARRIS, *supra* note 1, at 194 (introducing a general idea of informed trading).

⁴ See I.C.4 *infra*.

⁵ See II.B.1 *infra*.

⁶ See HARRIS, *supra* note 1, at 299-303; see also I.C.3 *infra*.

⁷ See II.B.2 *infra*.

trade are in fact socially desirable, which are socially undesirable, and how to best regulate the market as a result. A key observation is that the time horizon of the information on which an informed trade is based – the latency before it would otherwise be reflected in price – crucially determines both the strategies of those trading on it and the social value of such trading.⁸ Disaggregating traders and trading strategies in this way provides powerful new insights into how we can use regulation to deter socially undesirable forms of informed trading and promote socially desirable ones.

The central contribution of this Article is the systematic application of this framework’s insights to illuminate a vast array of legal rules and doctrines that importantly affect different kinds of informed trading, and how those rules might be reformed in light of this fact. Informed trading is currently affected by a complex, and far from coherent, jumble of legal rules.⁹ Relevant federal provisions include rules coming out of the convoluted case law interpreting Section 10(b) of the Securities Exchange Act of 1934 (the “Exchange Act”)¹⁰ and Rule 10b-5 promulgated thereunder (neither of which explicitly refers to trading on non-public information), Exchange Act Section 16(b) (requiring insiders to return to the issuer profits made from short-swing trading),¹¹ the Exchange Act’s mandatory disclosure regime (requiring the filing of Form 10Ks, 10Qs, and 8Ks), Regulation Fair Disclosure (“FD”) (requiring immediate public disclosure of material information given privately to analysts or particular traders), and Regulation NMS (setting forth the basic rules of equity market structure).¹² Certain provisions of state law and stock exchange regulations are relevant as well.¹³

Under this welter of provisions, some informed trades are prohibited or deterred, while others are allowed or in some cases even encouraged. Our analysis has both good news and bad news with regard to this current regulatory structure. The regulation of trading based on inside information, despite its tortured doctrinal basis in Rule 10b-5, has more policy coherence than many commentators appreciate. For example, under the “misappropriation theory,” a trade based on nonpublic information possessed by an entity *other than the issuer* is legal if the entity has given the trader permission, but is, in general, illegal if permission has not been granted.¹⁴ This distinction is criticized on both the “left” and the “right” because the counterparty to the trade has the same regrets whether permission was granted or not.¹⁵ Our analysis suggests that the real injury is

⁸ See Markus Baldauf & Joshua Mollner, *High-Frequency Trading and Market Performance*, Working Paper, Oct. 2015, <https://ssrn.com/abstract=2674767> (noting this basic microstructure trade-off).

⁹ In the legal literature, Stanislav Dolgoplov’s work comes closest to ours in viewing informed trading as a more general phenomenon for regulators to appreciate, although his focus remains on insider trading. See Stanislav Dolgoplov, *Insider Trading, Informed Trading, and Market Making: Liquidity of Securities Markets in the Zero-Sum Game*, 3 WM. & MARY BUS. L. REV. 1 (2012).

¹⁰ 15 U.S.C. § 78j(b).

¹¹ 15 U.S.C. § 78p(b).

¹² SEC Regulation FD, 17 C.F.R. § 243.100 (2000).

¹³ See *infra* Parts IV.B and IV.E.

¹⁴ See *infra* Part IV.A.1.b.ii.

¹⁵ Compare *Chiarella v. United States*, 445 U.S. 222, 245, 246-47 (1980) (Blackmun J., dissent) (arguing to uphold petitioner’s Rule 10b-5 conviction “even if he had obtained the blessing of his employer’s principals”), with *United States v. O’Hagan*, 521 U.S. 642, 680, 689-90 (1997) (Thomas J. dissent)

reduced liquidity, which is the same in either case. The legal distinction still makes sense, however, because trades without permission undermine the incentives to acquire information that makes share prices more accurate, whereas trades with permission enhance these incentives. In contrast, New York’s Attorney General, Eric Schneiderman, has recently utilized New York’s Martin Act to launch a heated, but we believe misguided, public campaign against institutions that release market-moving information early to a subset of traders, attacking what he calls “Insider Trading 2.0.”¹⁶

Also, under current law, a tippee’s trade based on a tip from an insider *within an issuer* is prohibited only if the tipper received a “personal benefit.”¹⁷ This result has been similarly criticized because the counterparty to the tippee’s trade is equally injured whether or not the tipper enjoyed a personal benefit,¹⁸ and was at the center of the dispute in *U.S. v. Salman*,¹⁹ a tippee case very recently decided by the Supreme Court. Again, our analysis suggests that the real social injury from the tippee’s trade is reduced liquidity, which is the same whether the tipper received a personal benefit or not. Imposing liability on at least some tippees when the tipper received no personal benefit is likely to chill analyst interviews, however. If trades based on information gleaned from analyst interviews are outside Rule 10b-5’s reach, some interviews will reveal material non-public information that will be traded upon. This, viewed in isolation, is as unfortunate as a trade based on the same information by an issuer insider. Not chilling analyst interviews, however, also has a benefit: such interviews allow analysts to gather and analyze pieces of *immaterial* non-public information that they can use to develop, and trade on, a superior analysis of share values. The net social gain from the second kind of trades is arguably greater than the net social loss from the first.²⁰

On the other hand, we find trading based on information relevant to a stock’s value made public so recently that it is not yet fully reflected in the price, while perfectly legal today, reduces liquidity without any redeeming social benefit from its effect on price accuracy. This is because the information would be reflected in price very quickly even without such trading.²¹ Moreover, significant resources are devoted to such trading. Although it is probably impractical to try to make such trades illegal, they can be deterred through appropriate rules governing the structure of trading markets.²²

This Article proceeds as follows: Part I provides a basic understanding of how the equity market works and uses this to show the general effects of informed trading. Part II establishes our evaluative framework for assessing which kinds of informed trades are socially desirable and which are socially undesirable. Part III applies the evaluative

(arguing to reverse conviction because “in either case—disclosed misuse or authorized use . . . ‘[o]utside’ would still be trading based on nonpublic information that the average investor has no hope of obtaining”).

¹⁶ See *infra* IV.B.

¹⁷ *Dirks v. S.E.C.*, 463 U.S. 646, 663 (1983)

¹⁸ See *Dirks v. S.E.C.*, 463 U.S. 646, 673 (1983) (Blackmun, J. dissent) (“The fact that the insider himself does not benefit from the breach does not eradicate the shareholder’s injury”).

¹⁹ *Salman v. United States*, 580 U.S. ___ (2016).

²⁰ See *infra* IV.A.2.d.iv

²¹ See *infra* III.B.2.

²² See *infra* IV.F.

framework to four types of informed trade to determine which trades are socially desirable and which are not. Part IV evaluates how well existing regulations deter the undesirable kinds of informed trades and encourage the desirable ones. Part V concludes.

I. INFORMED TRADING'S EFFECT ON LIQUIDITY AND SHARE PRICE ACCURACY

Seeing why informed trading improves share price accuracy and decreases liquidity requires a basic understanding of how the equity market works.²³ Accordingly, this Part provides a quick survey of the different types of participants, the nature of trading venues and types of orders used on them, and the way that the market generates liquidity and the prices at which shares trade.

A. Market Participants and Their Reasons for Trading

Traders in the market can be broken down into four categories: informed traders, uninformed traders, noise traders, and anti-noise traders. In addition, the buyers and sellers in the market include professional suppliers of liquidity.

1. Informed traders. Informed traders are motivated to buy or sell based on private information that allows a more accurate appraisal of the stock's value²⁴ than the assessment of the stock's value implied by its current market price. This information can be one of four kinds.²⁵

a. Fundamental value information. A person generates fundamental value information by gathering various bits of information that are publicly available or otherwise observable features of the world and analyzing what has been gathered in a sophisticated way that enables a superior assessment of a stock's cash flows than that implied by the current market price. Examples of fundamental value information traders are managed mutual funds, hedge funds, pension funds, and the professionally managed portfolios of very wealthy individuals and non-profit institutions.

b. Announcement information. Announcement information is the information contained in an announcement by an issuer or other institution with obvious implications as to the issuer's future cash flows. It only retains this status so for the brief period of time between the time of the announcement and the time the information is fully reflected in price. Announcement traders profit by appreciating with lightning speed

²³ Significant portions of this Part and Part II *infra* draw on more detailed treatments in our prior work. See Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191, 217-226. (2015); Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *Stock Market Manipulation and Its Regulation*, Working Paper (2016).

²⁴ I.e., the expected future cash flows to a holder of the issuer's shares (discounted to present value). See RICHARD BREALEY, STEWART MYERS & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* 80-84 (11th ed. 2013).

²⁵ This taxonomy owes much to Larry Harris's division of informed traders whose value traders and news traders are the inspiration for our fundamental value and announcement traders. See LAWRENCE E. HARRIS, *TRADING AND EXCHANGES* 194 (2002). While we do not go as far as Harris to treat insider trading as a form of news or announcement trading, we share the general view that their contribution to the social good of informative prices are similarly low. *Id.* at 228.

the import of an announcement (often based on machine reading) combined with technology enabling their buy or sell orders to reach trading venues very quickly.²⁶

c. Information from inside an issuer. Much information held within an issuer is not yet public and reflected in the price. Many of the cases relating to informed trading arising under Rule 10b-5 involve trades based on such information by corporate insiders or by their direct or indirect tippees. Such cases are often referred to as reflecting the “classical theory” of how an informed trader can violate Rule 10b-5.²⁷

d. Information from inside a non-issuer source. Information relevant to predicting an issuer’s future cash flows and not yet public and reflected in the price is also frequently held within an institution other than the issuer. This could be a company contemplating a takeover of the issuer, or one of the potential acquirer’s agents that is pledged to keep the takeover confidential, such as its law firm or investment bank. Alternatively, it could instead be an institutional investor planning the purchase or sale of a substantial number of shares. Or it could be a brokerage, research or media company that finds it commercially profitable to gather bits of publicly available information, analyze them in a sophisticated way, and thereafter to sell and/or publicly announce its conclusions. Finally, it could be a government agency that gathers and processes information, or makes decisions, relevant to predicting an issuer’s future cash flows but not yet announced. Rule 10b-5 cases involving trades without permission by insiders of such institutions, or by their direct or indirect tippees, are often referred to as reflecting the “misappropriation theory” of how an informed trader can violate Rule 10b-5.²⁸

2. Uninformed traders. Uninformed traders buy and sell shares without possession of information that allows a more accurate appraisal of the stock’s value than the assessment implied by current market prices and without a belief that they have such information or that prices are otherwise incorrect. One possible motivation for an uninformed trade is that the purchase, and later sale, of a share is a way of saving: it defers consumption from the period of the purchase to the period of the sale.²⁹ The expected return at the time of purchase will simply be the expected return on the market as a whole adjusted to reflect the risk characteristics of the particular firm’s shares.³⁰

The second possible motivation for an uninformed trade is to correct for the fact that, perhaps due to changing conditions, the trader’s current portfolio differs from the portfolio that would optimally balance expected return against risk for her.³¹

²⁶ See Grace Xing Hu, Jun Pan & Jiang Wang, 2013, *Early Peek Advantage*, Working Paper, Hong Kong University and MIT (documenting the existence of traders who profit due to rapidly trading on the release of market-moving information).

²⁷ See *infra* Part IV.A.1.b.i.

²⁸ *Id.*

²⁹ Facilitating such consumption deferral is one of the social functions that a well-functioning securities market can provide. See *supra* Subsection II.B.2.a.

³⁰ BREALEY et al, *supra* note 19 at 302 -308, 689 (11th ed. 2013).

³¹ Facilitating adjustments for risk related reasons is another social function that a well-functioning securities market can provide. See *supra* Subsection II.B.2.b.

3. *Noise and anti-noise traders.* Noise traders believe they have information not reflected in price that permits a more accurate appraisal of an issuer's future cash flows. What distinguishes them from fundamental value traders is the fact that the information is either already reflected in price or is irrelevant. To the extent that what drives noise traders at any one moment of time are idiosyncratic beliefs, their buy and sell trades will tend to cancel each other out. To the extent that what drives them is a widespread fad or fashion, their trades will push a stock's price in the direction suggested by the fad or fashion. Their trading thus would drive price away from being the best estimate of an issuer's future cash flows given all publicly available information.

Anti-noise traders actively search for new information about an issuer's future cash flows and are prepared to transact in the opposite direction when they see prices move at a time when their search suggest there is no new information. Thus, when fad-driven noise traders push price in one direction, anti-noise traders trade in the opposite direction. Because of the synergies of engaging in fundamental value informed trading and the information search that is the basis of anti-noise trading, the same person or entity often engages in both types of trading.

4. *Professional liquidity suppliers.* A professional liquidity supplier engages in both the frequent purchase and frequent sale of a range of different stocks, making a business out of standing ready to buy and sell these shares up to stated amounts at quoted prices (respectively a "bid" and an "offer" or "ask"). The best available bid in the market is referred to as the national best bid ("NBB") and the best available offer as the national best offer ("NBO"). Today, this is typically a high frequency trader ("HFT"). An HFT uses high speed communications to constantly update its information concerning transactions and quotes at every trading venue, and revises its own quotes accordingly, rather than using information about the issuer itself to determine these quotes. Thus the professional liquidity supplier is typically not "informed" in the sense that we use the term here. Indeed, because of its unique intermediary market making role, unlike all other buyers and sellers of securities in the market, we will not refer to it as a "trader."

B. Trading Venues and Orders

Any given stock is potentially traded in each of a number of competing venues. They are typically *electronic limit order books*, where a liquidity supplier or a trader can post, as a *limit order*, its firm commitment, until canceled, to buy or sell up to a specified number of shares at a quoted price. A computer (the venue's *matching engine*) matches these posted limit orders with incoming buy and sell *market orders*, which are orders from traders willing to trade immediately at whatever is the best available price in the market. HFTs, acting as professional liquidity suppliers, post a majority of the limit orders that are matched in this fashion and result in executed trades.³²

³² See Jonathan A. Brogaard, *High Frequency Trading and its Impact on Market Quality*, Working Paper (2010), http://www.futuresindustry.org/ptg/downloads/HFT_Trading.pdf (finding that HFTs supply liquidity for a majority of trades); see generally Albert J. Menkveld, *High-Frequency Trading and the New-Market Makers*, 16 J. FIN. MARKETS 712 (2013).

C. Informed Trading and the Economics of Liquidity Provision

What follows explains why all types of informed trading generally have a negative impact on liquidity and at the same time improve price accuracy by moving prices toward reflecting new information. We will first consider a world with just informed traders, uninformed traders, and liquidity suppliers. At the end, we will add to the story noise and anti-noise traders.

1. *The liquidity supply business.* The professional liquidity supplier makes money if on average it sells the shares that it buys for more than the price paid.³³ Doing so is not as easy as it might seem, even though at any given point in time, the liquidity supplier's offer is always higher than its bid. The problem begins with the fact that the stock market is largely anonymous. Thus, the person with whom a liquidity supplier transacts generally does not reveal her identity and, what, if anything, she knows. So there is always the possibility that this counterparty is an informed trader. Liquidity suppliers, as will be demonstrated immediately below, lose money when they transact with informed traders.

2. *Transacting with informed versus uninformed traders.* An informed trader will buy from the liquidity supplier only when her superior assessment of the stock's value suggests that the value is above the liquidity provider's offer. And she will sell to the liquidity supplier only when her superior assessment suggests that the value is below the liquidity provider's bid. Thus, in transactions with an informed trader, the liquidity supplier sells at prices that the informed trader's information suggests is below the value of the stock, and buys at prices that the informed trader's information suggests is above the value of the stock. These on average will be losing transactions for the liquidity supplier. In essence, the liquidity supplier faces a classic adverse selection situation.³⁴

Fortunately for the liquidity supplier, the rest of its transactions are with uninformed traders. On average, these transactions should be profitable. The assessment of value of the stock implied by current market prices is the mid-point between the NBO and NBB. Because the uninformed trader has no private information, there is no reason to think that on average this market assessment is wrong. So when a liquidity supplier purchases from an uninformed trader at the NBB, and sells to an uninformed trader at the NBO, each of these transactions on average yields an expected profit equal to half the spread between the two quotes, with the liquidity supplier on average buying for a little less than value and selling for a little more than value.

³³ As used here, "makes money" means that the revenues that it generates from its sales at the offer exceed its expenditures from its purchases at the bid. For purposes of simplicity, the analysis here assumes that liquidity supply involves no costs of operations or utility decreasing risks to its principals and requires no capital because these other costs are not relevant to the points being made. There is in fact empirical evidence that the adverse selection factors being discussed here account for a majority of the spread between the bid and the ask in most markets. See LAWRENCE E. HARRIS, *TRADING AND EXCHANGES* 158 (2002).

³⁴ See generally George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970) (analyzing how informational asymmetries can drive declines in the quality of goods traded in a market until only "lemons" are left). Liquidity suppliers face the constant threat that they are trading under conditions of information asymmetry and are thus transacting when the trade is adverse to their interests.

In sum, whatever the source of an informed trader's private information, the liquidity provider will be subject to adverse selection and will on average lose money when it buys at the bid from informed sellers or sells at the offer to informed buyers. The liquidity provider can still break even, however, as long as there are enough uninformed traders willing, in order to accomplish their reasons for trading, to suffer their inevitable expected trading losses of buying at the offer and selling at the bid. There simply needs to be a large enough spread between the bid and offer that the losses accrued by transacting with informed traders are offset by the profits accrued from transacting with uninformed investors.

3. *The liquidity impact of an anticipated level of informed trading.* A liquidity supplier operates in a competitive market. To survive, it must set its quotes aggressively enough (offers low enough and bids high enough) to attract business, but not so aggressively that the money it makes by transacting with uninformed traders is less than what it loses by trading with informed traders. Thus, in a world where a liquidity supplier rationally expects a higher level of informed trading, it will need to set its offers higher, and bids lower, to break even and survive in a competitive market.³⁵

A liquidity supplier knows that there is a certain possibility that the next marketable order that arrives to execute against one of its quotes will be from an informed trader. The liquidity supplier knows that if the next marketable order to arrive is a buy, there is a certain chance that it is motivated by positive private information and no chance it is motivated by negative private information. Similarly, if the next order to arrive is a sell, there is a certain chance that it is motivated by negative private information and no chance it is motivated by positive private information. Thus, the liquidity supplier knows that whichever kind of order arrives next, it will alter the supplier's estimate of the stock's value: up if the order is a buy and down if it is a sell.

The offer and the bid are set in advance of knowing which it will be, but with the offer being contingent on the next arriving order being a buy and the bid on it being a sell. When a liquidity supplier is deciding on its offer price, it knows that an informed trader will only transact against this price if the information possessed by the informed trader is positive. It thus knows that the arrival of a buy order will cause its estimate of value to move upward. So, for a transaction with a buy order to be regret free, the liquidity supplier must, in advance of the arrival of the order, set its offer quote to reflect this upward revision of estimated value that will inevitably accompany the buy order's arrival. The same logic applies for setting the bid: to be regret free it must reflect the downward revision that would inevitably accompany the arrival of a sell order. The larger the percentage of orders that the liquidity supplier rationally expects will be informed, the larger will be these upward and downward revisions of estimated value that depend on which kind of order arrives next and thus the higher the supplier will need to make its

³⁵ A more complete model of how the bid-ask spread is set would include a consideration of the costs of operations, compensation for the utility decreasing risks to its principals of having a not fully diversified portfolio concentrated in particular securities, and the need for capital, all features of the real world. Breaking even in the long run requires a spread enough wider to cover these costs and to provide a normal market return on capital.

offer and the lower its bid.³⁶

In sum, the more informed trading is anticipated by liquidity suppliers, the less liquid the market. Liquidity is a multi-dimensional concept that relates to the size of a trade, the price at which it is accomplished, and the time it takes to accomplish the trade. Generally, the larger the size of the purchase or sale and the faster one wishes to accomplish it, the less desirable will be the price. The more liquid the market is, however, the less severe are these tradeoffs. For a small retail purchase or sale of stock, the “bid-ask spread” (the spread between the best available bid (the “NBB”) and best available offer (the “NBO”) in the market) is a good measure of liquidity; for larger orders, how much is available at prices not too inferior to this best bid or offer (the “depth of the book”) will become relevant as well. If liquidity suppliers expect that a higher percentage of orders will be informed, their best bids will need to be lower and their best offers higher. Otherwise, they will not survive in business and will not be making quotes in a rational, profit-maximizing way given the implications of whether the next order is a buy or sell. The same is true of its bids and offers away from its best bid and offer and their associated quantities and so its book will have less depth.

4. *The pattern of transaction prices in the presence of informed trading.* This description of how liquidity suppliers set their quotes highlights an important byproduct of rational liquidity provision in a market with informed traders. Liquidity suppliers will be constantly updating valuations in response to transactions. With a sufficient number of trades, the market price will come to reflect the informed trader’s information. The behavior of rational liquidity providers thus reflects a kind of “invisible hand”: simply as a result of their efforts to avoid losses to informed traders, liquidity providers are repeatedly revising their quotes so that, with time, they come to fully reflect informed traders’ information.

For example, suppose that there were one or more informed traders possessing a particular piece of positive information, prompting them for a period to send in just buy orders. During this period, there would of course also be buying and selling by uninformed traders. The number of uninformed buy and sell orders should be approximately equal because the reasons they trade – placing savings in the market or adjusting their portfolios to come closer to the ideal one from a risk/return tradeoff point of view – are unrelated to seeking to make trading profits by finding over- or under-priced securities. So both buy and sell orders will be arriving at trading venues over the period, but in total there will be more buys than sells because, though indistinguishable to the liquidity supplier, the buy orders include orders from both informed and uninformed traders. As a result, there will be ups and downs in the offers and bids as liquidity suppliers’ estimates of value move up and down with the arrival of each buy and sell order, but the ups will predominate and the mid-point between the bid and offer will trend upward until the offer gets high enough that it equals the informed traders’ estimate of the share’s value.³⁷ Empirical evidence strongly supports the results from these adverse

³⁶ See Lawrence R. Glosten & Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71 (1985) (providing model of trading behavior under information asymmetries in securities markets).

³⁷ More precisely, the price will be within half of the bid-ask spread from fully reflecting the information.

selection models: Analyses of intra-day changes in quotes and in the prices of executed transactions consistently show that they respond to the pattern of buy and sell orders at the time and that the adjustment in price described here often completes itself quite quickly.³⁸

In sum, an informed trade makes a stock's price more accurate. It is, by definition, based on information that allows a more accurate appraisal of the stock's value than the assessment implied by the stock's current best bid and offer and it causes liquidity suppliers to move the bid and offer in the direction of the more accurate appraisal.³⁹

5. *Adding in the effects of noise traders and anti-noise traders.* Noise traders believe they have information not reflected in price that permits a more accurate appraisal of an issuer's future cash flows when in fact the information either is already reflected in price or is irrelevant to making a more accurate appraisal. To the extent that what drives noise traders at any one moment of time is idiosyncratic to each trader, their buy and sell trades tend to cancel each other out. Just like uninformed trading, such idiosyncratic noise trading creates no significant order imbalance for liquidity suppliers and thus has no significant effect on price or the bid/ask spread. To the extent, however, that a widely shared, but foundationless belief drives the noise trading, an order imbalance will result. The imbalance pushes bids and offers in the direction suggested by the fad or fashion and makes the midpoint deviate from what would otherwise be the best estimate of an issuer's future cash flows given all publicly available information.

Anti-noise traders actively search for new information about an issuer's future cash flows. They transact when they infer the presence of noise trading because prices have moved but they see no new information to justify this movement. To illustrate how the anti-noise trader's reaction to fad-driven noise trading works, start with a situation where there is no informed trading and no noise in an issuer's shares so that the initial midpoint between the bid and the offer represents the best estimate of the stock's value given available information. Noise traders then acquire a widely shared but foundationless belief that the stock's value is significantly below this initial midpoint and start selling, which creates an imbalance of sell orders reaching the liquidity suppliers and pushes down the bid and the offer. They continue this selling until the bid drops to what they incorrectly believe to be the stock's value. The anti-noise traders, observing this price drop and believing there is no genuinely predictive negative information to justify it, start buying. This creates an imbalance of buy orders reaching the liquidity suppliers

³⁸ See Lawrence R. Glosten & Lawrence E. Harris, *Estimating the Components of the Bid-Ask Spread*, 21 J. FIN. ECON. 123 (1988); Kalok Chan, Y. Peter Chung, & Herb Johnson, *The Intraday Behavior of Bid-Ask Spreads for NYSE Stocks and CBOE Options*, 30 J. FIN. & QUANT. ANAL. 329 (1995).

³⁹ This discussion leaves out what Professors Gilson and Kraakman refer to as "derivatively informed traders." See Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 572 (1984). These price decoders are active speculative traders who have no private information allowing a better prediction of the future cash flows of an issuer. Instead, they observe trends in bids, offers and executed transactions to try to detect informed trading by others and seek to profit by trading in the same direction. Price decoders simply amplify the effects on the market of any particular kind of informed trading, whether socially good or bad.

and pushes up the bid and the offer. They continue this selling until the offer reaches the initial midpoint.

As this story illustrates, noise traders suffer trading losses because they sell shares for less than they are worth. Anti-noise traders enjoy trading gains because they buy shares for less than they are worth. At the end, liquidity suppliers on average just make the spread on each share purchased from the noise traders and then sold to the anti-noise traders. This is because the midpoint between the bid and the offer is commensurably below the value of the shares both as the shares are purchased from the noise traders and as they are sold to the anti-noise traders, but the purchases are at the bid and the sales at the offer. Thus the combination of fad-driven noise trading and anti-noise trading does not worsen the liquidity suppliers' adverse selection problem.

II. THE EVALUATIVE FRAMEWORK

Assessing whether a given kind of informed trading is socially desirable requires reference to the underlying functions that equity trading markets serve. It also requires recognition that other actors in the system will take account of the extent of this trading in determining their own actions. Thus, the normative question is how the existence of any given type of informed trading affects the system as a whole in terms of the system's ultimate capacity to further the multiple social goals that equity trading markets are expected to serve. These are also the goals that justify regulation when these markets would otherwise fall short.

A. Goals

Five basic social goals animate most discussion of secondary equity markets⁴⁰ and their regulation: (i) promoting the efficient allocation of capital so that it goes to the most promising new investment projects in our economy, (ii) promoting the efficient operation of the economy's existing productive capacity; (iii) promoting the efficient allocation of resources between current and future periods so as to best satisfy the needs of firms seeking funds for real investments (trading the promise of future dollars to obtain current dollars) and the needs of savers seeking to forgo current consumption in order to enjoy future consumption (trading current dollars to obtain the promise of future dollars); (iv) promoting the efficient allocation among investors of the risks associated with holding securities so that their volatility is borne by risk-averse investors with minimal disutility; and (v) operating fairly and fostering an overall sense of fairness. In addition, any intelligent discussion of the desirability of any given type of informed trading and its regulation must take into account the impact of the trading on the real resources that society devotes to trading in, and operating, equity markets and to the enforcement and compliance costs associated with their regulation.

⁴⁰ In the primary market, stocks are purchased from the company issuing those stocks, while, in the secondary market, traders buy and sell stocks from each other. Stock exchanges are fundamentally secondary markets.

B. Market Attributes that Impact on These Goals

A given type of informed trading impacts these five social goals in complex ways that are related to a stock market's two most important characteristics: price accuracy and liquidity.⁴¹ The social impact of any given type of informed trading is most easily evaluated through a two-step process, first assessing the effect of the type of trading on each of these two market attributes and then identifying the effect of each attribute on the five goals. As we have seen in Part I, every type of informed trading has a positive impact on price accuracy and a negative impact on liquidity. But the ratio of these two impacts and the duration of the price accuracy improvement vary greatly from one type to another. Consequently, some types of informed trading are socially desirable and others are socially undesirable.

1. Price accuracy. Price accuracy concerns how well the market price of an issuer's shares predicts its future cash flows. More accurate secondary market prices matter because they largely determine the prices of new offerings by existing publicly traded issuers and thus help steer society's scarce capital to the economy's most promising new real investment projects.⁴² Share price also influences the availability of new project funding from other outside sources and the willingness of managers to use internal funds for investment, and so greater price accuracy assists the efficient allocation of capital in these other ways as well.⁴³

More accurate share prices also help reveal to corporate boards and shareholders those managers who are performing poorly in deploying internal funds for new investment projects (again assisting the efficient allocation of capital), and in directing the use of the issuer's current assets (assisting the efficient operation of the economy's existing productive capacity).⁴⁴ They improve as well the effectiveness of share-price-based compensation schemes and of the threats of hostile takeovers and activist hedge fund pressures as incentives for better managerial decision-making in these regards.⁴⁵

More accurate share prices today also likely lead over time to a greater investor sense of fairness because they will experience fewer large negative surprises.⁴⁶

⁴¹ THIERRY FOUCAULT, MARCO PAGANO & AILSA RÖELL, *MARKET LIQUIDITY: THEORY, EVIDENCE, AND POLICY* 31 (2013) (describing price accuracy and liquidity as the two most important attributes of a securities market and the social role that each plays)

⁴² See, e.g., Qi Chen, Itay Goldstein & Wei Jiang, *Price Informativeness and Investment Sensitivity to Stock Price*, 12 REV. FIN. STUD. 619 (2007) (showing that investment decisions tend to increase when a stock's price has just risen).

⁴³ Merritt B. Fox, *Civil Liability and Mandatory Disclosure*, 109 COLUM. L. REV. 237, 260-64 (2009).

⁴⁴ *Id.* at 258-260.

⁴⁵ *Id.* There is ample empirical evidence to suggest that accurate price signals do in fact have efficiency-enhancing effects on managerial decisions, see FOUCAULT ET AL., *supra* note 19, at 361-68 (collecting relevant empirical studies). See, e.g., Philip Bond, Alex Edmans & Itay Goldstein, *The Real Effects of Financial Markets*, 4 ANN. REV. FIN. ECON. 339 (2012).

⁴⁶ In an efficient market, the market price, whether it is relatively accurate or inaccurate, is an unbiased predictor of an issuer's future cash flows. An inaccurate price is just more likely to be far off, one way or the other, from how things ultimately turn out. When a large negative surprise materializes, however, its

2. *Liquidity*. As noted above, liquidity is a multi-dimensional concept that relates to the size of a trade, the price at which it is accomplished, and the time it takes to accomplish the trade, with the spread between the NBB and NBO and the depth of liquidity suppliers' books being good measures.⁴⁷

Liquidity also has an impact on a number of social goals:

a. *More efficient allocation of resources over time*. To start, the prospect of greater liquidity promotes more efficient allocation of society's scarce resources between uses that support current consumption and uses that support consumption in the future, i.e., the allocation of resources over time. Consider an enterprise seeking new capital to devote to real investment projects through the issuance of stock. In essence, it is a purchaser of current dollars in return for the promise of future dollars in the form of dividends. The more liquid are the issuer's shares, the more valuable their shares are to hold for any given level of expected future cash flow. Thus, when an issuer offers shares in the primary market, the more liquid they are anticipated to be, the higher, all else equal, will be their sale price. Hence, the lower will be the issuer's cost of capital.⁴⁸

On the other side of this transaction are savers, who seek the promise of future dollars in return for providing current dollars. In welfare economics terms, illiquidity, just like a tax, results in a "wedge" between the value of what the savers expect to receive in the future and the value of what the entrepreneurs or issuers expect to give up in the future.⁴⁹ This wedge prevents certain transactions from occurring that would have occurred if the shares were expected to be more liquid. These are transactions into which the issuer and savers would have willingly entered and thus are ones that would have made both parties better off on an expected basis. Improved liquidity will reduce these lost gains and hence increase social welfare. In other words, savers save less, and entrepreneurs and issuers engage in less real investment, than the levels that would be mutually more advantageous but for the savers' concerns about the liquidity of the issuers' shares.⁵⁰

b. *More efficient allocation of risk*. Greater liquidity also promotes the more efficient allocation of risk. At any given point in time, each investor has an optimal portfolio specifying the proportion of his total wealth that is invested in risky securities and the proportion of this risky security sub-portfolio that should be invested in each available risky security. An investor's taste for safety versus risk may stay relatively steady over at least the medium run. However, almost everything else determining what

salience likely generates a sense of grievance even though, ex ante, a large positive surprise was equally likely. See, e.g., DONALD C. LANGEVOORT, SELLING HOPE, SELLING RISK 11 (2016).

⁴⁷ See *supra* I.C.4

⁴⁸ The cost of capital is lower because the prospect of a smaller bid/ask spread results in the same issuer's expected future cash flow being discounted to present value at a lower discount rate. See Yakov Amihud & Haim Mendelson, *Asset Pricing and the Bid-Ask Spread*, 17 J. FIN. ECON. 223 (1986); Yakov Amihud & Haim Mendelson, *Liquidity and Asset Prices: Financial Management Implications*, 17 FIN. MGMT. 5 (1988).

⁴⁹ See FOUCAULT et al, *supra* note 19 at 361-368 (analyzing how illiquidity functions as a wedge separating transaction prices from assets' fundamental values).

⁵⁰ HARRIS, *supra* note 1, at 214-15.

portfolio is optimal for him can be subject to frequent change. By reducing the transaction costs associated with both the purchase and sale of securities, greater liquidity allows the individual investor to cost effectively adjust her portfolio over time to keep it closer at each moment to what at that point is optimal for her.

c. Greater share price accuracy. More liquidity also lowers the transaction costs associated with speculative trading based on acquiring fundamental value information. Thus, it stimulates such activity and in the process increases share price accuracy, with the attendant benefits just discussed above.

III. THE SOCIAL IMPACT OF DIFFERENT KINDS OF INFORMED TRADING

As demonstrated in Part I, all informed trading increases price accuracy, which is socially good, and decreases liquidity, which is socially bad. How do these effects net out with respect to particular types of informed trading, however? This Part considers this question with respect to four types of informed trading. Fundamental value informed trading is found to be socially desirable. Announcement trading is found to be undesirable. Trading on the basis of information from inside an issuer is found to be generally undesirable, but with exceptions – for example, trading on the basis of an evaluation of the company based on a variety of small bits of nonpublic information as opposed to being based on a major piece of information about to be announced. The desirability of trading based on information from inside a non-issuer institution depends on whether the institution agrees to its use. Where it does, allowing such trading adds to the incentives for the institution to generate valuable information and hence is socially desirable. Where the institution does not agree, the opposite is the case.

A. Fundamental Value Informed Trading

Fundamental value information arises from a person gathering bits of publicly available information and analyzing what the person has gathered or observed in a sophisticated way that allows a superior assessment of these cash flows than is implied by current market pricing. Hedge funds and actively managed mutual funds, pension funds and endowments of non-profits are examples of informed traders using such information.

In determining the social value of such trading, we start with an analysis of its wealth impacts, from both an ex-post and ex-ante perspective. The ex-post perspective relates to who is better off, and who is worse off, after a single such informed trade. The ex-ante perspective relates to the effect on the expected wealth positions of the different market participants when such trading occurs as an ongoing practice within a competitive environment. These analyses allow us to make determinations about the fairness of the practice and the incentives that it creates. We consider as well the extent and duration of price accuracy improvement associated with it relative to its negative impact on liquidity, and the resources its practitioners consume that would otherwise be available for other socially useful purposes.

Our ultimate conclusion is that fundamental value informed trading is fair and enhances the efficiency of the U.S. economy. Thus, it is socially desirable. The conclusion is not really very controversial: few have suggested that those who, through their own hard work and using publicly available sources, come up with superior

assessments of an issuer's share value should be prohibited from trading on this information to their profit.⁵¹ The way we come to this conclusion, however, sharpens the analysis considerably and provides a roadmap for analyzing the other, more controversial forms of informed trading.

1. Wealth effects: the ex-post perspective through an example. Understanding the wealth transfer implications of fundamental value informed trading is most easily understood by starting with an example. Suppose X does substantial research, gathering various bits of publicly available information about the potential sales for automobiles operating on pure ethanol obtained from switchgrass and about the economic practicality of this process. ABC is known to be the auto firm furthest along in developing an engine that can burn this fuel. X concludes that the switchgrass process is more practical, and consumer interest greater, than is generally believed. ABC's NBB is \$59.95 and NBO was \$60.05 and the research suggests the stock is worth \$70.00. X starts using a large number of small market buy orders, averaging in aggregate 10,000 shares per day. For expository simplicity, assume that during X's buying period, X is the only informed trader of any kind, there is no noise or anti-noise trading, and there is no publicly released information relevant to the value of ABC's share. So if X had not been buying, the NBB and NBO would have remained at about their initial levels.

X continues his buying until, given the continued imbalance of buy orders over sell orders received by liquidity suppliers, the NBB has risen to \$69.90 and the NBO to \$70.00. By this point X has been buying for 100 trading days and has acquired 1,000,000 ABC shares at an average price of \$65.05. At this point, X gives his research to a prominent business journalist, who checks it out and writes an article in a widely-read business magazine based on X's research, at which point ABC's NBB inches up to 69.95 and NBO to \$70.05.⁵²

Who gained and who lost in this story?

a. Informed traders. X, the informed trader appears to have a trading gain of slightly less than \$5 million, the difference between the average purchase price and what he can sell them for after the announcement. Since trading is a zero sum game, the

⁵¹ A number of commentators have called for a "parity of information" approach to regulating insider trading, whereby all trades where one party is better informed would be illegal because of the unfairness imposed on other party. See, e.g. Edward Greene & Olivia Schmid, *Duty Free Insider Trading*, 2013 COLUM. BUS. L. REV. 369 (2013); Joel Seligman, *The Reformulation of Federal Securities Law Concerning Nonpublic Information*, 73 GEO L. J. 1083, 1090 (1985); Louis Loss, *The Fiduciary Concept as Applied to Trading by Corporate "Insiders" in the United States*, 3 MED. L. RED. 34 (1970); Schotland, *supra* note 2. Some have also suggested that this is the predominant approach in Europe. See 3 BROMBERG & LOWENFELS ON SECURITIES FRAUD § 6:131 (2d ed.). While the logic of this approach extends easily to trades based on private fundamental value information, these commentators, if pressed would probably not view their comments as applying to such trades. For a discussion of the actual European approach, see also *infra* Subsection IV.C.1.a.

⁵² This example has the informed trader ultimately making public the information she generated in order to lock in her profit. This not a necessary step for profiting from informed trading, however. The informed trader instead might wait to sell until the event predicted by the information occurs or the prospect of it occurring becomes obvious to the public based on other news.

gains and losses of all the other players in the market must aggregate to a loss of the same amount.

b. Liquidity suppliers. The liquidity suppliers would, over the 100 trading day period, have received and execute against their quotes, 1,000,000 more buy orders than sell orders: X would have submitted 1,000,000 buy orders and no sell orders; the uninformed traders, because they trade for reasons unrelated to making trading profits, would in aggregate have submitted an approximately equal number of buy and sell orders.⁵³ Thus the liquidity suppliers would be short by 1,000,000 shares at the time the announcement of the engine development is made.

The liquidity supplier makes on average \$.05 (half the spread) for each purchase from, and for each sale to, an uninformed trader, but that would have happened anyway even if X had not traded. So, as a result of X's purchases, the liquidity traders sold, for an average of \$65.55, 1,000,000 shares that are now implicitly valued by the market at \$70.00, i.e., the liquidity traders' short positions translate into a loss equal to the same approximate \$5 million gain enjoyed by X.⁵⁴

⁵³ See *infra* I.B.5.

⁵⁴ Adverse selection models of liquidity supply of the kind described in I.C *supra*. do not address how liquidity suppliers reverse the inventory effects of executing on the order imbalance caused by informed trade, nor the price impact when informed traders lock in their profits by reverse transactions once their private information becomes public. In terms of the account in the text, the simplest story is as follows. By the time of that the information becomes public, X's portfolio has about a million ABC shares more than a fully diversified portfolio and the portfolios of the liquidity supplier, relative to fully diversified ones, in aggregate are short about a million shares short in ABC shares. In each case, this position means that the portfolio has a large amount of extra, firm specific, risk that can be eliminated by full diversification without any sacrifice in expected return. See RICHARD BREALEY, STEWART MYERS & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* 302-308, 689 (11th ed. 2013). This is something they would wish to do. Thus X would be anxious to sell, and the liquidity suppliers would be anxious to buy, this amount of shares and the transactions to accomplish this should occur at about \$70.00 per share. To the extent that the sales by X nevertheless began to push the bid down much below this figure, anti-noise traders, believing there is no private information, would submit buy orders.

A more complicated story would recognize that liquidity suppliers would likely seek to rebalance their portfolios regularly and would not wait until the informed trading stopped. Using the example again, one could imagine that after each day's 10,000 share order imbalance, liquidity suppliers would have a somewhat lower bid and higher offer than what would be called for by the pure adverse selection considerations describe in I.C *supra*. The object would be to find some price sensitive investors who would respond by sending in more sell orders and fewer buy orders than would otherwise have been the case. These investors are different from any of the market participants described in I.A *supra*. Each of these investors has its own reservation price for buying and for selling ABC shares that is a product of its own best estimate of ABC's future cash flows based on its particular analysis of publicly available information, how long or short it already is in ABC shares, and a discount to reflect the chance that what appears to be an attractive purchase or sale price might be the result of informed trading. See MERRITT B. FOX, *FINANCE AND INDUSTRIAL PERFORMANCE: THEORY, PRACTICE AND POLICY*, 34-43, 55-57 (1988). Inventory models in microstructure economics have developed a sophisticated literature in this vein. See, e.g., Mark B. Garman, *Market Microstructure*, 3 J. FIN. ECON. 257, 265 (1976); Thomas S.Y. Ho & Hans R. Stoll, *Optimal Dealer Pricing Under Transactions and Return Uncertainty*, 9 J. FIN. ECON. 47 (1981); Hans R. Stoll, *The Supply of Dealer Services in Securities Markets*, 33 J. Fin. 1133 (1978); Yakov Amihud & Haim Mendelson, *Asset Pricing and the Bid-Ask Spread*, 17 J. FIN. ECON. 223, 223-24 (1986). Because these trades are not motivated by either new private information, like those of fundamental value informed traders, or on a search suggesting that a price change is not due to new private information, like those of

c. *Uninformed traders.* Because the uninformed buy and sell orders each day are essentially equal in number, the gradual increase in the bid and offer during the period of X's trading will be a wash for uninformed traders as a group. Compared to if X had not placed his orders, however, sellers are better off and buyers are worse off, with the gains for sellers just equaling the losses of buyers.

2. *Wealth and resource allocation effects: the ex-ante perspective.* The ex-ante perspective compares, in long run competitive equilibrium, a world where the practice of fundamental value informed trading occurs freely versus one where it does not and considers the differences in terms of the wealth positions of the market's various participants and in terms of the allocation of resources. It assumes, not unrealistically, that all the participants have unbiased (though not necessarily accurate) expectations concerning the prevalence of informed trading by fundamental informed traders.

a. *Fundamental value informed traders.* Fundamental value informed trading will generate positive trading profits on an expected basis, as illustrated above, even though the existence of the practice widens the spreads that its practitioners incur. The business of such trading requires skilled and unskilled labor and physical, organizational, and financial assets.⁵⁵

In a competitive economy, suppliers of the ordinary inputs will be paid a market return comparable to what they would earn if the resources they supplied were deployed instead another way. So, the practice of fundamental value informed trading has no effect on their wealth positions. The persons with uniquely useful abilities and skills for fundamental value trading will be paid greater rents than they would be paid if they had to work in a different business. So the wealth positions of these persons are greater in the world where the practice occurs freely than where it is prohibited.

b. *Liquidity suppliers.* As shown in Part I, liquidity suppliers will incur expected trading losses when they transact with informed traders. At the same time, liquidity suppliers gain in their transactions with uninformed traders, making on average half the spread with each purchase or sale. To survive in a competitive market, a liquidity supplier must set its bids and offers so that these losses and gains balance out, plus cover the returns paid to its personnel, a market return on the capital needed for real estate and equipment and for engaging in the trading itself, and compensation for the undiversified nature of the portfolio that the business will be holding much of the time. With spreads wider than this, the liquidity supplier will not attract orders. With spreads narrower than

anti-noise traders, they otherwise act more like uninformed traders and are thus not considered as an additional kind of trader in the analysis in the text.

⁵⁵ Some of these inputs are ordinary in the sense that they could equally usefully be deployed elsewhere in the economy. Other inputs are specialized, specifically the efforts of key persons who possess abilities and skills uniquely useful for generating new fundamental value information. All of these inputs will be drawn into this business up to the point where, at the margin, the expected trading profits from successfully generating and trading on fundamental value information equals the costs of paying for the inputs.

this, at least some of the liquidity supplier's inputs will be receiving less than a market return and thus it will not be able to survive in the longer run.⁵⁶

Despite the fact that the trading losses suffered by liquidity suppliers because of the free occurrence of fundamental value informed trading are passed onto traders in the form of wider spreads, the practice does have a negative effect on the wealth positions of certain persons associated with the liquidity supply business. This is because the practice's widening effect on spread increases the spread between bid and offer, thereby increasing the cost of trading. When trading costs more, less of it occurs. This means that there is less demand for the services of liquidity suppliers.⁵⁷

c. Anti-noise traders. Anti-noise traders buy at the offer and sell at the bid. To the extent that fundamental value informed trading widens the spread, it increases the anti-noise traders' costs of doing business, making it less profitable, decreasing the resources drawn into it, and reducing the rents paid to its specialized inputs. These points are softened, though, by the fact that there are synergies for a person or entity to engage in the fundamental value informed trade business and the anti-noise trading business at the same time.

d. Uninformed traders: actual costs and their ultimate incidence. Because an uninformed trader buys at the offer and sells at the bid, she pays the spread between the two in the full cycle of the purchase and sale of a share. Freely occurring fundamental value trading makes this spread larger and so this cost of trading will be greater for her. Calculating the ultimate incidence of this larger cost on the wealth positions of the various market participants is complicated, however. When an issuer's entrepreneurs and initial investors engage in an initial public offering, the shares they are offering will be discounted to reflect the prospect that the spread must be paid with each subsequent sale and purchase in the secondary market as well as the prospect that any equity offerings by the issuer over time will be similarly discounted.⁵⁸ So the wider spread from freely occurring fundamental value informed trading reduces what the entrepreneurs and early investors receive selling shares when they take their firms public. This discount continues at the same level for as long as the firm appears to have a long run future.

⁵⁶ Recall that in Part I we adopted a simplified analysis that abstracts away from all the costs of being a liquidity supplier except the "adverse selection" component of the spread, i.e., the portion of the spread by which trading gains from transacting with uninformed investors compensate for the trading losses from transacting with informed traders. See Glosten & Harris, *supra* note 18.

⁵⁷ Like fundamental value informed trading, liquidity supply requires both ordinary and specialized inputs. Lower demand will mean less of both of these kinds of resources will be pulled into the business. Again, suppliers of the ordinary inputs will earn the same ordinary market return whatever the level of liquidity supply activity and so their wealth positions are unaffected. Persons with abilities and skills uniquely useful for liquidity supply will be paid less in rents and so their wealth positions would be negatively affected.

⁵⁸ This idea that shares' trading prices are discounted based on anticipated costs of trade has now been familiar for decades. For early examples from the insider trading context, see Frank H. Easterbrook, *Insider Trading, Secret Agents, Evidentiary Privileges, and the Production of Information*, 1981 SUP. CT. REV. 309, 325; Kenneth E. Scott, *Insider Trading: Rule 10b-5, Disclosure, and Corporate Privacy*, 9 J. LEGAL STUDIES 801, 807-09 (1980).

e. Uninformed traders: illusory losses and gains. A number of other uninformed trader losses and gains appear to be associated with fundamental value informed trading, but, upon closer analysis, prove to be illusory. An uninformed seller may sometimes regret a sale that occurs at a time when, unknown to her, an informed trader is making purchases. But, because the uninformed trader's motivations for trading are not prompted by either new information or price change, she would have sold anyway even if the informed trader had not traded. So the regret is not properly related to the informed trader's purchases.

Indeed, as the example above illustrates, the informed trader's purchases, by pushing up the bids and offers quoted by liquidity suppliers, mean that the uninformed seller will receive more for her shares than if the informed trader had not been purchasing. From an *ex-ante* point of view, however, this gain is also illusory: uninformed trader was just as likely to be a buyer as a seller when the price has been pushed up in this way and so the practice on an ongoing basis is as likely to help her as hurt her. A parallel set of illusions would accompany an uninformed trader's purchase when an informed trader is selling.

3. Fairness analysis. Overall, it is hard to argue that fundamental value informed trading creates unfairness. Liquidity suppliers will suffer trading losses, as illustrated in the *ex-post* example. The *ex-ante* analysis, however, shows these losses simply to be a cost of doing business that is passed onto traders through wider spreads. The *ex-post* example shows that uninformed traders trading in the same direction as the informed trader are worse off. For example, when an informed trading is buying, he pushes prices up, thereby increasing what uninformed buyers need to pay. But the informed trading makes uninformed traders trading in the opposite direction (in this example, the sellers) better off by an equal amount. So, the practice is as likely to help as hurt an uninformed trader as she enters into any given transaction. Given this, a loss in any one transaction is likely to be canceled out by a gain in some other transaction, particularly if the investor ameliorates this risk, along with the myriad other risks of equity investing, by holding a diversified portfolio.

Freely occurring fundamental value informed trading does widen the spread that uninformed traders need to pay. However, this widened spread, as we have seen, neither helps nor hurts uninformed trader on average because share prices are commensurately discounted to reflect this widened spread.⁵⁹ Thus the cost of this widened spread ultimately falls on entrepreneurs and early investors that face a higher cost of capital because of this discount. These same entrepreneurs and early investors benefit, however, from the practice's resulting improved price accuracy, which, as we will discuss, lowers the cost of capital.

The *ex-ante* analysis shows that freely allowing fundamental value trading draws resources into this business, thereby improving the wealth positions of the suppliers of

⁵⁹ As noted above, uninformed traders who trade more often than average end up undercompensated by the discount and those who trade more often than average end up overcompensated by the discount, but it is hard to see how this makes a compelling argument that fundamental value informed trading is unfair because of these effects.

the specialized inputs for these businesses. And it diminishes resources drawn into the liquidity supply and anti-noise trading businesses, thereby decreasing the wealth positions of their specialized input suppliers. In a market economy, however, the offer of rents, to prompt the suppliers of specialized inputs to come forward, is the mechanism by which these resources get directed to the activity for which they are most particularly suited. Thus the practice's positive or negative effects on the rents being paid in these three businesses do not appear to raise any greater fairness issues than do the rents paid persons with special abilities and skills across the whole market-based part of our economy.⁶⁰

4. *Efficiency considerations.* The foregoing discussion suggests that the more serious normative question raised by fundamental value informed trading is whether the practice increases or decreases economic efficiency, not whether those who suffer losses as a result of such a trade have experienced unfairness. Indeed, because the analysis of the wealth impacts of the other three types of informed will follow lines similar to the analysis here, we will conclude with them as well that efficiency, not fairness, should be the prime normative concern.

Freely occurring fundamental value trading positively affects economic welfare by increasing share price accuracy. It negatively affects economic welfare by reducing liquidity and by consuming resources that would otherwise be available for the production of other goods and services of value to society. We discuss these effects and their balance below.

a. *Positive effects on price accuracy.* Trading by any type of informed trader moves prices in the direction of what they would be if the trader's information was fully reflected in price. As a consequence, all kinds of informed trading make prices more accurate.⁶¹ The distinguishing feature of fundamental value informed trading is that, unlike the other three kinds of informed trading, the information on which it is based did not exist before it was generated as the result of the trader's own actions. This distinguishing feature has two important implications. These implications, in turn, suggest that fundamental informed trading's effect on price accuracy has a much larger positive impact on the functioning of the real economy and its capacity to provide society with goods and services.

i. *Trading profits create incentives to produce new information.* With fundamental value informed trading, the prospect of trading profits creates an incentive to increase the stock of information in the world relevant to predicting an issuer's long-term future cash flows. This is not the case with the other three kinds of informed trading.

⁶⁰ Nonetheless, there is an active and notable debate as to whether the size of the financial intermediation industry is excessive and whether wages are being competitively set within it. See generally Thomas Philippon, *Has the US Finance Industry Become Less Efficient?*, 105 AM. ECON. REV. 1408 (2015) (assessing the efficiency dynamics of financial services over time); Thomas Philippon & Ariell Reshef, *Wages and Human Capital in the U.S. Financial Industry: 1909-2006*, Q. J. ECON. (2012).

⁶¹ Informed trading by definition is based on information that allows a more accurate appraisal of the stock's value than the assessment of value of the stock implied by current market prices. So when prices move in the direction of reflecting this information, they become more accurate.

ii. *Price accuracy is improved over a longer span of time.* Price accuracy relates to the accuracy with which the market price of an issuer's shares predicts the events that determine an issuer's future cash flows. Compared to the information that is the basis of other types of informed trading, the information motivating fundamental value informed trading is likelier to relate to the probability of an event in the medium or long term future.

To illustrate, consider the *ex-post* example above. X does substantial research, gathering various bits of publicly available information about the potential sales for automobiles operating on pure ethanol obtained from switchgrass and on the practicality of the process. Using smart analysis, he concludes that they are better than generally believed. He, therefore, purchases shares of ABC, the auto company known to be furthest along in developing an engine that can burn this fuel.⁶²

Now consider the timing relating to the types of nonpublic information that are more typically the basis of the three other types of informed trading. One such type of information relates to an event that has already occurred and had an effect on the cash position of the issuer available to shareholders. An example would be knowledge of a defalcation that leaves the corporate treasury \$100 million short of what is publicly believed to be the case. Another such type of information relates to an event that has already occurred and that will have a definite effect on future cash flows. An example would be knowledge of a yet to be announced FDA approval of a new patented drug for which there should be large demand. Yet another relates to an event that is very likely to occur in the near future and, if it does, will have a definite effect on future cash flows, but where the facts suggesting this high likelihood are not yet public, for example facts suggesting a high likelihood of such FDA approval very soon.

iii. *Consequences for the extent of positive impact on economic welfare.* Keep in mind these two implications associated with fundamental value informed trading—its incentive effects and its capacity to improve price accuracy for a long period of time—and consider how the world would differ with and without the practice, and compare this difference with how the world would differ with and without each of the other three kinds of informed trading. For each of the four types of informed trading, if the particular type were effectively banned, the accuracy of the price at some later point in time will become as accurate a predictor of an issuer's cash flow as it would have been earlier if the particular type of trading had been allowed. The question is how much earlier would this price accuracy improvement have come if this type of informed trading had been allowed.⁶³ If fundamental value informed trading were allowed, this price accuracy improvement would often have come considerably earlier. For most informed trades of the other three types, the price accuracy improvement would have come only slightly earlier because the information would have been publicly announced and fully reflected in price anyway very soon. In essence, freely occurring fundamental value informed trading tends to make share prices consistently more accurate – information with

⁶² See *supra* Subsection IV.A.1.a.

⁶³ For a model that give an important role to the lead time with which a price change better predicts a subsequent cash flow, see Kenneth D. West, *Dividend Innovations and Stock Price Volatility* 56 *ECONOMETRICA* 37 (1988).

predictive value is created and the resulting improvement in the accuracy with which the price predicts the cash flow involved considerably earlier than otherwise relative to when the cash flow is realized.⁶⁴

This assessment suggests that the positive effects on price accuracy from fundamental value informed trading result in a greater contribution to social welfare than the contribution from the free occurrence of the other three kinds. To see why, recall that more accurate prices benefit the economy by helping to allocate the economy's scarce capital to the most promising potential real investment projects and by improving the utilization of the economy's existing productive capacity through optimizing the signals provided to management about investment decisions and the signals given to boards and shareholders about the quality of management decisions.⁶⁵ Informed trades based on information that will be fully reflected in price anyway very soon after the trade occurs does little to help share prices do this kind of guiding work in the real economy. Conversely, informed trades that are based on information that would not otherwise have been created and that improve price accuracy well in advance of the cash flows they are predicting do help prices do this guiding kind of work. Put another way, efficient allocation of capital and good corporate governance depend much more on how much information is reflected in price, not on slight improvements in the timing of price accuracy improvements. What is important about informative prices is that they impound information into prices at time intervals relevant to the important decisions being made by actors in the real economy. Important capital raising, takeover, and investment decisions tend to be made over the course of many months and are unlikely to be affected by an improvement in price accuracy for the short period between an informed trade and the information on which it was based being disclosed in a company's regular course of business.⁶⁶

b. Comparison of benefits with costs. The social gains from freely occurring fundamental value informed trading must be compared with the social losses. Freely occurring fundamental value informed trading increases illiquidity, which reduces social welfare because of the resulting misallocation of resources over time and of risk.⁶⁷ And it draws resources into the business of fundamental value informed trading that could be used elsewhere in the economy to produce other useful goods and services.⁶⁸

In our view, fundamental value informed trading's price-accuracy-increase-

⁶⁴ For an elaboration of this concept of informed prices, see Merritt B. Fox, Artyom Durnev, Randall Morck & Bernard Yeung, *Law, Share Price Accuracy and Economic Performance: The New Evidence*, 102 MICH. L. REV. 331, 344-348 (2003).

⁶⁵ See *supra* Subsection I.B.1.

⁶⁶ See Schotland, *supra* note 2, at 1443 (citing studies); Joseph E. Stiglitz, *Tapping the Brakes: Are Less Active Market Safer and Better for the Economy?*, Presented at the Federal Reserve Bank of Atlanta, Apr. 15, 2014, 4, 8.

⁶⁷ See *supra* Subsection II.B.2.

⁶⁸ It also reduces the resources going into the businesses of liquidity supply and price sensitive fundamental trading and thus to the level of the socially valuable services they perform. There is no obvious reason to believe these services would not be operating at their socially optimal levels absent the informed trading. Finally, it draws resources into price decoding, thereby magnifying both the benefits and costs of the fundamental value informed trading

induced improvements in the real economy—better capital allocation and better utilization of the economy’s existing productive capacity—outweigh the social losses associated with such trading. In essence, the decision to allow fundamental value informed trading is a decision to subsidize the production of the information on which it is based by the higher spread paid by informed traders and ultimately borne by entrepreneurs and investors prior to a firm becoming publicly traded. Although our conclusion involves some speculation, fundamental value information would probably be under produced from a social welfare point of view absent this subsidy. Empirical evidence suggests that a substantial portion of the information that is reflected in the share prices of public companies is the result of fundamental value informed trading.⁶⁹ There is also ample empirical evidence to suggest that accurate price signals do in fact have efficiency-enhancing effects on managerial decisions, both in terms of new investment decisions and the utilization of existing productive capacity.⁷⁰ Theory suggests that the many imperfections in the market for the development of knowledge mean that the information reflected in share prices would be underprovided if fundamental value informed trading were prohibited: in essence such knowledge has the qualities of a public good.⁷¹

B. Announcement Information

Announcement information is information contained in an announcement by an issuer or other institution with direct implications as to the issuer’s future cash flows.⁷² This information remains announcement information only for the brief period of time between when the announcement is made and when the information becomes fully reflected in price. Success in announcement trading is based on a capacity to act with great speed.⁷³ Often this involves both a capacity to machine read whether a public announcement has positive or negative implications for the issuer involved (doing so far faster than a human being can), combined with a very fast capacity to send buy or sell orders to the relevant trading venues.

⁶⁹ See, e.g., Eugene F. Fama, Lawrence Fisher, Michael C. Jensen & Richard J. Roll, *The Adjustment of Stock Prices to New Information*, 10 INT’L ECON. REV. 1 (1969).

⁷⁰ See THIERRY FOUCAULT, MARCO PAGANO & AILSA RÖELL, MARKET LIQUIDITY: THEORY, EVIDENCE, AND POLICY 361-68 (2013) (collecting relevant empirical studies); see, e.g., Philip Bond, Alex Edmans & Itay Goldstein, *The Real Effects of Financial Markets*, 4 ANN. REV. FIN. ECON. 339 (2012); Artyom Durnev et al., *Does More Firm Specific Stock Price Variation Mean More or Less Informed Pricing?*, 41 J. ACCT. RES. 797 (2003); Artyom Durnev et al., *Value Enhancing Capital Budgeting and Firm-specific Stock Return Variation*, 59 J. FIN. 65 (2004); Jeffrey Wurgler, *Financial Markets and the Allocation of Capital*, 58 J. FIN. ECON. 187 (2000).

⁷¹ See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF ECONOMIC ACTIVITY: ECONOMIC AND SOCIAL FACTORS (1962) (analyzing information as a public good that we should expect to be under-produced). But see J. Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971) (arguing that due to potentially duplicative information-generating activities, information could be over-produced, especially because the first to that information can often obtain a speculative advantage).

⁷² See generally Grace Xing Hu, Jun Pan & Jiang Wang, *Early Peek Advantage?*, Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361311 (studying rapid trading and stock price adjustment in response to the release of market-moving information).

⁷³ See *id.* (documenting prices fully adjusting to information in less than 20 milliseconds).

1. *Wealth transfers and fairness:* The *ex-post* and *ex-ante* wealth transfer implications of announcement informed trading are essentially identical to those of fundamental value informed trading, just substituting announcement trading wherever fundamental value informed trading appears in the discussion above. Accordingly, freely occurring announcement trading results in more resources than otherwise being drawn into this business and hence increases the rents paid to the suppliers of its specialized inputs. Because liquidity suppliers protect themselves against such trading with wider spreads, it increases the cost of trading and hence lessens demand for their services and reduces the rents paid to their suppliers of specialized inputs. The wider spreads also make all trading, including all informed trading more expensive. In essence, this is a crowding out effect, which reduces the rents paid to the suppliers of their respective specialized inputs. As was discussed earlier, such effects on the rents paid to the suppliers of specialized inputs needed by the various market participants do not raise serious fairness issues.⁷⁴

Uninformed traders are on average neither advantaged nor disadvantaged by announcement trading. Again, because uninformed traders' decisions are not motivated by either information or price, they are as likely buyers as sellers if they happen to trade during the brief moment before the announcement is fully reflected in price and thus are as likely to be benefitted as harmed by an announcement trade's price impact. Announcement trading will widen the bid-ask spread but share prices are discounted to reflect the extent to which it does so.⁷⁵ The cost of this increased spread again ultimately falls on entrepreneurs and early investors, who face a higher cost of capital because of this discount.⁷⁶

In sum, the conclusion is the same as with fundamental value informed trading: rather than fairness, the more important normative question concerning announcement trading concerns its efficiency effects.

2. *Efficiency considerations.* In our view, announcement trading is socially undesirable. Its capacity to augment the speed with which market prices reflect already existing new information is of socially insignificant benefit. The ways by which price accuracy improves the efficiency of the real economy do not require anything like this speed.⁷⁷ Moreover, announcement trading's negative social effects are substantial. Announcement trading has all the same negative efficiency effects from its adverse impact on liquidity as does any other type of informed trading. In addition, it consumes scarce resources – talented people and sophisticated equipment – that could be usefully employed elsewhere to provide goods and services of value to society. Its crowding out effect reduces the level of fundamental value informed trading, which is a socially desirable activity.⁷⁸

⁷⁴ See *supra* Subsection III.A.3.

⁷⁵ *Supra* note 60 and accompanying text.

⁷⁶ *Supra* note 56 and accompanying text.

⁷⁷ See *supra* Subsection IV.A.2.a.

⁷⁸ See *supra* Subsection IV.A.4.

C. Inside Information: The Issuer as Source

Issuer inside information is information not yet publicly available that is obtained from within the issuer and is relevant to predicting the future cash flows paid to the holders of the issuer's shares. Few topics have divided law and economics scholarship as deeply as informed trading by issuer insiders. There is vociferous disagreement not only concerning the justification for prohibiting such insider trading, but whether a prohibition should exist at all.

For the first thirty years after the beginnings of federal securities regulation, there was a widely shared perception on behalf of commentators that such insider trading was unfair because it gave corporate insiders unique opportunities to capture the wealth generated by corporations, a view still frequently expressed in judicial opinions and by some prominent commentators.⁷⁹ A sea change was triggered by Henry Manne's 1966 publication of "Insider Trading and the Stock Market."⁸⁰ Manne insisted that not only is such insider trading not unfair, but that it is actually socially beneficial because it enhances efficiency, and thus should be legal. Trading by issuer insiders enhances efficiency, in his view, because it results in the speedier incorporation of information into stock prices and because it serves as an effective form of compensation for corporate managers.⁸¹

In this section, we examine both the fairness and efficiency implications of issuer insider informed trading. We will conclude that it is indeed not unfair, although public perceptions to the contrary may still provide some justification for its prohibition. But we will also conclude, contrary to Manne, that it makes the economy less, not more, efficient, although this argument weakens and may, in fact, reverse itself in the case of trades based on some forms of immaterial information – the accumulation of many small bits of information that are not likely to be reflected in price for some time. While much of our analysis here collects and summarizes the large scholarly literature addressing insider trading over the last few decades, it enables us to offer sharper analysis of the tipper and tippee trading issues that only last year occupied the Supreme Court and will likely preoccupy lower courts for years to come.

1. Wealth transfers: their incentive and fairness effects. Understanding the wealth transfer implications of trading based on issuer inside information is again most easily

⁷⁹ See *Friese v. Superior Court*, 36 Cal.Rptr.3d 558, 566 (Cal. App. 2005) (classifying insider trading as "a manifestation of undue greed among the already well-to-do, worthy of legislative intervention if for no other reason than to send a message of censure on behalf of the American people."). For scholars focused on understanding insider trading through a fairness lens, see generally John A. C. Hetherington, *Insider Trading and the Logic of the Law*, 1967 WIS. L. REV. 720; Homer Kripke, *Manne's Insider Trading Thesis and Other Failures of Conservative Economics*, 4 CATO J. 945 (1985); Schotland, *supra* note 2; Seligman, *supra* note 51; Green & Schmid, *supra* note 51; Loss, *supra* note 51.

⁸⁰ MANNE, *supra* note 2, at 94-95.

⁸¹ MANNE, *supra* note 2, at 94; Henry Manne, *In Defense of Insider Trading*, HARV. BUS. REV., Nov.-Dec. 1966, at 114. See also Carlton & Fischel, *supra* note 2 and accompanying text. Other critics of the prohibition of insider trading have provided a public choice analysis of insider trading regulation as essentially "purchased" by market professionals from regulators. See David D. Haddock & Jonathan R. Macey, *Regulation on Demand: A Private Interest Model, with an Application to Insider Trading Regulation*, 30 J.L. & ECON. 311 (1987).

understood by starting with an example and seeing the *ex-post* effect of the trade, and then considering, from an *ex-ante* perspective, what the impact of the practice is as a generally known ongoing phenomenon. Much of this analysis parallels our analysis of fundamental value informed trading and announcement trading and will not need to be repeated here, but there are enough differences that it is worthwhile starting with a new example for the *ex-post* analysis.

a. Ex-post perspective. Suppose Y obtains from within EDF Inc. information, not known publicly or otherwise reflected in price, that EDF is developing a new low-pollution engine that is likely to pass the last few tests being held over the next two weeks. If, as expected within EDF, the engine does pass the tests, EDF will be able to enter into some very profitable contracts that will significantly improve the future cash flow paid out to holders of EDF shares compared to what is currently expected. Y uses a large number of orders, averaging in aggregate 10,000 per trading day, to purchase 100,000 EDF shares over the ten trading days in the two-week period. Prior to his purchases, EDF's NBB was \$59.95 and NBO was \$60.05. For expository simplicity, assume that during this period Y is the only informed trader of any kind and there is no publicly released information relevant to the value of EDF's shares. So if Y had not made these purchases, the NBB and NBO would have remained at or close to these levels throughout the two-week period. Instead, at the end of two weeks, EDF's NBB is \$62.95 and NBO is \$63.05, with Y having paid an average of \$61.55 for each of his shares. The engine passes the tests, and at the end of the two-week period, EDF announces the development at which time the price jumps such that the NBB is 79.95 and NBO is \$80.05.

From the point of view of trading gains and losses, the analysis of who is helped and who is hurt as a result of Y's purchases during these two weeks is identical to the example of X's trading in ABC shares used in the *ex post* analysis of fundamental value informed trading, except that it is concentrated over two weeks instead of stretched over five months.⁸² The same is true of the analysis as to why the NBB and NBO each increased as a result of the informed purchases.⁸³ Y appears to have a trading gain in the neighborhood of \$1.85 million. Since trading is a zero-sum game, the gains and losses of all the other players in the market must aggregate to a loss of the same amount.⁸⁴ The liquidity suppliers would receive, and have executed against their quotes, 100,000 more buy orders than sell orders and thus would be short by 100,000 shares at the time the announcement of the engine development is made. As a result of Y's purchases, the liquidity suppliers sold, for an average of \$61.55, 100,000 shares that are now valued by the market at \$80.00, i.e., the liquidity traders' short positions translate into a loss equal to the same approximate \$1.85 million gain enjoyed by Y. For the uninformed traders as a group, the increase of \$3.00 over time in the bid and offer is a wash, with sellers as a group being better off than if Y had not placed its orders, and buyers being equally worse off.

⁸² See *supra* Part IV.A.1.a.

⁸³ *Id.*

⁸⁴ See HARRIS, TRADING AND EXCHANGES at 82.

b. Ex-ante perspective. Now consider the ex-ante wealth effects of freely occurring issuer insider trading in longer run competitive equilibrium, assuming again, not unrealistically, that all the players have unbiased (though not necessarily accurate) expectations concerning the prevalence of issuer insider informed trading.

i. Issuer insiders. In a world with freely occurring issuer insider trading, an insider, as a result of her employment, gains the opportunity to obtain, and trade on, pieces of nonpublic information. In a competitive market for managerial talent, the value of this prerequisite will reduce commensurately the aggregate value of the other components of her compensation package relative to a world without issuer insider trading. In either world, in equilibrium, the insider will receive a compensation package with the same total expected value and the shareholders will ultimately pay for this package. Thus, once again, the real normative question concerning the desirability of this type of informed trading relates to the efficiency of this kind of compensation, not to its fairness.

Having said this, it should be noted that the managerial labor market appears to be very sticky.⁸⁵ So a regulatory change that would allow an increase in the level of such trading would, for some period of time, enrich managers who have access to nonpublic issuer information. A regulatory change that would decrease the level would have the opposite effect.

ii. Liquidity suppliers and anti-noise traders. The analysis for liquidity suppliers directly parallels the analysis for them with regard to fundamental value informed trading and announcement trading: freely occurring issuer insider informed trading will lead them to increase the bid/ask spread.⁸⁶ Cross-country empirical studies suggest that this increase is substantial. One study examined the 103 countries with stock markets (in 2002) and found that laws against insider trading existed in 87 of them, with 38 of those countries having made a prosecution under their laws.⁸⁷ There was a significant reduction in firms' cost of capital, presumably reflecting greater share liquidity,⁸⁸ when a country enacted and first enforced a prohibition against insider trading.⁸⁹ Freely occurring issuer insider trading, by widening the spread and hence increasing the cost of trading, would reduce the amount of liquidity supply demanded. Fewer resources being drawn into the liquidity supply business would reduce the rents paid to the suppliers of its specialized inputs.

⁸⁵ Compare LUCIAN BEBCHUK & JESSE FRIED, *PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION* (2004) (arguing that executive compensation is excessive because managers control boards and compensation contracts are not negotiated at arm's length) with Frank H. Easterbrook, *Managers' Discretion and Investors' Welfare: Theories and Evidence*, 9 DEL. J. CORP. L. 540 (1984) (arguing that executive contracting reflects the result of an efficient contracting process). Even assuming, as we do, that in the long-run the market's competitive pressures affect managerial wages is consistent with slow-moving adaptation in setting wages.

⁸⁶ See Parts IV.A.1.b and IV.B.1.b.

⁸⁷ Utpal Bhattacharya & Hazem Daouk, *The World Price of Insider Trading*, 57 J. FIN. 75, 104 (2002) (38 countries included a majority of developed countries).

⁸⁸ See *supra* Part I.B.2.a.

⁸⁹ Bhattacharya & Daouk, *supra* note 87, at 78.

iii. *Uninformed traders.* The more significant conclusion, but one that flows from the identical analysis in the cases of fundamental value informed trading and announcement trading, is that uninformed traders are on average neither directly advantaged nor disadvantaged by the free occurrence of issuer insider informed trading. This again is because share prices are discounted to reflect the extent to which such trading increases the bid-ask spread, with the cost of this increased spread ultimately falling on entrepreneurs and early investors that face a higher cost of capital because of this discount.⁹⁰

It is worth noting again, given the much more heated debate concerning this kind of informed trading, the illusory nature of some other losses and gains that some might say are experienced by uninformed traders. The typical uninformed seller in our example would likely regret her sale because, but for her sale of shares at some point during the two weeks of Y's purchases at an average price of \$61.45 shares,⁹¹ she would have been holding stock that could instead be sold for \$79.95. Y's purchase, however, did not cause her to miss out on this jump in price, because she would have sold whether Y had traded or not.⁹² So her regret is not properly related to Y's purchases. Indeed, the average uninformed seller's price of \$61.45 is \$1.50 higher than it would have been but for Y's purchases. From an *ex-ante* point of view, however, this average \$1.50 gain is as illusory as the regret, because the uninformed trader is just as likely to be a buyer as a seller when the price has been pushed up in this way.

iv. *Fundamental value informed and anti-noise traders.* Freely occurring issuer insider trading's widened bid-ask spread will increase the cost of business for fundamental value informed traders and thus will reduce the level of such trading, in essence crowding it out,⁹³ and reduce the resources going into this business and the rents paid to the suppliers of its specialized inputs.⁹⁴ The negative effect on the amount of information reflected in share prices can be serious: cross-country studies demonstrate a significant positive relationship between the effectiveness of a country's prohibition on issuer insider trading and a measure of the amount of information reflected in the share prices of its issuers.⁹⁵

⁹⁰ See Part IV.A.1.b iii.

⁹¹ In the example Y purchased at the offer for an average price of \$61.55, which implies that the average sale at the bid by uninformed sellers would have been at \$61.45.

⁹² In contrast, the price sensitive fundamental trader has a reasonable claim that but for the insider's purchase, he would not have sold and would instead be holding shares that could be sold for about \$18.50 more, because his sale was prompted by the rise in EDF's share price resulting from Y's purchases.

⁹³ See *infra* Section III.D. See also Michael J. Fishman & Kathleen M. Haggerty, *Insider Trading and the Efficiency of Stock Prices*, 23 RAND J. ECON. 106, 110 (1992); Joseph E. Stiglitz, *Tapping the Brakes: Are Less Active Markets Safer and Better for the Economy?*, Presented at the Federal Reserve Bank of Atlanta, Apr. 15, 2014, 4, 8. This is the fundamental argument of the seminal piece, Zohar Goshen & Gideon Parchomovsky, *On Insider Trading, Markets, and "Negative" Property Rights in Information*, 87 VA. L. REV. 1229, 1238-1243 (2001).

⁹⁴ For a political economy explanation of SEC insider trading enforced prompted by fundamental value informed traders and liquidity suppliers seeking to protect profits, see Haddock & Macey, *supra* note 80.

⁹⁵ Laura Nyantung Beny, *Insider Trading Laws and Stock Markets Around the World: An Empirical Contribution to the Theoretical Law and Economics Debate*, 32 J. CORP. L. 237, 275-77 (2007) (finding

2. *Efficiency effects: claimed social benefits.* The claimed positive efficiency effects of freely occurring issuer insider trading relate to price accuracy and its desirability as a form of managerial compensation.

a. *Price accuracy effects.* Trading by informed issuer insiders, like all informed trading, moves price in the direction of what it would be if the information on which they are trading was fully reflected in price. Thus, in this narrow sense, such trading makes prices more accurate. There is a serious question, however, as to whether it actually accelerates the reflection of already existing information in price. Even if it does, it generally advances the moment by which information gets reflected in price by very little, which renders the social gain, if any, insignificant.

i. *Delaying versus accelerating issuer disclosure.* Freely occurring issuer insider trading may, in many cases, actually delay, not accelerate, the moment existing information gets reflected in share prices.⁹⁶ Insiders would have an incentive to cause the issuer to delay disclosure of the information on which they are trading in order to maximize the profitability of their trades by slowly buying large amounts of stock.⁹⁷ While these trades will move price in the right direction, typically only with public disclosure will the information be fully reflected in price.⁹⁸

There is a response to this argument: insider trading might actually create incentives for faster public disclosure because once insiders' trading ceased, they want the information disclosed immediately and fully reflected in price. The insider can then close her position and take her full profits as quickly as possible,⁹⁹ thereby ending the risks associated with her concentrated position in the issuer's stock.¹⁰⁰

ii. *Unimportance of any delay or acceleration.* Ultimately, this debate is not very fruitful. The question of delay versus advance is an empirical one and rigorous is lacking. More important, the kind of insider trading that a prohibition can effectively catch and that, in the absence of prohibition would be most tempting, would be a trade shortly before an anticipated corporate announcement. Thus the period over which price accuracy would be improved, whether accelerated or delayed, is going to be brief in any

that cross-nationally more rigorous insider trading laws are associated with more accurate stock prices and greater liquidity).

⁹⁶ See, e.g., Easterbrook, *supra* note 58, at 332.

⁹⁷ For empirical evidence that various indirect methods of insider trading can negatively affect the quality of issuer disclosure, see Jesse M. Fried, *Insider Trading Via the Corporation*, 162 U. PA. L. REV. 801, 831 (2014) (disclosures in advance of issuer share repurchases where managers own issuer stock); Robert M. Daines, Grant R. McQueen & Robert J. Schonlau, *Right on Schedule: CEO Option Grants and Opportunism*, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2363148 (disclosures in advance of upcoming scheduled option grants based on the current share price).

⁹⁸ See Ronald Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 568-69 (1984); Eugene F. Fama, *Random Walks in Stock Market Prices*, 21 FIN. ANALYSTS J., Sept.-Oct. 1965, at 55 (describing how information is incorporated into price). Capital constraints limit the amount of trading that issuer insider informed traders can trade and noise hampers the ability of others trying to decode what the insiders know based on observed price changes. Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393 (1980).

⁹⁹ Carlton & Fischel, *supra* note 2, at 879 (insider trading may accelerate the speed of disclosure)

¹⁰⁰ See *supra* note 53.

case. As discussed above, when informed trading improves price accuracy for only a brief period of time, the improvement will not have any important effects on enhancing the efficiency of the real economy.¹⁰¹

b. Managerial compensation. A second efficiency argument for issuer insider trading, again pioneered by Henry Manne, is that insider trading can serve as a particularly effective compensation arrangement to induce managers in large bureaucratic corporations to act more entrepreneurially.¹⁰² If managers can freely profit from trading based on their knowledge of an issuer's future performance, they have additional incentives to achieve accomplishments that, when announced, will constitute the kind of good news that drives up the issuer's share price. This argument too is open to significant rebuttals, however.

i. Distorted incentives to choose risk over expected return. The managerial incentives provided by insider trading may in fact be neutral. Selling after undertaking undisclosed actions that will drive firm performance down is just as profitable as buying after undisclosed actions that will drive it up. Even if these bets against the firm could be fully deterred by rules, such as Exchange Act § 16(c), prohibiting insiders from short selling, this rebuttal is suggestive of another point: insider trading can incentivize managers to make the riskier decision, because of its bigger upside, even where the less risky choice would have a higher expected return and thus would be better for shareholders and for the efficiency of the economy as a whole.¹⁰³

ii. Inefficient allocation of risk. Allowing insider trading is an inherently risky form of compensation and as such allocates risk between managers and shareholders inefficiently.¹⁰⁴ An issuer is a wealth generating entity whose residual returns, after paying for labor and other inputs, are shared between managers and shareholders. The returns on this wealth-generating entity are inherently volatile, with much of this volatility coming from firm-specific risk. The typical managerial compensation arrangement divides these volatile residuals up between managers and shareholders. At one extreme would be a straight fixed salary with no insider trading allowed. At the other extreme would be no salary but permission to engage in insider trading to the extent that the expected value of this right equals that of the straight salary. On an expected basis, each of these two compensation arrangements is equally costly to shareholders. In the first, the volatility in future residuals is fully borne by the

¹⁰¹ See *supra* Parts III.A.2.a & III.B.2.

¹⁰² MANNE, *supra* note 2, at 110-120.

¹⁰³ This proposition assumes that the manager waits until she sees the ultimate results of the decision but before the results are publicly known. The ability to inside trade provides the manager with an option that is only exercised if the results are positive. All else equal, the riskier an option is, the more valuable. See Lucian Arye Bebchuk & Chaim Fershtman, *Insider Trading and the Managerial Choice Among Risky Projects*, 29 J. FIN. & QUANTITATIVE ANALYSIS 1, 12-13 (1994) (insider trading leads to riskier projects). That insider trading could lead to riskier choice of projects is a familiar insight of the insider trading literature. See, e.g., Thomas Ulen, *The Coasian Firm in Law and Economics*, 18 J. CORP. L. 301, 324-325 (1993); Joel Seligman, *The Reformulation of Federal Securities Law Concerning Nonpublic Information*, 73 GEORGETOWN L. J. 1083 (1985).

¹⁰⁴ See, e.g., Easterbrook, *supra* note 58, at 332.

shareholders. In the second, the shareholders bear only a portion of this volatility, with the rest being borne by the managers.

Shareholders are the more efficient bearers of this risk.¹⁰⁵ This is because they can diversify their portfolio of stock holdings and completely eliminate the firm-specific portion of the risk. Managers, in contrast, are already inherently undiversified, because they have developed substantial firm-specific human capital.¹⁰⁶ The firm-specific portion of the residual volatility that they take on with the insider trading arrangement, which also cannot be diversified away, just adds to the problem and will cause them disutility. Thus managers will be willing to agree to a package with lower expected compensation if it does not include a risky insider trading right component. Shareholders, because of their capacity to diversify, suffer no disutility from bearing this package's extra risk. So a package without an insider trading component, if it can be effectively enforced, would be the one that both managers and shareholders would choose.

iii. Poorly focused reward for performance and distorted internal communications. The idea of insider trading profits as an effective compensation tool also suffers from being unrealistic because there is generally a low correlation between who is responsible for the accomplishments that, when announced, will constitute good news and who might be able to profit from trading in anticipation of the announcement. So, for instance, the head of a division responsible for a major development is likely to represent only one of many corporate insiders who will be aware of this news prior to its public disclosure and able to profit by trading on it. The result is a poorly focused incentive scheme where the person responsible for corporate improvements will internalize only a fraction of insider trading profits. Even more serious, the opportunity to inside trade might result in corporate insiders working less effectively well as a team. Those acquiring information first may, rather than sending it immediately to others, hold back until they can maximize their own trading profits without the competition of the others.¹⁰⁷

3. Efficiency considerations: social losses. Freely occurring issuer insider informed trading has substantial negative social effects. It has the same adverse impact on liquidity as does any other type of informed trading. As discussed, less liquidity reduces social welfare because of the resulting misallocation of resources over time and misallocation of risk.¹⁰⁸ It also reduces significantly the level of fundamental value informed trading, which we have concluded is a socially desirable activity.

¹⁰⁵ Cf. Bruce Chapman, *Corporate Liability and the Problem of Overcompliance*, 69 S. CAL. L. REV. 1679 (1996) (firms are generally superior risk-bearers relative to managers)

¹⁰⁶ See Rafael Gely and Leonard Bierman, *The Law and Economics of Employee Information Exchange in the Knowledge Economy*, 12 GEO. MASON L. REV. 651, 674 (2004) ("employees have a fairly limited ability to diversify their human capital portfolio" relative to investors' ability to diversify their wealth)

¹⁰⁷ See Robert J. Haft, *The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation*, 80 MICH. L. REV. 1051 (1982) (exploring the potentially adverse effects of permitting insider trading on decision-making within large businesses).

¹⁰⁸ See *supra* Subsection I.B.2. The negative effects of insider trading on liquidity, and to a lesser extent price accuracy, have already been noted by a vast and rich legal literature, often arguing in favor of existing legal bans. For just a sampling of classic papers, see Bainbridge, *supra* note 2, at 11-12; Mark Loewenstein

Issuer insider informed trading has an additional social cost not present with fundamental value informed trading and announcement informed trading. While we find that issuer insider informed trading is not unfair, much of the public feels that it is. This perception of unfairness is demoralizing: it harms people to think that a major social institution is corrupt. It also discourages direct and indirect ownership of equities by persons who, absent this perception would find equities to be an investment vehicle that suits some of their needs, thereby blocking what would otherwise be welfare improving transactions. Normally, the better response to public misunderstanding is education. This perception of unfairness may be very hard to eradicate, however, and a generally effective prohibition on insider trading is another way of dealing with the perception's unfortunate effects.

4. *Overall policy conclusions.* The foregoing discussion strongly suggests that freely occurring informed trading by issuer insiders would be socially undesirable. While the practice does not, as many believe, work a wealth-redistributing unfairness, it does generally lead to inefficiency. Both the share price accuracy and compensation efficiency social benefit arguments for allowing such trading are unpersuasive. And, as just recounted, its costly effects on liquidity clearly have a number of negative effects on efficiency as does the widespread perception that it is unfair.

Four further questions need to be addressed, however. First, is it necessary that informed trading by the insiders of all issuers be banned, or would this be better decided on an issuer by issuer basis? Second, does trading based on all inside information need to be banned or just trades based on material information? Third, what are the social consequences of trades based on tippees of issuer insiders? Finally, do the conclusions concerning the social undesirability of trading by issuer insiders apply as well to issuers themselves?

a. *Should issuers be able to consent to insiders trading?* Nothing in this analysis so far suggests that it matters whether or not the issuer consents to the trading by its insiders. If the analysis above is correct, the claimed efficiency benefits are just as unpersuasive, and the negative efficiency effects are just as substantial, with or without the issuer's consent. We cannot be sure, however, that the analysis above is correct as to every single issuer in the market. Thus an argument can be made that each issuer should be able to adopt a policy publicly allowing its insiders to trade as long as the policy is publicly announced.¹⁰⁹ Suppose our conclusion that insider trading is efficiency diminishing is correct with respect to a given issuer. The market will price the issuer's stock lower if it nevertheless did allow insider trading. Because the entrepreneurs and

and William K. S. Wang, *The Corporation as Insider Trader*, 30 DEL. J. CORP. LAW 45, 74-77 (2005); William K. Wang, *Stock Market Insider Trading: Victims, Violators, and Remedies—Including an Analogy to Fraud in the Sale of a Used Car with a Generic Defect*, 45 VILLANOVA L. REV. 27, 38 (2000); H. Nejat Seyhun, *Insiders' Profits, Costs of Trading, and Market Efficiency*, 16 J. FIN. ECON. 189, 190-92 (1986); Jonathan R. Macey & Maureen O'Hara, *From Markets to Venues: Securities Regulation in an Evolving World*, 58 STAN. L. REV. 563, 589 (2005). Others have come to more ambivalent conclusions based on the finance literature. See Donald C. Langevoort, *Rereading "Cady, Roberts": The Ideology and Practice of Insider Trading Regulation*, 99 COLUM. L. REV. 1319, 1324 (1999).

¹⁰⁹ See Carlton & Fischel, *supra* note 2, at 866-868.

original investors want as high a share price as possible when they take the issuer public, they would have strong incentives to impose a binding prohibition on insider trading in its shares.¹¹⁰ If, instead, the analysis is incorrect with respect to a given issuer, allowing insider trading would result in a higher share price at the time that the issuer goes public and the entrepreneurs and original investors would allow for insider trading. In essence, the reaction of the market would force the issuer to absorb the loss if trading by its insiders would really be inefficient and enjoy the gain if it were efficient, and thus guide the firm to the most efficient choice.

There is some force to this argument, but we are ultimately skeptical. One reason is that there are probably substantial scale economies in an effective enforcement mechanism against issuer insider informed trading.¹¹¹ So if there is good reason to believe that it is inefficient for most issuers, the restriction should apply to all.¹¹² Another reason relates to all companies that are already publicly traded. Even if allowing issuer insider informed trading would be inefficient at such a firm, its managers typically own only a small portion of the stock. They would likely have much more to gain from being able to inside trade than they would lose from the decline in the value of their stock. If the managers are either given the power to decide the question or have a heavy influence on a shareholder vote on it, the firm will consent when it is socially undesirable for it to do so.

b. Insider trading on small bits of nonpublic information. As discussed, the reasons for finding issuer insider informed trading to be socially undesirable are strongest for a trade shortly before an anticipated corporate announcement. This is *the* kind of insider trading that a prohibition can most effectively catch and that, in the absence of prohibition, would be most tempting. It is also the kind with the poorest ratio of social benefits to social costs.

Consider, in contrast, a purchase by a corporate insider where she concludes, based on a myriad of individually small pieces of nonpublic information about which she is inevitably aware, that the issuer's shares are worth more than the current market price. Her purchase will move the price in the direction of reflecting these many small pieces of information and thus make the price more accurate. Most of these pieces of information will probably never be disclosed voluntarily or pursuant to mandatory disclosure. This is because there are so many of them, each of which is individually of little importance. Often, also, disclosure would be harmful to the issuer's ability to compete. Absent insider

¹¹⁰ Laura Nyantung Beny & Anita Anand, *Private Regulation of Insider Trading in the Shadow of Lax Public Enforcement: Evidence from Canadian Firms*, 3 HARV. BUS. L. REV. 215 (2013) (showing that many firms adopt precisely such policies).

¹¹¹ See David D. Haddock & Jonathan R. Macey, *A Coasian Model of Insider Trading*, 80 NW. U. L. REV. 1449, 1467-68 (1987).

¹¹² See JONATHAN R. MACEY, *INSIDER TRADING: ECONOMICS, POLITICS, AND POLICY* 6 (1991) (monitoring insiders' trading activities likely to display considerable economies of scale); see also Jonathan R. Macey, *From Fairness to Contract: The New Direction of the Rules Against Insider Trading*, 13 HOFSTRA L. REV. 9, 59 (1984) (contract law remedies available to firms damaged by insider trading are insufficient to achieve an optimal level of enforcement.).

trading based on this information, it will not be reflected in price until much later when the good or bad results that they predict materialize.

The complaint that allowing this type of insider trading would incentivize managers to take risky decisions at the expense of expected return is also inapplicable to this kind of insider trading. In making purchases based on such information, managers would need to face both the upside and downside risks since they would need to make their purchases well before the results of their decisions were in.

There is considerable evidence that this kind of insider trading occurs and is profitable. Officers and directors are required under Exchange Act 16(a) to report all purchases and sales. Presumably most officers and directors comply except for trades that violate Rule 10b-5. Officers and directors appear to make above market returns on their reported purchases and sales of their own firms' shares that they report in their 16(a) filing.¹¹³

c. Trading by tippees. A trade by a tippee of an issuer insider is no different in its negative effect on liquidity than a trade by the insider herself. Moreover, if the insider receives a benefit in return, or the satisfaction of making a gift to someone, allowing such tippee trading has just the same managerial incentive effects, good and bad, as allowing trades by the insider herself: the insider just gets the benefit or satisfaction instead of getting the profit from the trade. There are no such managerial incentive effects if the tip is not a gift and no benefit is received by the insider. But then the trade does not serve as an alternative form of compensation that can reduce the size of other components of the compensation package. In sum, absent some additional considerations relevant to a particular case, informed trades by tippees are at least as socially undesirable as trades by insiders.

d. Trading by an issuer possessing material information or by persons to whom it gives the information. Trading by an issuer possessing material non-public information is socially undesirable. It has the same positive price accuracy effects and negative liquidity effects as trading by an issuer insider. This is a tradeoff that we concluded involves a net social loss. There are no obvious other efficiency benefits when it is the issuer that is trading instead and so the same conclusion should apply to this trading as well.

We also concluded that trades by direct or indirect tippees of issuer insiders are socially undesirable. Again, the analysis behind this conclusion applies as well to trades based by outsiders authoritatively given such information by the issuer, whether directly or indirectly.

D. Inside Information: A Non-Issuer Source

Trades based on confidential information relevant to predicting an issuer's future cash flows can also be generated from within an institution other than the issuer. This could be, for example, a potential acquirer of the issuer (or the potential acquirer's investment bank or law firm), a hedge fund or other institutional investor, or a financial

¹¹³ See generally, H. Nejat Seyhun, *The Effectiveness of the Insider-Trading Sanctions*, 35 J. L. & ECON. 149, 157, 172-75 (1992).

research company. The analysis of the social desirability of such trades largely tracks the analysis of the desirability of trading based on information generated within the issuer, in particular the wealth transfer and fairness parts of the analysis. Ultimately, however, we will reach a somewhat different conclusion. We found trades based on material information generated within the issuer to be socially undesirable no matter who executes them. In contrast, we find many kinds of trades based on information generated within a non-issuer institution to be socially desirable. This difference in conclusions relates to how sensitive the generation of each of the two types of information is to the prospect of profits from trading on it. Specifically, most material information from within an issuer is the synergistic byproduct of the operations of the underlying business and thus will be generated whether or not the issuer or its insiders are allowed to trade on it. And it will be reflected in price soon in any event. Much of the information material to an issuer from within a non-issuer institution, however, would not be generated unless the institution, or others approved by it, are allowed to trade on the information.

1. Socially desirable trades. Recall the definition of fundamental value informed trading: trading based on information generated by a person who gathers various bits of information that are publicly available or observable and analyzes them in a sophisticated way that enables a superior assessment of an issuer's cash flows to that implied by the current stock price. When an institution other than the issuer develops confidential material information about the issuer that enables such a superior assessment, it is very likely to be fundamental value information – indeed sufficiently likely that it seems appropriate for our purposes here to classify all such information developed by a non-issuer institution as fundamental value information. Thus, in accordance with our earlier analysis, a trade by a non-issuer institution based on confidential material information that it has developed is socially desirable. It reduces liquidity with the consequent negative effects on efficiency in the same way that an issuer insider trade does. But this efficiency loss is more than counterbalanced by the efficiency gains arising from the incentives that are created to do the hard work of generating price accuracy enhancing information and to get it reflected in price.¹¹⁴

Using the same logic, where the institution allows someone else, whether an insider or outside person, to trade on such information, this trade is socially beneficial as well. The institution can be expected to try to maximize the returns it can garner from generating such information by authoritatively deciding to whom, if anyone, to communicate the information and specifying the terms of its use, including, whether it can be traded upon by the recipient, whether it can be recommunicated one or more times, and, if it can be recommunicated, the terms that each recommunicating person must impose on her recipient. The institution presumably only authorizes such use when it calculates that its benefits from doing so equal or exceed any loss from its trading profits.

¹¹⁴ See *supra* III.4.b. An unapproved trade by an institution's insider does improve price accuracy in the sense of getting the information that is generated by the institution reflected sooner in price. Like issuer insider trading, however, the non-issuer insider is most likely to trade only shortly before the outside institution itself would have transacted or made an announcement. Again, such a brief improvement in price accuracy will not enhance the efficiency of the real economy in any meaningful way.

This logic applies as well as we contemplate the information being handed down through a chain of recipients. The more money the institution's direct recipient can make from trading on it or communicating it to yet others, the more consideration the direct recipient will be willing to provide the institution originally generating the information. If the direct recipient is permitted by the institution's terms to communicate the information to others, the direct recipient will go through the same calculations in determining its terms, and so on down the chain if further communications are allowed by the originating institution and each prior recipient. Thus if there are one or more levels of authorized indirect recipients, there will be a whole network of agreements and duties specifying who is allowed to trade and under what conditions.¹¹⁵

2. *Socially undesirable trades.* Any trading not approved by this network of agreements and duties is socially undesirable. Such unapproved trading reduces liquidity, with the consequent negative efficiency effects, to the same extent as would trading by the outside institution itself or by trades approved by this network. But, unlike trading by the institution or approved by this network, unauthorized trading creates no compensating, efficiency-enhancing incentives to gather and analyze price-accuracy-improving information.¹¹⁶ Rather, the unapproved inside trade has the opposite effect, reducing the profitability of the institution's efforts to gather information and analyze it in a superior way. If the institution itself is planning to trade, the insider's early trades make the prices at which the institution trades less advantageous. If instead, the institution seeks to profit from selling it to someone else who will trade on it or from simply publicly announcing the information, the information is less valuable to the purchaser if an unapproved person has already begun to move price in the indicated direction by trading on it first.

In sum, where the institution is allowed to provide confidential information to others to trade on or otherwise utilize, its incentives for generating such information are at least as great or greater than if it were the only one that could trade the information. This depends, however, on the system of informed trading prohibitions that prevent trades outside of what is authorized by the resulting network of agreements and duties. The more effectively the prohibitions do this, the greater are the incentives of outside institutions to engage in the socially desirable practice of generating share-price-accuracy enhancing information.

¹¹⁵ These terms include, unless the institution affirmatively reverse them, obligations that arise because of the status of the recipient, for example the obligation of an agent of the institution, such as its lawyer or investment bank, not to use for its own purposes confidential information received from the institution. See RESTATEMENT (THIRD) OF TORTS § 8.05.

¹¹⁶ The unapproved trade does improve price accuracy in the sense of getting the information that is generated by the institution reflected sooner in price. Like trading by an issuer insider, however, the non-issuer insider is most likely to trade only shortly before the outside institution itself would have transacted itself or made an announcement. Again, such a brief improvement in price accuracy will not enhance the efficiency of the real economy in any meaningful way. See *supra* Subsections III.A.4.a.ii and III.C.2.a.ii.

IV. LEGAL REGULATION: DETERRING UNDESIRABLE INFORMED TRADING AND ENCOURAGING DESIRABLE INFORMED TRADING

The level of informed trading of various types is affected in the United States and elsewhere by a complex, and far from coherent, jumble of legal rules. These rules directly prohibit some types of informed trades and indirectly discourage or encourage others. In this Part, we will explore this pattern of regulatory impacts to see how close what is prohibited or discouraged comes to what the preceding analysis suggests are the socially undesirable informed trades and how close what is encouraged comes to what it suggests are the socially desirable ones.

Four types of legal rules will be considered here: rules that outright prohibit certain kinds of informed trades; rules that require, under certain circumstances, the return of profits from the informed trader to the issuer of the shares; mandatory disclosure rules; and rules governing the structure of the markets for secondary trading.

A. Informed Trading Prohibitions

The most prominent U.S. prohibition of certain informed trades emerged out of the courts' and SEC's interpretation of Exchange Act Section 10(b) and Rule 10b-5 promulgated thereunder.¹¹⁷ After an exploration of the history and current reach of these prohibitions, we will consider, in subsequent sections, the use of New York's Martin Act to stop certain informed trades and two comprehensive statutory schemes for regulating informed trading, the EU's Market Abuse Directive and the proposed U.S. Insider Trading Prohibition Act.

1. Section 10(b) and Rule 10b-5: History of development of the current law. The Exchange Act is the primary statute in the United States regulating the secondary trading of securities. No provision of the Exchange Act, including Section 10(b), explicitly prohibits any kind of informed trading. Section 10(b) simply prohibits certain "manipulative or deceptive device[s] or contrivance[s] in contravention of" rules and regulations prescribed by the SEC "as necessary or appropriate in the public interest or for the protection of investors."¹¹⁸ The SEC promulgated Rule 10b-5 in 1943 pursuant to Section 10(b), but that rule too contains no explicit prohibition of any type of informed trading. The closest it comes to doing so is to prohibit, "in connection with the purchase or sale of any security," employing "any device, scheme, or artifice to defraud" and engaging "in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person."¹¹⁹ A brief history of the evolving interpretation of these phrases in the statute and the rule can help explain Rule 10b-5's current, rather jury-rigged, set of prohibitions on certain types of informed trading.

a. The early history of the development of the doctrine. It was thirty years after the passage of the Exchange Act and more than twenty years after Rule 10b-5's promulgation before either the SEC or a court rendered the first opinion holding that Section 10(b) could be violated by some kind of informed trading on a secondary

¹¹⁷ 15 U.S.C. § 78j(b) (2012); 17 C.F.R. § 240.10b-5 (2015).

¹¹⁸ 15 U.S.C. § 78j(b) (2012).

¹¹⁹ 17 C.F.R. § 240.10b-5 (2015).

exchange. This opinion, by the SEC in *Cady, Roberts & Co.*,¹²⁰ related to the appropriateness of a Rule 10b-5 based disciplinary action against a broker who received nonpublic information from a company's director that it was about to announce a dividend cut. The broker, ahead of the announcement, quickly sold the company's shares for various accounts over which he had discretion.¹²¹ The source of the information – the director – was apparently under a reasonably based, but mistaken, belief that the news was already public and phoned the broker to find out the market reaction. Not reaching the broker, he left a message that effectively communicated the cut.¹²² The Commission ruled that a person who has a special relationship with the company and is privy to its internal affairs violates Rule 10b-5 if she trades in its stock without disclosing any material nonpublic information in her possession.¹²³ The broker was a partner in a brokerage firm for which the director was a registered representative and this connection with the company was enough to find the needed relationship.¹²⁴ Four years later, the Second Circuit, in dicta in *SEC v. Texas Gulf Sulphur Co.*,¹²⁵ citing *Cady Roberts*, dispensed with the need for a relationship with the issuer, an interpretation that greatly expanded the range of persons whose informed trades would violate Rule 10b-5. The court stated “*anyone* in possession of material inside information must either disclose it to the investing public or . . . must abstain from trading in or recommending the securities concerned while such inside information remains undisclosed.”¹²⁶

b. Chiarella and its aftermath. The Second Circuit's very broad dicta in *Texas Gulf Sulphur* was rejected twelve years later by the Supreme Court in *Chiarella v. United States*, which held that “the duty to disclose under § 10(b) does not arise from the mere possession of nonpublic information.”¹²⁷ The defendant, Chiarella, learned of several yet-to-be-announced hostile tender offers from his work at a financial printing firm preparing the offering documents. Chiarella's employment contract pledged him to keep confidential, and not to trade on, what he learned at work. He nevertheless purchased shares of each target and resold them for a predictably higher price after the offer's announcement. The District Court found Chiarella guilty of a criminal violation of Rule 10b-5 and sentenced him to a year in prison, which the Second Circuit upheld. Chiarella appealed to the Supreme Court.

i. The classical theory of insider trading. All of the Justices, in the various opinions in the *Chiarella* case, appear to have believed that more than mere possession of material nonpublic information was necessary for a trader to violate Rule 10b-5, and a majority, based on the narrow holding that mere possession was not enough, voted to reverse the Second Circuit's affirmation of the convictions. The nine Justices

¹²⁰ 40 S.E.C. 907 (1961).

¹²¹ *Id.* at 908.

¹²² *Id.* at 909.

¹²³ *Id.* at 912.

¹²⁴ *Id.*

¹²⁵ 401 F.2d 833 (2d. Cir. 1968).

¹²⁶ *Id.* at 848 (emphasis added). The statement was dicta because the actual defendants were officers or high level employees of the company.

¹²⁷ 445 U.S. 222, 235 (1980).

splintered, however, on how much more than mere possession was needed. Justice Powell was joined by three other Justices in his opinion setting out the “classical theory” of insider trading. Under this theory, there needs to be “a relationship of trust and confidence between the parties to a transaction.”¹²⁸ Powell stated that Chiarella had no such relationship with the sellers of the target companies’ securities and that “he was, in fact, a complete stranger, who dealt with the sellers only through impersonal market transactions.”¹²⁹

ii. *The misappropriation and structural access theories.* Justice Burger’s dissent set out the “misappropriation theory” of insider trading. Under this theory, trading by someone not in such a relationship with his counterparty nevertheless violates Rule 10b-5 if he trades on material nonpublic information that he has “misappropriated.”¹³⁰ Applying this theory, Burger believed Chiarella violated Rule 10b-5 because the breach of his confidentiality agreement with his employer meant his trades were based on misappropriated information.¹³¹ Two other Justices, Stevens and Brennan, expressed a willingness to entertain the misappropriation theory, but joined the part of Justice Powell’s opinion reversing the conviction based on the narrow holding that mere possession while trading was not enough for a violation. They did so because they did not believe the misappropriation theory had been presented to the jury.¹³²

Justice Blackmun, joined by Justice Marshall, set out in a separate dissent a yet third theory of insider trading, “structural access.” Under this theory, trading on material nonpublic information by someone who was neither in a relationship of trust and confidence with the other party, nor was trading on the information in violation of a duty owed to some third party, would nevertheless violate Rule 10b-5 if she obtained the information as the result of a “structural information advantage.”¹³³

A clear majority in *Chiarella* believed that not only was mere possession insufficient, mere structural access was insufficient as well. The status of the misappropriation theory, however, was unclear. This uncertainty was finally resolved by the Court seventeen years later in the *O’Hagan* case.¹³⁴ This case involved a lawyer who learned of the confidential plans of his firm’s client to engage in a hostile tender offer and purchased the proposed target’s shares. The majority opinion, written by Justice Ginsburg, held that a Rule 10b-5 violation “may be predicated on the misappropriation theory”¹³⁵ and found that trading on nonpublic material information violates Rule 10b-5

¹²⁸ *Id.* at 230. Powell’s discussion of the reach of Rule 10b-5 assumed that the non-disclosed information was material, thus suggesting that a trade on the basis of immaterial information would be legal even by an insider. If Congress had wished to prohibit all informed trading by corporate insiders, whether or not material, there would have been a simple way of doing so – ban all purchases or sales of an issuer’s stock by corporate insiders for as long as the insiders maintain that status – a path not taken.

¹²⁹ *Id.* at 232-233.

¹³⁰ *Id.* at 240.

¹³¹ *Id.* at 243-244.

¹³² *Id.* at 237-238.

¹³³ *Id.* at 251.

¹³⁴ *United States v. O’Hagan*, 521 U.S. 642 (1997).

¹³⁵ 521 U.S. 650.

where the trade “was in breach of a duty [of loyalty and confidentiality] owed to the source of the information.”¹³⁶

iii. *Tipper and tippee liability for information coming from within the issuer.* The tipper/tippee situation arises when there is trading by a person (the recipient) who learns material nonpublic information, directly or indirectly, from a person (the source) who, if she traded on it herself, would violate Rule 10b-5. Consider the situation where the source is an insider of the issuer, the recipient has no connection with the issuer, and the source willingly, but without the issuer’s permission, provides the information to the recipient. The source would violate Rule 10b-5 if she herself traded in the stock because she would be regarded as being in a relationship of trust and confidence with the issuer’s shareholders.¹³⁷ But it is the recipient, not the source, who is trading. The recipient has no special relationship of trust and confidence with either the persons with whom he deals or with the source. So, at first blush, neither the tip by the source, nor the trade by the recipient, would appear to violate Rule 10b-5 under either the classical theory or the misappropriation theory.

Justice Powell, in dictum in his *Chiarella* opinion, found an inventive way around this problem. He suggested that the source, who *is* deemed to be in such a relationship with the issuer’s shareholders, breaches her duty to these shareholders by providing the information to someone likely to trade on it, and the recipient, by trading on it, becomes a “participant after the fact” in the source’s breach.¹³⁸ Based on this theory, Justice Powell, in his majority opinion in *Dirks v. SEC*, held that “a tippee assumes a fiduciary duty to the shareholders of a corporation not to trade on material nonpublic information only when the insider has breached his fiduciary duty to the shareholders by disclosing his information to the tippee and the tippee knows or should know that there has been a breach.”¹³⁹

In *Dirks*, however, Powell added an additional wrinkle that went beyond his dictum in *Chiarella*. He concluded that a breach of duty to the shareholders requires that the tipper “personally . . . benefit, directly or indirectly, from [her] disclosure,”¹⁴⁰ not just that the transfer of information was in violation of the issuer’s determination that it be kept confidential. Thus, for the source to violate Rule 10b-5, she must have this personal benefit, and for the direct recipient to violate the Rule, he must be aware of this benefit. The personal benefit requirement is also met, however, when the information is a gift to a relative or friend.¹⁴¹ Justice Powell apparently added the personal benefit requirement to

¹³⁶ *Id.* at 652. (emphasis added) Justice Ginsburg, in an effort to better connect this breach with the language of Section 10(b) and its reference to a “deceptive device,” argued that “misappropriators . . . deal in deception” because “[a] fiduciary who ‘[pretends] loyalty to the principal while secretly converting the principal’s information for personal gain’ . . . ‘dupes’ or defrauds the principal.” *Id.* at 653-654.

¹³⁷ *Chiarella*, 445 U.S. at 228.

¹³⁸ 445 U.S. at 230, n. 12.

¹³⁹ 463 U.S. 646, 660 (1983) (citation omitted).

¹⁴⁰ *Id.* at 662. For an extensive discussion of the genesis of the personal benefit test, see Adam C. Pritchard, *Dirks and the Genesis of Personal Benefit*, 68 SMU L. REV. 857 (2015).

¹⁴¹ *Dirks*, 463 U.S. at 664.

avoid chilling analyst interviews, which he regarded as socially beneficial.¹⁴² Without it, the source and the recipient in such an interview could each violate Rule 10b-5 when they mistakenly thought that the information was not material or was already public.¹⁴³

Now consider trades by more remote tippees: those who receive the information directly or indirectly from the direct recipient. They can violate Rule 10b-5 in either of two ways. One is where the trader is aware of the breach by the original source, including the source's personal benefit. Such a trader is as much a participant after the fact in the breach by the original source of his duty to the issuer's shareholders as would be a direct recipient who trades.¹⁴⁴ The other way is where the trader has a relationship with the person providing him the information that imposes on the trader a duty of confidentiality. The trade, as a breach of the recipient's duty to this provider, is a Rule 10b-5 violation based on the misappropriation theory, a violation that does not depend on his knowledge concerning the original breach by the insider.¹⁴⁵

Recently, in *Salman v. United States*, the Supreme Court elaborated upon the gift branch of the personal benefit test in ways particularly relevant to remote tippees.¹⁴⁶ The tipper and the direct tippee in this case were brothers who each pled guilty to a Rule 10b-5 violation. There was evidence that they had a close relationship. The defendant, Salman, was the tipper's brother-in-law and, as part of a close extended family, received the information from the direct tippee and traded upon it. Thus, he was obviously aware of the relationship between the tipper and direct tippee. He also knew the tipper was the origin of the information on which he traded. Salman argued that he had not violated Rule 10b-5, however, because there was no evidence that the tipper received anything of a pecuniary or similarly valuable nature in exchange for the information, evidence that Salman said was required by some of the language in the recent Second Circuit decision in *U.S. v. Newman*.¹⁴⁷ Salman was found guilty at trial and his conviction was upheld by the Ninth Circuit. The Supreme Court granted certiorari on the question of

whether the *Dirks* personal benefit test "require[s] proof of 'an exchange that is objective, consequential, and represents at least a potential gain of a pecuniary or similarly valuable nature,' as the Second Circuit held in [*Newman*] . . . , or is it

¹⁴² *Id.* at 658-659.

¹⁴³ *Id.* at 662.

¹⁴⁴ See, e.g., *SEC v. Musella*, 678 F.Supp. 1060, 1062-1064 (S.D.N.Y. 1988) (defendants "should have known that fiduciary duties were being breached with respect to confidential, non-public information"); *In re Motel 6 Sec. Litig.*, 161 F. Supp. 2d 227, 242 (S.D.N.Y. 2001) ("a defendant's subjective belief that information received 'was obtained in breach of a fiduciary duty . . . may . . . be shown by circumstantial evidence'").

¹⁴⁵ In each of these two cases, if someone who himself is prohibited from trading instead, or in addition, tips someone else, he would violate Rule 10b-5 as a tipper.

¹⁴⁶ *Salman v. United States*, 580 U.S. __ (2016).

¹⁴⁷ 773 F.3d 438 (2d Cir. 2014). See *infra* Subsection IV.C.5 regarding commentary on the case.

enough that the insider and the tippee shared a close family relationship, as the Ninth Circuit held in this case.¹⁴⁸

In its unanimous opinion, the Court cleared up some confused language in *Newman* that appeared to eliminate altogether the gift branch of the *Dirks* personal benefit test.¹⁴⁹ Equally importantly, it addressed the question of what kind of evidence is sufficient for a jury to infer that the source received a personal benefit in the form of making a gift. It concluded that evidence of the existence of a close family or friendship relationship—all that Salman appeared to know—was by itself sufficient.¹⁵⁰

iv. Tipper and tippee liability for information coming from within an institution other than the issuer. Now consider information that comes from within an institution other than the issuer. As a first hypothetical, suppose that the source owes a duty to this institution to keep the information confidential and not trade on it; the recipient has no relationship with either the institution or the source; and the source willingly, but without authority, provides the information to the recipient, who trades on it. The source in this hypothetical has violated Rule 10b-5: the breach of the confidentiality duty is a misappropriation that is in connection with the purchase or sale of a security because the tip was provided to someone likely to trade on it.¹⁵¹ If the recipient is aware of the breach by the source, he too violates Rule 10b-5 as a participant after the fact in the source's breach.¹⁵²

As a second hypothetical, suppose again that the source owes a duty to the institution to keep the information confidential and not to trade on it, and may, or may

¹⁴⁸ Cert. granted, No. 15-628 (U.S. Jan. 19, 2016) (granting petition for a writ of certiorari as to Question 1 presented by Petition for Writ of Certiorari in *Salman v. United States*, <http://www.scotusblog.com/wp-content/uploads/2016/01/Salman-v-US-petition-for-writ-of-certiorari.pdf>).

¹⁴⁹ Slip opinion at 10. The language from *Newman* quoted in the grant of certiorari would appear to eliminate the gift branch of the test because a gift by definition cannot involve an exchange and yet the quoted language seems to be requiring one. Yet it is not clear that this was the intention of the Second Circuit. The very next sentence after the quoted language says “in other words . . . this requires ‘a relationship between the between the insider and the recipient that suggests a quid pro quo from the latter, or an intention to benefit the [latter].’” *Newman*, 773 F.3d at 452 (quoting *United States v. Jau*, 734 F.3d 147, 153 (2d Cir. 2013)) (emphasis added). Moreover, a holding eliminating the gift branch of the benefit rule was not a necessary to support the Second Circuit's decision to reverse the conviction of the defendants in the case because the Second Circuit also concluded that “no reasonable jury could have found that [the defendants] knew, or deliberately avoided knowing, that the information originated with corporate insiders.” 773 F.3d at 455.

¹⁵⁰ Slip Opinion at 10 (“*Dirks* specifies that when a tipper gives inside information to ‘a trading relative or friend,’ the jury can infer that the tipper meant to provide the equivalent of a cash gift.”) While there was additional evidence that in fact the tipper intended to help this direct tippee brother, it does not appear there was evidence that Salman knew anything other than that the two brothers had close relationship (and that the tippee, in violation of employer's confidentiality requirement, was the source of the information on which Salman was trading).

¹⁵¹ See, e.g., *SEC v. Yun*, 327 F.3d 1263, 1274-75 (11th Cir. 2003); *SEC v. Gansman*, 657 F.3d 85, 92 (2d Cir. 2011); 18 INSIDER TRADING REGULATION, ENFORCEMENT AND PREVENTION § 6:13 (Donald C. Langevoort 2015).

¹⁵² See, e.g., *United States v. Falcone*, 257 F.3d 226, 234 (2d Cir. 2001) (“the government was simply required to prove a breach by Salvage, the tipper, of a duty owed to the owner of the misappropriated information, and defendant's knowledge that the tipper had breached the duty”).

not, be authorized to provide it to the recipient. The recipient, who trades on it, has no relationship with the institution but *does* have a duty of confidentiality to the source. The trade breaches this duty and is thus a straightforward Rule 10b-5 violation under the misappropriation theory. It does not matter whether or not the communication was unauthorized and, if it was, that the recipient was aware. More remote tippees who trade on the information or tip themselves may, depending on the particular circumstances, violate Rule 10b-5 based on various possible combinations and permutations of the participant after the fact and misappropriation theories as they might be applied to the persons in the chain in a way similar to these two hypotheticals.

One issue remains unresolved with regard to cases where the misappropriator is not a trader, but a tipper. Significant disagreement exists among the Circuit Courts concerning whether the tipping misappropriator must receive a “personal benefit” for there to be a Rule 10b-5 violation, as is required under *Dirks* for tippees from within the issuer.¹⁵³ The Second Circuit arguably does not impose such a requirement for tipping misappropriators to violate Rule 10b-5,¹⁵⁴ while the Eleventh Circuit has held that a personal benefit is required.¹⁵⁵ As discussed below, we believe that imposing this added test is doctrinally unnecessary and leaves a large number of socially undesirable trades beyond Rule 10b-5’s prohibitions.¹⁵⁶

v. Informed trading by an issuer. The prevailing view in the lower courts is that issuers themselves are prohibited under Rule 10b-5 from trading in their shares based on their own nonpublic material information. The leading case is *Shaw v. Digital Equipment Corp.*,¹⁵⁷ where the court said “Courts, including this one, have treated a corporation trading in its own securities as an ‘insider’ for purposes of the ‘disclose or abstain’ rule.”¹⁵⁸ As discussed earlier, such a prohibition is good policy.¹⁵⁹ The Supreme Court,

¹⁵³ See *SEC v. Sargent*, 229 F.3d 68, 76-77 (1st Cir. 2000) (reviewing case law but declining to decide the issue). The issue arose, but was not decided by the Supreme Court, in *Salman*. The case appears to involve only information coming from investment banks the clients of which were not the issuers of the shares that were traded. Thus the alleged Rule 10b-5 violation would need to be grounded on the misappropriation theory (although the government maintained it was grounded on the classical theory as well). *Salman* Slip Opinion at 8 n.2. The Court says “we do not need to resolve the question [of whether the personal benefit test applies to the misappropriation theory]” The Court says that the parties “do not dispute” that it does and so “we will proceed on the assumption that it does.” *Id.*

¹⁵⁴ *SEC v. Musella*, 748 F. Supp. 1028, 1038 n.4 (S.D.N.Y. 1989) *aff’d*, 898 F.2d 138 (2d Cir. 1990) (“The misappropriation theory of liability does not require a showing of a benefit to the tipper”). Also, in *U.S. v. Chestman*, 903 F.2d 75 (2d Cir. 1990), the Second Circuit focused on whether a marital relationship by itself created a duty of confidentiality which is breached when the recipient of the information uses it to tip, and made no mention that the recipient needed as well a personal benefit in return for the tip.

¹⁵⁵ *SEC v. Yun* 327 F.3d 1263, 1274-75 (11th Cir. 2003). The court expressed the concern that any insider tipping case could be reframed as a misappropriation case, instead of a *Dirks* type classical insider trading case, thereby rendering the *Dirks* personal benefit requirement a dead letter. *Id.* at 1279. Another way that the courts could deal with this problem, however, would be to rule that the misappropriation theory, which was developed to deal with a different situation not involving the breach of duties to the persons on the other side of a trade, is simply not applicable to the issuer insider tipper. See *supra* IV.A.3.c.

¹⁵⁶ See IV.A.3.d.iii *infra*.

¹⁵⁷ 82 F.3d 1194 (1st Cir. 1994).

¹⁵⁸ 82 F. 3d at 1203. Cf. *Freeman v. Decio*, 584 F.2d 186, 194 (7th Cir. 1978) (“If the corporation were to attempt to exploit such non-public information [usually involved in insider trading] by dealing in its own

however, has never addressed this question and the prohibition is difficult to justify in terms of the Court's doctrinal foundations in this area. It certainly could not be justified under the misappropriation theory and it does not fit easily under the classical theory either. It is a stretch under corporate law to say that the corporation itself, as opposed to its insiders, owes fiduciary-like duties to its shareholders.¹⁶⁰

2. *Section 10(b) and Rule 10b-5: Evaluation.* How does the reach of Rule 10b-5's prohibitions on informed trading compare with what the analysis in Part III suggests are the socially undesirable informed trades?

a. *Fundamental value informed trading.* We have concluded that fundamental value informed trading is socially desirable. Consistent with this recommendation, fundamental value informed trading is not prohibited by Rule 10b-5. It is not a violation under the classical theory because there is no relationship of trust and confidence between a fundamental value informed trader and the person with whom she transacts. It is also not a violation under the misappropriation theory: the fundamental value informed trader develops the information herself based on collecting bits of publicly available information and so there is no breach of a duty of confidentiality to the information's source as required under that theory.¹⁶¹

b. *Announcement information.* We concluded in Part III that announcement informed trading is socially undesirable. Announcement trading is not prohibited by Rule 10b-5 because it involves trading on information that is, as a literal matter, publicly available. New law imposing an outright ban on announcement trading is probably impractical: it would be difficult to define in legal terms what the reach of the prohibition should be in a way that would actually diminish the practice without at the same time chilling socially desirable trading. However, it can be reduced, as discussed below, by rules relating to the structure of market trading and to the timing of issuer announcements.¹⁶²

c. *Inside information: the issuer as source.* We concluded in Part III that trades based on material non-public information from within an issuer are, as a general

securities, it would open itself up to potential liability under federal and state securities laws, just as do the insiders when they engage in insider trading.”); *Arlia ex rel. Massey Energy Co. v. Blankenship*, 234 F. Supp. 2d 606, 610 (S.D.W. Va. 2002) (“insider trading does not rob the corporation of an opportunity, because securities laws prohibited the company itself from trading on its own nonpublic information”).

¹⁵⁹ See *supra* Subsection III.C. 4.d.

¹⁶⁰ See, e.g., *Hyman v. New York Stock Exch., Inc.*, 46 A.D.3d 335, 337, 848 N.Y.S.2d 51, 53 (2007) (“it is well settled that a corporation does not owe fiduciary duties to its members or shareholders”); *Powers v. Ryan*, No. CIV. A. 00-10295-00, 2001 WL 92230, at *3 (D. Mass. Jan. 9, 2001) (“The case law is less settled on whether a corporation owes a fiduciary duty to a shareholder.”); see also W. WANG & M. STEINBERG, INSIDER TRADING § 5.2.3 (3d ed. 2010) 5.2.3(c)(1) (discussing issue in depth). In terms of ex post fairness, it should be noted that unlike trades by insiders, the resulting losses suffered by the shareholders (or shareholders to be) transacting with the corporation are exactly counterbalanced by the gains enjoyed by the shareholders who did not transact. See also Donald C. Langevoort & Gaurang Mitu Gulati, *The Muddled Duty to Disclose Under Rule 10b-5*, 57 VAND. L. REV. 1639, 1644-1664 (2004) (discussing the distinctive features of issuer insider trading and *Shaw*).

¹⁶¹ *Chiarella*, 445 U.S. at 240 (Burger, J. dissent) (citation omitted).

¹⁶² See *infra* Section IV.F.

matter, socially undesirable. This conclusion includes trades by the issuer itself and by issuer insiders and their direct and indirect tippees. Consent from the issuer is irrelevant. As reviewed above, existing interpretations of Rule 10b-5 clearly prohibit such trades by the issuer and its insiders.¹⁶³ The status of direct and indirect tippees is more complex.

ii. Tipplers and tippees of issuer information generally. As we have seen, under *Dirks* the Supreme Court finds some, but not all, selective disclosures of material non-public information from inside an issuer to be Rule 10b-5 violations and the same with respect to some, but not all, trades by outsiders based on these disclosures. For the tip by the insider to be a violation, it must be a breach of duty to the issuer's shareholders. This requires a violation of the insider's duty to the corporation to keep the information confidential and, in addition, that the insider receives a personal benefit. The trade of the outsider recipient is only a violation if it makes her a "participant after the fact" in the insider's breach.¹⁶⁴ This requires that she be aware of both the duty of confidentiality violation and the insider's personal benefit.¹⁶⁵

The personal benefit test is an additional wrinkle added by Justice Powell in the *Dirks* case, apparently out of a fear of chilling analyst interviews. Our analysis in Part III makes us sympathetic with the concern that when the insider tipper receives no personal benefit for passing on material information to the outsider tippee, imposing liability on either is likely to chill analyst interviews. The starting point to understanding this concern is to note that an analyst interview can give rise to either of two bases for profitable trading. One basis is where the interview reveals a large number of small, *immaterial* pieces of non-public information that the analyst can use to develop a superior analysis of a stock's value. For trades motivated by this basis, the social gain from the resulting price-accuracy improvements is likely to be greater than the social loss from the decline in liquidity. This conclusion rests on reasoning identical to the reasoning behind our conclusion in Part III that there is a net social gain associated with fundamental value informed trading (which involves doing the same kind of analysis, but with publicly available or observable immaterial information bits)¹⁶⁶ and behind the same conclusion with trades by insiders themselves based on nonpublic immaterial information.¹⁶⁷

The second basis for an interview generating a trade is the revelation of a piece of *material* non-public information. A trade on this basis would have exactly the same impact on price accuracy and liquidity as a trade by an insider based on the same information, which we have concluded involves a net social loss and should be prohibited. Determining whether or not to punish this second type of interview-generated trades – the socially undesirable ones based on material information – depends, however,

¹⁶³ In contrast, we also concluded that trades based on one or more bits of non-public immaterial information from within an issuer were not socially undesirable, and existing interpretations of Rule 10b-5 in fact do not find them illegal.

¹⁶⁴ *Id.* at 230 n. 12.

¹⁶⁵ *Dirks v. S.E.C.*, 463 U.S. 646, 663 (1983) (directing courts to look to "whether the insider receives a direct or indirect personal benefit from the disclosure, such as a pecuniary gain or a reputational benefit that will translate into future earnings").

¹⁶⁶ See *supra* Subsection III.A.4.b.

¹⁶⁷ See *supra* Subsection III.C.4.b.

on the effect of doing so on the level of the first type of interview-generated trades – the socially desirable ones based on an analysis of immaterial information. We believe that if analyst interviews are unfettered by fear of liability (absent a personal benefit to the issuer spokesperson), there will be many more of them and that there will be a substantial increase in the first type of trades and only a modest increase in the second type of trades. This is because the protection arising from a lack of personal benefit only extends to unauthorized disclosures¹⁶⁸ and so they likely only occur by accident.¹⁶⁹ Thus we think that with unfettered interviews, the net social gains from trades motivated by the first basis will be greater than net social losses from trades motivated by the second basis.¹⁷⁰

Imposing the personal benefit test in tipper/tippee cases is one way of engaging in the doctrinal gymnastics of converting, as best one can, an anti-fraud rule into a policy-based regulation of informed trading capable of protecting analyst interviews. If the only choices were to retain or to eliminate the rule, we would choose to retain it for this reason. As discussed below, however, we believe that the test too often provides defenses for indirect tippees trading on such information, trades that are just as socially undesirable as ones by an insider based on the same information. We will advocate an approach that presents much less of this problem, while still not chilling analyst interviews and continuing to respect the doctrinal foundations laid down by Supreme Court in *Chiarella*.¹⁷¹

d. Inside information: a non-issuer source. Now consider material nonpublic information relevant to predicting the future cash flows paid to the holders of an issuer's shares that comes from within an institution other than the issuer. We concluded in Part III that trading based on such information is socially undesirable, but, unlike trading based on information from within the issuer, only when the source – the non-issuer institution – has failed to give permission. The reach of Rule 10b-5's prohibitions on trades based on such information generally includes the trades we believe are socially undesirable and leaves untouched the socially desirable ones. Again, the one problematic area relates to tippers and tippees, especially indirect tippees.

¹⁶⁸ An authorized selective disclosure of material information raises very different issues. The prevailing view of the lower courts is that trading by an issuer when in possession of such information would violate Rule 10b-5. *See supra* Subsection IV.A.1.b.v. By logical extension, it would presumably also be the view of these courts that the issuer would also violate Rule 10b-5 if its agent made an authorized tip of such information, as would a trade by its direct tippee or any indirect tippees if the trader were aware that the tip was authorized.

¹⁶⁹ Also, the issuer has an interest in preventing such accidents because the resulting effect on liquidity will lower its share price. Admittedly, there is the possibility that the firm, while not formally authorizing the disclosure, would wink at its agent trading the occasional material tip in return for either continued analyst coverage where there otherwise would not be any, or for more favorable coverage. Whether tips in return for analyst coverage are socially undesirable requires its own complex analysis, as does calculating the likelihood of tips in return for favorable coverage. *See infra* Subsection IV.D.2.

¹⁷⁰ The policy recommended here is best paired with a provision, such as Regulation FD, that in essence prohibits a firm from the intentional selective disclosure of material information when it is likely to be traded upon and requires immediate public disclosure of such information if the firm discovers an inadvertent selective disclosure of such information. *See infra* Subsection IV.D.2.

¹⁷¹ *See infra* Subsection IV.3.b.

i. Trading and tipping by insiders of an institution other than the issuer and trading by direct outside recipients. Under the misappropriation theory, approved by the Supreme Court’s majority opinion in *O’Hagan*, trading on non-public material information originating from an institution other than the issuer violates Rule 10b-5 when the trade involves a breach of a duty of confidentiality.¹⁷² Thus, where an insider of the institution, with its permission, trades or provides the information to others, there is no violation because there is no breach of a confidentiality duty. Similarly, where an authorized agent of the institution provides such information to an outside recipient who trades on it or passes it on to others to trade on, there is no Rule 10b-5 violation unless the outside recipient agreed to keep the information confidential or is otherwise in a relationship with the institution imposing a duty of confidentiality.

ii. Providing coherence to the misappropriation theory. While we approve of the results in the Supreme Court’s decision in *O’Hagan* affirming the misappropriation theory, the majority opinion justified the decision in part by saying that the prohibited trades are harmful to others in the market.¹⁷³ This justification is incoherent because trades based on the same information that are approved by the non-issuer institution are equally harmful to others in the market and yet, under the theory, do not violate Rule 10b-5, a point made forcefully by Justice Thomas in dissent.¹⁷⁴ The analysis here provides an alternative, more coherent justification for the distinction between the transactions prohibited by the theory and those that are not. Each kind, by decreasing liquidity, causes the same amount of harm to other market participants, but the prohibited transactions discourage production of and trading upon fundamental value information, whereas the permitted transactions encourage these socially valuable activities.

iii. Tippers and tippees of information from within an institution other than the issuer. Now consider information originating from an institution other than the issuer that, without the institution’s authority, is selectively disclosed by one of its insiders or by a person owing the institution a duty of confidentiality. Assume also that trading upon the information is predictable and that the direct or indirect recipient who trades on it owes no duty of confidentiality to the institution or to any person in the chain through which it reached him.

As analyzed in Part III, the prospect of such trades reduce the incentives of outside institutions to produce such socially useful information. Such trades are thus socially undesirable.¹⁷⁵ An optimal rule would prohibit any such trade where the trader knows, or should know, that the information was confidential, came originally from

¹⁷² Under *O’Hagan*, the only exception would be in the surreal situation where the insider, just in advance of breaching her duty of confidentiality to her employer, informs the employer of her intention to do so. 521 U.S. at 653-54.

¹⁷³ 521 U.S. at 655, 657 (a misappropriator’s trades harm members of the investing public).

¹⁷⁴ Justice Thomas, in dissent, points to this incoherence to conclude that such trading should not violate Rule 10b-5 whether or not the trader has permission. *O’Hagan*, 521 U.S. 680, 689-90 (Thomas J. dissent) (whether a trade is based on “disclosed misuse or authorized use [of information]—the hypothesized ‘inhibiting impact on market participation,’ would be identical to that from behavior violating the misappropriation theory”) (citation omitted).

¹⁷⁵ See *supra* Section III.D.

within the institution, and was selectively disclosed by an insider without the institution's authority. This optimal rule should not pose a challenge to the Supreme Court's Rule 10b-5 doctrinal foundations. The insider's original disclosure of the information without authority violates Rule 10b-5 under the "misappropriation theory" because it involves a breach of a duty of confidentiality in connection with a predictable purchase or sale of a security. The trade makes the trader a "participant after the fact."¹⁷⁶

As noted above, however, there is disagreement among the circuits whereby some courts have sought to add the personal benefit test as an additional requirement, a test that was originally developed for issuer insider tippees.¹⁷⁷ We think that inserting the personal benefit test into the misappropriation theory is seriously misguided as a matter of both policy and doctrine. The central factual issue under the misappropriation theory is whether the insider of the non-issuer institution breached a duty of confidentiality to it by tipping or trading. Where he has, it means that the institution has not waived this duty when it could have. This institution finds the insider's conduct disadvantageous whether or not the insider benefited personally. The Supreme Court added the personal benefit requirement in *Dirks* for a policy reason that is inapplicable to non-issuer-information cases, i.e., fear that analyst interviews will otherwise be chilled. Insiders of companies considering hostile takeovers, financial printers, law firms, or investment banking firms do not give socially valuable interviews to market analysts about the future prospects of companies about which they have knowledge, nor does a spouse sharing a confidence with her mate. Adding the personal benefit test leaves many socially undesirable trades beyond the reach of Rule 10b-5's prohibitions for no good reason.

3. *The way forward under Rule 10b-5.* Overall, the current reach of Rule 10b-5 conforms reasonably closely with what is recommended in Part III. Fundamental value informed trading, which we find socially desirable, is permitted. Announcement trading, which we find undesirable, is also permitted, but we do not believe that an outright prohibition is the best way of dealing with announcement trading. Trading by issuer insiders based on material nonpublic information from within the issuer, which we find socially undesirable, is prohibited. Trading by issuer insiders based on immaterial nonpublic information from inside the issuer, which we find socially desirable, is permitted. We also find socially undesirable unauthorized trading by an insider within an institution other than the issuer based on material nonpublic information from within the institution. This trading too is prohibited.

The one problematic area relates to trading by tippees. A way forward is discussed below.

a. *The challenge of regulating trades by tippees.* Part III suggests that all trades based on material non-public information originating from within an issuer are socially undesirable. Thus, all should be punished in order to deter such trades. Our one exception is trades by, or on the recommendation of, an analyst who received the material information from an issuer insider in an authorized interview. Although such a trade is

¹⁷⁶ *Chiarella*, 445 U.S. 222, 230 n.12 (1980) (discussing how the "[t]he tippee's obligation has been viewed as arising from his role as a participant after the fact in the insider's breach of a fiduciary duty").

¹⁷⁷ See *supra* notes 151-153 and accompanying text.

just as socially undesirable as the others, it should be shielded from punishment in order to avoid chilling analyst interviews. Part III also suggests that all trades based on material confidential information originating from within an institution other than the issuer are socially undesirable, with an exception for trades by the institution itself or by someone it authorizes.

Ideally, then, there should be a blanket prohibition, subject to these two exceptions, on all trades based on material non-public information. As the law now stands, the reach of the Rule 10b-5's prohibitions fall considerably short of this ideal. This law is the product of a common law process that continues to evolve, however. The challenge going forward is to shape the law's future evolution in a direction that comes as close as possible to this ideal, while also paying due deference to the process's doctrinal roots.

b. Trading by outsiders on the basis of non-public information originating from within the issuer. We have seen that under existing case law, an outside person trading on the basis of material non-public information originating from within the issuer can be found in violation of Rule 10b-5 only if it can be shown that the trader knew both that the insider source of the information breached her duty to the issuer to keep the information confidential and that the inside source received a personal benefit from doing so.¹⁷⁸

Where the source's personal benefit is in the form of making a gift of the information, imposition of the personal benefit test may not seriously impede punishment of a trade by a direct or indirect tippee, at least after *Salman*. In *Salman*, the Supreme Court decided that evidence of the existence of a close family or friendship relationship is, by itself, sufficient for a jury to infer that the insider tipper was making a gift of a kind that satisfies the personal benefit test.¹⁷⁹ Because people do not tend to do random acts of kindness, most gift cases presumably involve such a relationship. Where such a relationship exists and the case is against the initial outsider recipient, she would obviously be aware of the relationship. So simply showing the existence of the relationship should, under *Salman*, be sufficient to show the outsider recipient's knowledge of the gift and hence the insider's personal benefit. Where such a relationship exists and the case is against an indirect tippee, if she knows enough about the information's original source to have good reason to believe that it is an insider and to conclude that the information is reliable, she probably knows about the relationship as well.¹⁸⁰

The current law makes it much more difficult, however, to punish tippee trades based on disclosures where the insider source is motivated by a non-gift personal benefit, such as the sharing of profits with his initial recipient or the prospect of reciprocal tips.

¹⁷⁸ See IV.A.1.b.iii *supra*.

¹⁷⁹ Slip Opinion at 10. See also IV.A.1.b.iii *supra*.

¹⁸⁰ If the indirect tippee cannot reliably determine that the information is accurate and from an insider source, there would likely be no Rule 10b-5 violation in any event. Materiality is a necessary element for a Rule 10b-5 insider trading violation and providing that the materiality of a rumor depends in part on "it[s] reliability in light of its nature and source and the circumstances under which it was received." *Investors Management Co., Inc.*, 44 S.E.C. 633, 670 (1971).

For the direct recipient, she would clearly be aware of this benefit but evidence of this knowledge is often hard to obtain. An indirect tippee will often not even have actual knowledge of this benefit. This makes these tippee trades difficult to punish and hence to deter even though they are just as socially undesirable as trades by insiders.

To solve this problem, we propose an alternative approach that involves a reversal of the evidentiary burden concerning personal benefit. This alternative will likely punish, and hence deter, many more trades by direct and indirect tippees. Yet it should be equally protective of analyst interviews as is current law and equally consistent with the doctrinal foundations laid out in *Chiarella* concerning the application of Rule 10b-5 to informed trading.

i. The alternative approach. Under the alternative approach, the insider source would be found to violate Rule 10b-5 if he disclosed to an outsider confidential non-public material information likely to be traded upon *unless* the insider provides persuasive evidence that he did so for a reason other than one that would satisfy the *Dirks* personal benefit test. A direct or indirect tippee trading on this information would be found to violate Rule 10b-5 under the participant after the fact rationale if (i) neither the insider source nor the trader provides such persuasive evidence that the insider source's had a non-personal benefit reason for disclosing, and (ii) the trader knows, or has good reason to believe, that the information came from an insider source.

When an insider source makes an unauthorized disclosure to an outsider of material non-public information that he can expect will be traded upon, there must be some reason. Three possible motivations largely exhaust the possibilities:¹⁸¹ an expectation of a quid pro quo, an intention to benefit the outsider initial recipient, or an intention to benefit the issuer.¹⁸² Consider first the situation where the disclosure was motivated by one of the first two reasons. The insider source, the initial outside recipient, and any indirect tippee trader would each have great difficulty producing convincing evidence that the reason for the initial source's disclosure was *not* for one of the first two reasons because in fact it was. Thus, under the alternative approach proposed here, personal benefit considerations would be much less likely to obstruct punishment of such a transaction than they do under current law.

Now consider the situation where the disclosure was motivated by the third reason. Both the insider source and the direct recipient will almost certainly be in possession of, and able to introduce, persuasive evidence to this effect. The important example would be where the recipient was an analyst and that the disclosure occurred during an interview, facts easy for each of them to establish. Absent anything to the contrary, this evidence would be persuasive that the third reason motivated the disclosure. Thus the alternative approach would protect both from being found to have violated Rule

¹⁸¹ The *Dirks* case itself provides a very unusual example of yet another motive – to reveal publicly a fraud within the corporation – but if this, or some other unusual motivation, were the reason, the source should be able to provide evidence to this effect and thus, appropriately, would not be found to violate Rule 10b-5.

¹⁸² Note that while the insider disclosing for the third reason intends to benefit the issuer, the disclosure must be *unauthorized*. The most plausible scenario would be that the insider source mistakenly believed either that the information is immaterial or already public.

10b-5, the same result as under current law. So the alternative approach would be just as effective at protecting analyst interviews.¹⁸³

An indirect tippee of information disclosed for this third reason might well not be able to provide evidence of this, in which case personal benefit considerations would not be an obstacle to finding that she violated Rule 10b-5. This result, however, is good from a policy point of view. The indirect tippee's trade is socially undesirable and there is no reason to withhold punishment out of fear of chilling analyst interviews. It is also the doctrinally correct result because, given the available evidence, personal benefit considerations would not, under the alternative approach, be an obstacle to concluding that the insider source violated Rule 10b-5. Thus they would not be an obstacle to concluding that the indirect tippee was a participant after the fact to a Rule 10b-5 type breach by the insider source.¹⁸⁴

ii. Implementation. As discussed earlier, under the classical theory first articulated by Justice Powell in his opinion in *Chiarella*, finding that a tippee's trade violates Rule 10b-5 has the problem that the tippee does not have the theory's required relationship of trust and confidence with the counterparty to her trade.¹⁸⁵ In the same opinion, however, Justice Powell, in dicta, suggested a solution to this problem by saying that the tippee could be considered a "participant after the fact" to the tipper's breach of fiduciary duty.¹⁸⁶ Powell makes no mention, however, that the insider needs to have enjoyed a personal benefit for there to be a breach of his fiduciary duty or that the tippee need be aware of such a benefit. Neither do the authorities that Powell cites. Powell's concern is with the unfairness of the ex post loss suffered by others trading on unfavorable terms because the insider breached his duty to keep the information confidential. This damage is just as great whether the insider enjoyed a personal benefit or not. Powell only adds the personal benefit requirement with the holding in his *Dirks* opinion, where he does so out of a concern for protecting both the insider and the analyst in connection with analyst interviews.¹⁸⁷

Against this background, how could the law evolve to implement the alternative approach's reversal of the evidentiary burden? The more modest way would be for the courts to establish a rebuttable presumption that an insider who is making an unauthorized disclosure of confidential information is receiving a personal benefit. Again, the rationale for such a presumption is straightforward. A significant portion of

¹⁸³ Where the analyst does not trade herself, but makes a private recommendation based on a professional relationship with the actual trader, it is socially undesirable to punish the recipient's trade because doing so would chill analyst interviews. This relationship means, however, that the analyst would likely provide the recipient with the evidence needed under the alternative approach to protect her from punishment.

¹⁸⁴ Despite the policy desirability of punishing the indirect tippee's trade, if he can provide evidence that the initial disclosure was motivated by the third reason, he would not be found under the proposed alternative approach to have violated Rule 10b-5. This is because it would then be possible for the indirect tippee to establish that the insider source did not commit a Rule 10b-5 type breach. So there would be no breach in which the indirect tippee could be a participant after the fact.

¹⁸⁵ See *supra* Subsection IV.A.1.b.iii.

¹⁸⁶ 445 U.S. at 230, n. 12 (citations omitted).

¹⁸⁷ See *supra* Subsection IV.A.1.b.iii.

such disclosures involve a personal benefit. It is easier for the insider source and original outside recipient come up with evidence that the insider disclosed for a non-personal-benefit reason when this is the case, than it is for the government or a private plaintiff to come up with evidence that the reason for the disclosure was personal benefit when that is the case.

Implementing the alternative approach by creating a presumption has the advantage of being just an evidentiary rule based on its own internal logic. Thus it does not involve a direct challenge to the Supreme Court's earlier holding in *Dirks*. This route to implementation has the important disadvantage, however, that the law governing criminal procedure generally disfavors use of a presumption in criminal cases.¹⁸⁸

The more ambitious route to implementation is to directly revise the holding in *Dirks* in accordance with the alternative approach proposed here. The reasoning for revising the *Dirks* holding in this way would be that the revision is as reasonable an outgrowth of the foundational *Chiarella* decision as is the holding in *Dirks*. It would also be as effective as the *Dirks* holding in avoiding chilling analyst interviews, which was the reason for adding the personal benefit test in the first place, while making it less difficult to establish both civil and criminal cases against direct and indirect tippees.¹⁸⁹

c. Trading by outsiders on the basis of non-public information originating within non-issuer institutions. As discussed earlier, there is currently legal uncertainty as to whether the personal benefit test applies just to cases based on the classical theory of insider trading, where it was originally developed, or whether it extends as well to cases based on the misappropriation theory.¹⁹⁰ The key distinction between the two theories is that the classical theory deals only with cases involving information coming from inside the issuer whose shares are being traded, whereas the misappropriation theory was developed to deal with cases involving information coming from within an institution other than the issuer. As also discussed earlier, there are both strong policy and strong doctrinal reasons to conclude that the test should *not* extend to cases based on the misappropriation theory.¹⁹¹ Here the way forward is simple. The Supreme Court, or some developing consensus among the lower courts, simply needs to make clear that the personal benefit test should be confined to cases based on the classical theory.

B. Use of the Martin Act Regulation to Stop Informed Trading

Many states also have anti-fraud securities laws, but historically they have not been a potent source of prohibitions on informed trading. New York Attorney General

¹⁸⁸ See, e.g., *Francis v. Franklin*, 105 S. Ct. 1965 (1985) (reversing conviction based on jury instruction imposing presumption); *Sandstrom v. Montana*, 442 U.S. 510 (1979). Still the combination of civil remedies available to the government and private damages suits are sufficiently threatening to create a significant deterrent. See Section 21(d)(2) of the Exchange Act, 15 U.S.C. § 78u(d)(2) (authorizing various forms of SEC penalties and remedies).

¹⁸⁹ An even more ambitious revision would be to make the alternative approach applicable only to the insider source and his initial outside recipient and to deny the affirmative defense to any indirect tippee. This would bring the reach of Rule 10b-5's prohibitions closer to the ideal set out in Part III, but would begin to be in tension with the doctrinal roots found in *Chiarella*.

¹⁹⁰ See *supra* Subsection IV.A.1.b.iv.

¹⁹¹ See *supra* Subsection IV.A.2.d.iii.

Eric Schneiderman's recent use of the state's Martin Act is an exception.¹⁹² As detailed below, Schneiderman recently shut down Thompson Reuters' practice of privately providing to select traders the latest results of the Michigan Consumer Sentiment Survey moments in advance of announcing the results publicly,¹⁹³ condemning it as "insider trading 2.0"¹⁹⁴ Under the same banner, he persuaded BlackRock, the largest asset manager worldwide, to stop surveying the opinions of financial analysts prior to the analysts publishing their reports.¹⁹⁵ This use of state law to extend the range of prohibitions on informed trading to cover these practices is ill advised in our view.

1. *Practices not prohibited by Rule 10b-5.* The practice of a non-issuer institution privately providing select traders with information in advance of its public announcement is clearly not prohibited by Rule 10b-5 because it does not fit under either of the classical theory or the misappropriation theory. Neither the information generating institution nor the select traders have a relationship of trust and confidence with the counterparties to the traders' trades and a subsequent public announcement does not change this. So failing to provide the information to these counterparties breaches no duty to them, as required under the classical theory.¹⁹⁶ The institution voluntarily gives the information to the select persons to trade upon. So they do not, by trading, deceptively breaching a duty of confidentiality to the source of their information, as required under the alternative misappropriation theory.¹⁹⁷

2. *The successful Martin Act campaign against "Insider Trading 2.0."* Notwithstanding the legality of Thompson Reuters tipping select traders in advance of its public announcement of the Consumer Sentiment Survey, Schneiderman, through the use of the Martin Act's investigatory powers, was able to stop the practice without even filing a complaint.¹⁹⁸ The Attorney General terminated his investigation of Thompson Reuters (and later BlackRock) when each agreed not to engage its practice in the future.¹⁹⁹

¹⁹² The Martin Act prohibits "any fraud, concealment, suppression [or] false pretense" in connection with the purchase or sale of a security. It has been interpreted as banning "all deceitful practices contrary to the plain rules of common honesty" including "all acts . . . which do by their tendency . . . deceive or mislead the public." *People v. Federated Radio*, 244 N.Y. 33, 38-39 (1926).

¹⁹³ Thompson Reuters in turn had purchased distribution rights to these results from the developers of the survey. See generally Grace Xing Hu, Jun Pan & Jiang Wang, *Early Peek Advantage?*, Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2361311.

¹⁹⁴ *A.G. Schneiderman Secures Agreement By Thomson Reuters To Stop Offering Early Access To Market-Moving Information*, July 8, 2013, <http://www.ag.ny.gov/press-release/ag-schneiderman-secures-agreement-thomson-reuters-stop-offering-early-access-market>.

¹⁹⁵ See, e.g., *A.G. Schneiderman Announces Agreement With BlackRock To End Its Analyst Survey Program Worldwide*, Jan. 9, 2014, <http://www.ag.ny.gov/press-release/ag-schneiderman-announces-agreement-blackrock-end-its-analyst-survey-program-worldwide> (analyst survey was considered the world's largest).

¹⁹⁶ See *infra* notes 128-133 and accompanying text.

¹⁹⁷ See *infra* notes 134-140 and accompanying text.

¹⁹⁸ Broad as the Martin Act's actual language and court interpretations of this language are, *supra*, note 192, it is hard to argue that a non-issuer institution violates the Act simply by staying silent at the time that it provides information to select traders and then, after these traders have a chance to trade, announcing the information publicly. Still one cannot rule out the possibility that the Attorney General could have persuaded a court to find a violation if he were able to show that the investing public clearly assumed no

3. *Evaluation.* The Thompson Reuters affair involved an ill-advised use of the Attorney General's investigatory power under the Martin Act. As set out below, a simple extension of our analysis in Part III shows that the practice of a non-issuer institution privately providing select traders with information in advance of its public announcement is unlikely to be socially undesirable.²⁰⁰ Indeed, it appears that allowing such informed trading is socially positive, though probably just modestly. Thus, the absence of a federal prohibition on this practice gets things right and it was ill advised to use the investigatory powers under New York's Martin Act's to stop "insider trading 2.0."

a. *Possible uses by outsiders of the information they generate about issuers.* The starting point for the analysis is to note that a non-issuer institution that has generated information of value for assessing an issuer's stock (or has purchased it, directly or indirectly, from a person that has generated it) can use this information in three possible ways: (1) trade on the information, (2) provide it privately to certain other traders, or (3) announce the information publicly. As discussed, we view it as socially desirable to allow such an institution to use the information in the first or second way or in a combination of the two.²⁰¹ This is based on our conclusion that the social gains from the resulting additional incentives for non-issuer institutions to generate price-accuracy-enhancing information outweigh the social losses in terms of real resources needed to generate the information and the increase in informed trading's negative impact on liquidity.²⁰²

b. *Using generated information to make a public announcement.* If this reasoning concerning the first and second uses of the information is correct, the third use – publicly announcing the information – must also be socially desirable. A non-issuer institution that contemplates this third use presumably incurs the expense of generating or obtaining the information because it expects to be compensated by the goodwill or enhanced reputation that results from the information's public announcement.²⁰³ So allowing public announcement of this information provides a desirable additional incentive. As with allowing the institution to trade on the information itself or to sell it privately to others to

trader was receiving the information in advance of its public announcement. This possibility was not tested, however. The Attorney General ultimately able to obtain the agreement of Thompson Reuters and Bloomberg not to engage in the practice in the future simply by issuing it them a subpoena, a procedure that does not require him or her to provide a coherent explanation, subject to court review, of how the available evidence suggests the real possibility of a violation. This is because the Martin Act gives the Attorney General to issue such a subpoena on his or her own initiative. N.Y. Gen. Bus Law Article 23-A, §352. Thus, to get the subpoena, he or she is not required, unlike in an ordinary criminal proceeding, to get a court order by showing probable cause or to convene a court supervised grand jury, or, unlike in a civil action, to file a complaint that is subject to court review pursuant to a defendant's motion to dismiss.

¹⁹⁹ *Id.*

²⁰⁰ If, in contrast, the non-issuer institution affirmatively misleads the public into believing that it is not engaging in the practice, the practice would be socially undesirable because it might result in prices being temporally distorted by the announcement because investors would not understand that the price at that moment already reflected the information. The affirmative statement misleading the public, however, would violate Rule 10b-5 violation, which prohibits "making any untrue statement of material fact . . . in connection with any purchase or sale of a security."

²⁰¹ See *infra* Subsection V.A.2.

²⁰² *Id.*

²⁰³ See *supra* Subsection II.A.2 and accompanying text.

trade upon, there is also a liquidity-decreasing downside to allowing its public announcement, in this case from the trade of announcement traders. This negative impact on liquidity, however, is certainly no greater than if the institution had instead just traded on the information, a practice which we have concluded on balance should be allowable.²⁰⁴

c. Combining providing the information to select traders privately with subsequently announcing it publicly. Finally, if, as we conclude here, each of these three uses of a piece of information should be allowable on its own, there is nothing in the logic justifying each of these uses that suggests that they suddenly become toxic when two or more are combined, including the combination of providing the information privately to select persons to trade and announcing it publicly thereafter.

C. The Broad Scale Legislative Approach to Informed Trading Prohibitions

A broad scale legislative approach is an alternative to the scheme of informed trading prohibitions developed in a common law fashion through court interpretations of 10b-5. Two such legislative approaches will be considered: the EU Market Abuse Directive²⁰⁵ and the proposed Insider Trading Prohibition Act²⁰⁶ recently introduced in Congress. Each corrects for some of the shortcomings of the prevailing U.S. Rule 10b-5 scheme, but neither includes within the reach the full set of informed trades that optimally should be prohibited. Moreover, the Market Abuse Directive calls for prohibiting some informed trades that optimally should be allowed. Ultimately, we conclude that it would be better for the United States to continue to use the current Rule 10b-5 regime and adopt only narrowly crafted legislation to fill in some of its holes.

1. EU Market Abuse Directive. The EU Market Abuse Directive (the “Directive”) directs member countries to prohibit a wide range of persons²⁰⁷ from trading on the basis of, or tipping, “inside information,” which is defined as information relating to an issuer that is “of a precise nature which has not been made public . . . and which, if it were made public, would be likely to have a significant effect on” the price of the issuer’s securities.²⁰⁸ Thus this approach does not depend on the existence of any relationship of trust and confidence or duty of confidentiality and does not differentiate between information coming from within the issuer and from within a non-issuer institution. While, on the surface, the Directive looks like it calls for a “parity of information” approach that goes beyond even Justice Blackmun’s structural access theory in his dissent

²⁰⁴ The negative impact on liquidity in fact would most likely be much less than if the institution traded on the information. Announcement traders have much less time to trade (a period measured at most in seconds) than would the institution (a period measured probably in days) and so they cannot extract nearly as much profit from their informed trading than the institution could trading itself. Less profit means less impact on liquidity because liquidity suppliers, in their setting of the bid ask spread, need to protect themselves less.

²⁰⁵ See Council Directive 2003/6, 2003 O.J. (L 96) 16 (EC)7 [hereinafter “Council Directive”].

²⁰⁶ Insider Trading Prohibition Act (proposed), H.R. 1625, 114th Congress, <https://www.congress.gov/bill/114th-congress/house-bill/1625> [hereinafter “H.R. 1625”].

²⁰⁷ Council Directive Art. 2(1).

²⁰⁸ Council Directive Art. 1(1).

in *Chiarella*, a closer look reveals that it, in fact, excepts from its prohibitions a variety of kinds of informed trading.

a. Fundamental value, announcement, and issuer insider informed trading. The Directive appears to reach so broadly that it would prohibit all fundamental value informed trading based on information of significance, but a “whereas clause” clarifies that “research and estimates developed from publicly available data should not be regarded as inside information.”²⁰⁹ Like Rule 10b-5, the Directive appears to permit announcement trading because “inside information” includes only information “not made public.”²¹⁰ Also like Rule 10b-5, it prohibits issuer insiders from trading on material non-public information from inside the issuer,²¹¹ but permits them to trade on immaterial information from this source.²¹² Thus, in these regards, the Directive, like Rule 10b-5, prohibits kinds of informed trading that Part III suggests should be prohibited and allows kinds it suggests should be allowed.

b. Tipsters and tippees with regard to information from within the issuer. With regard to tipsters and tippees of information from within the issuer, the Directive, judged by the recommendations in Part III, is in some ways superior, and in other ways inferior, to Rule 10b-5. For there to be a violation, the Directive does not require that an issuer insider receive a personal benefit for making the tip of nonpublic material information. Instead, it has a general prohibition against “disclosing inside information to any other person,” but excepts disclosures made “in the normal course of the exercise of [the disclosing person’s] employment, profession or duties.”²¹³ The way that this general prohibition and exception operate in combination does not appear to work as well as Rule 10b-5 in avoiding chilling analyst interviews because the scheme does not seem to recognize that such interviews are two-sided. The exception works as well as the personal benefit test (or our proposed alternative) in immunizing issuer representatives participating in such interviews, thus avoiding chilling their participation. However, contrary to the recommendations here and Rule 10b-5, analysts who trade on material information received in such interviews, or who privately recommend that their employer or others trade on the information, would be in violation,²¹⁴ thus chilling analyst willingness to engage in such interviews.

The Directive has a catchall provision, Article 4, that relates to any person beyond those with respect to whom there are specified prohibitions relating to informed trading and tipping. Article 4 prohibits trading or tipping if such a person “possesses inside information while that person knows, or ought to have known, that it is inside

²⁰⁹ Council Directive § 31. For expository convenience, the text and notes from hereon will be written as though the Directive has direct effect on persons engaging in, or associated with, informed trading. In fact, an EU directive simply directs member states to adopt legislation that has these effects.

²¹⁰ Council Directive Art. 1(1).

²¹¹ Council Directive Art. 2(1).

²¹² The definition of “inside information” includes only information “likely to have a significant effect on [price].” *Id.*

²¹³ Council Directive Art. 3(1)(a).

²¹⁴ The analyst would be prohibited from trading by the Directive’s Article 2(1)(c) and from advising others to do so by its Article 3(b).

information.”²¹⁵ It is therefore much easier to make the case that such person has committed a violation than currently under Rule 10b-5, where, without our proposed alternative approach, it is necessary to show that the person knew of the original tipper’s personal benefit. Thus, the Directive’s provisions more effectively deter a range of trades based on information from inside an issuer that the analysis in Part III finds socially undesirable: trades by direct tippees outside the analyst interview situation and by indirect tippees generally.

c. Trades based on information originating from within a non-issuer institution. Trades based on nonpublic material information initially selectively disclosed by an insider of a non-issuer institution are treated differently under the Directive depending on the nature of the information. Consider first the situation where the information is purely the results of an analysis. Informed trading based on this information, whether the trader receives it directly or indirectly, appears to be allowed because it is not considered “inside information.”²¹⁶ This is so even if the trader has good reason to believe that the institution did not authorize the information’s disclosure or the trader has some kind of duty of confidentiality to her source, situations involving socially undesirable trades according to Part III²¹⁷ that would violate Rule 10b-5.²¹⁸

Next, consider the situation where the analysis leads to a plan to engage in a purchase (for example a takeover bid) or to sell enough of the issuer’s stock large enough to likely have a significant effect on price. Suppose the institution discloses the plan to a select group of traders. Knowledge of the planned transaction would fit the definition of “inside information” even though the analysis that prompted the planned transaction would not. The Directive’s catchall Article 4 would appear to prohibit all trades by outsiders based on such information as long as the trader has good reason to believe that it is material and nonpublic.²¹⁹ These are trades that our Part III analysis suggests should be allowed²²⁰ and that would not violate Rule 10b-5.²²¹

d. Summary. In sum, the reach of the Directive’s informed trading prohibitions is somewhat different than the reach of Rule 10b-5’s prohibitions. Each system prohibits some tips and trades that our analysis suggests should be prohibited and that the other system fails to prohibit. The Directive also prohibits some trades that our analysis suggests should be not prohibited and that are not prohibited under Rule 10b-5. Overall, the Directive is not hobbled by the personal benefit rule test or a requirement to show knowledge by the trader of a prior breach of some duty in many situations where it would be socially desirable to punish a trade, but it is less attuned to the need to allow

²¹⁵ Council Directive Art. 4.

²¹⁶ See *infra* note 209 and accompanying text.

²¹⁷ Indeed, although we do not believe it is practical. See *infra* Subsection IV.D.

²¹⁸ See *infra* note 209 and accompanying text. Such a trade would very likely be a Rule 10b-5 violation in circuits that do not impose the personal benefit rule in cases where the information is not from within the issuer, the position that we believe is doctrinally correct. See V.3.d.iii *supra*.

²¹⁹ This would not include the planned purchase or sale itself, which would be prompted by the analysis, not by the information that it was planned.

²²⁰ See *infra* Subsection IV.C.5.

²²¹ *Id.*

certain trades where the resulting profits create incentives to generate price-accuracy-improving information.

2. *Insider Trading Prohibition Act.* A bipartisan group of Congressmen, aided by our colleague Professor John C. Coffee, has introduced a proposed statute,²²² the Insider Trading Prohibition Act (the “Trading Act”),²²³ that would provide a comprehensive scheme to regulate informed trading. The Trading Act prohibits trades in an issuer’s securities if the trader is in possession of material nonpublic information and the trader “knows, or recklessly disregards, that such information has been obtained wrongfully, or that such [trade] would constitute a wrongful use of such information.”²²⁴ It prohibits as well the communication of such information if the communication is wrongful or the communicator has good reason to believe the information was obtained wrongfully and the recipient (or a direct or indirect tippee of the recipient) predictably trades on it.²²⁵ A trade or communication would be a wrongful use of such information if it is obtained by such illegal acts as theft or constitutes misappropriation of the information.²²⁶ Knowledge that information has been wrongfully obtained requires only that the trader or communicator “was aware, or recklessly disregarded that such information was wrongfully obtained or communicated.”²²⁷

a. *Fundamental value, announcement and issuer insider informed trading.* The Trading Act would allow fundamental value informed trading because such information is not wrongfully obtained, nor is it contrary to any other law or obligation. The Trading Act also would allow announcement trading because it is based on public information. It also would prohibit issuer insiders from trading on material non-public information from inside the issuer because, as a breach of the relationship of trust that issuer insiders have with the issuer’s shareholders, it is wrongful. The Trading Act would permit trading by issuer insiders on the basis of immaterial information from inside the issuer because the Trading Act only relates to material information. Thus in all these regards, the Trading Act, like Rule 10b-5, prohibits all the kinds of informed trading that Part IV suggests should be prohibited and allows all the kinds that it suggests should be allowed.

b. *Tipsters and tippees with regard to information from within the issuer.* With regard to tipsters and tippees of information from within the issuer, the Trading Act, judged by the recommendations in Part III, is superior to Rule 10b-5, though still not optimal in its reach. Consider analyst interviews. The Trading Act, although it does not explicitly include a personal benefit test, would appear to avoid chilling analyst interviews. If an issuer representative authorized to conduct an analyst interview accidentally provides material inside information, he has not communicated the

²²² See John C. Coffee, Jr., *How to Get Away with Insider Trading*, N.Y. TIMES, May 23, 2016, available at http://www.nytimes.com/2016/05/23/opinion/how-to-get-away-with-insider-trading.html?_r=0.

²²³ Insider Trading Prohibition Act (proposed), H.R. 1625, 114th Congress, <https://www.congress.gov/bill/114th-congress/house-bill/1625> [hereinafter “H.R. 1625”].

²²⁴ H.R. 1625, § 16A(a).

²²⁵ H.R. 1625, § 16A(b)(2).

²²⁶ H.R. 1625, § 16A(C)(1)(c).

²²⁷ H.R. 1625, § 16A(C)(2).

information wrongfully, which is what would be required for a violation. Because the information was not wrongfully communicated to the analyst, she also would not violate the Trading Act by trading on it or communicating it, directly or indirectly, to someone who predictably trades on it. For the same reasons neither of the Trading Act's twin prohibitions – wrongful use and use of wrongfully obtained information – is triggered if the information received by the analyst is then passed on to others (beyond the analyst's principal) who trade on it or recommunicate it to yet others who predictably trade on it.

The immunization of the issuer representative and the analyst is consistent with our policy conclusions. The immunization of the indirect recipients is not consistent with our policy recommendations: the indirect recipient's trades result in the same damage to liquidity as trades by insiders and immunizing them is not necessary to avoid chilling analyst interviews. They would be immunized in a Rule 10b-5 regime also, however, and so the Trading Act is not a step backward in this regard, though not as good as our proposed alternative.

Relative to the current Rule 10b-5 case-law based regime, the major advantage of the Trading Act with respect to information from within an issuer relates to direct and indirect tippees outside of the analyst interview context. The Trading Act prohibits trades and tipping by persons possessing material nonpublic information “if such person knows, or recklessly disregards, that such information has been obtained wrongfully.”²²⁸ Unlike the Rule 10b-5 regime, the Trading Act explicitly does not require that the person “to know the specific means by which the information was obtained or communicated, or whether any personal benefit was paid or promised.”²²⁹ This eliminates major obstacles under the current Rule 10b-5 regime to imposing sanctions on tippees, especially indirect ones. Again, however, it does not go as far as would an optimal regime, which would prohibit any trade or tip if the indirect tippee has good reason to know that the nonpublic material information came from within the issuer.

c. Trades based on information originating from within a non-issuer institution. Consider now the reach of the Trading Act's prohibitions with respect to trades based on nonpublic material information generated by a non-issuer institution and traded on by an insider of the institution or by an outsider. We concluded earlier that such trades are socially desirable if approved by the institution and, in case of a trade by any indirect outside recipient of the information, by the intermediary recipient or recipients.²³⁰ The basis of approval comes from what can grow to be a whole network of agreements and duties specifying who is allowed to trade and under what conditions. We concluded that any trading not approved by this network of agreements and duties is socially undesirable.²³¹

The Trading Act helps in two ways to prevent trades outside of what is permitted by this network of agreements. First, it prohibits anyone from trading on the information, or communicating it to others who predictably trade on it, where such trading or tipping

²²⁸ H.R. 1625, § 16A(a).

²²⁹ H.R. 1625, § 16A(C)(2).

²³⁰ See III.B.1 *supra*.

²³¹ See III.B.2 *supra*

is wrongful. Thus the Trading Act is violated by an insider, or any outside recipient, direct or indirect, who trades or tips contrary to his agreement with his source or some other legal duty.²³² This prohibition, therefore, reinforces the already existing legal sanctions for the recipient's breach of contract with his source or of some other duty.

Second, the Trading Act's prohibits trades or tips based on the information where the user has good reason to believe it was wrongfully obtained or communicated.²³³ These are persons not themselves bound by any agreement or other obligation not to trade or tip. Instead they receive the information as the result of a breach by someone who was so bound. This prohibition acts as a backstop to help prevent trades that would otherwise occur as a result of the breach by the person who was so bound.

In these regards, the reach of the Trading Act's prohibitions are identical with the reach of what we believe, doctrinally and policy wise, is the better view of reach of Rule 10b-5 based on the misappropriation theory, the view that does not insert the personal benefit test. The Trading Act's contains an explicit provision that no showing of knowledge of personal benefit is required to establish a case based on the use of information wrongfully obtained or communicated.

An optimal regime would go further, however, and prohibit any trade based on material nonpublic information relating to an issuer generated by an outside institution where the trader (i) has good reason to believe that it originated with that institution, and (ii) does not have a good reason to believe that trade is in accordance with what is called for by the network agreements and duties associated with the authorized dispersion of the information and approval to trade on it. Given the value of material nonpublic information, it is predictable that the institution that generated it and each subsequent legitimate recipient would lay down terms for its use such that, if the terms were respected, the information would not be available to be freely picked up and traded upon. Thus, if someone has such nonpublic information that she has reason to believe came from the institution and does not know the route by which the information got to her and that the information got to her legitimately, the likelihood is that a trade based on it is not in accordance what is called for by the network of agreements and is thus socially undesirable.

3. *An alternative approach.* As the preceding discussion shows, judged against what would be optimal, the reach of the EU Market Abuse Directive's prohibitions on informed trading is in some ways an improvement upon the reach of the current U.S. Rule 10b-5 regime and in some ways is less satisfactory. The proposed Insider Trading Regulation Act is an unambiguous improvement, but still falls short of the optimal set of prohibitions.

One way for the United States to have an optimal regime is to adopt a broad scale statute that goes a step further than the proposed Insider Trading Regulation Act by including within its prohibitions the socially harmful trades specified above that the Trading Act does not reach. However, a preferable and more conservative approach

²³² H.R. 1625, § 16A(c)(C).

²³³ H.R. 1625, § 16A(b).

would be to recognize that the current Rule 10b-5 regulation already gets most things right and provides a rich set of precedents. For an extended period of time, these precedents will generally provide more predictable outcomes than will a whole new statutory scheme with all the interpretative issues of first impression that its wording will inevitably raise. All that is really necessary to convert the current Rule 10b-5 regime into one that imposes the optimal range of informed trading prohibitions is a narrowly crafted statute that appropriately clarifies the ambiguities in the current case law and provides the desirable extensions in the range of prohibitions.

As we have seen, all of the shortcomings of the Rule 10b-5 regime relate to tipping and trading by direct and indirect tippees. With regard to material nonpublic information from within an issuer, the statute should provide that the personal benefit test only apply to an issuer insider and his direct recipient, not to indirect tippees, and that evidentiary burden be reversed so that it simply provides a defendant with an affirmative defense if he can produce persuasive evidence that the insider source disclosed for a reason other than personal benefit. Other than the trades and communications that are covered by this limited personal benefit rule, the statute should prohibit any trade (and any tip that predictably results in a trade) where the trader or tipper is in possession of material nonpublic information and has good reason to believe that it came from within the issuer.

The statute should also clarify that the personal benefit rule does not apply to trades or tips based on material nonpublic information generated by an institution other than the issuer.

Finally, as discussed just above in the analysis of the Trading Act, the object of regulating tips and trades based on such information is to maximize the incentives for such institutions to generate such information with its attendant socially useful enhancement of share price accuracy. To accomplish this, the statute should prohibit any tip or trade based on such information where the trader has good reason to believe that it originated with that institution and does not have a good reason to believe that (i) the institution generating the information authorized its initial disclosure, (ii) each subsequent recommunication, if any, was authorized by institution that received it (where the recipient in fact was an institution rather than an individual), was made in accordance with the terms imposed by the originating institution and by each preceding recommunicating entity, and was not prohibited by any other obligation arising from its status, and (iii) the tip or trade itself is in accordance with the terms imposed by the originating institution and by each preceding recommunicating institution and is not prohibited by any other obligation of the tipper or trader arising out of its status.

D. Mandatory Affirmative Disclosure

The United States, through multiple trigger mechanisms, imposes its Exchange Act periodic disclosure regime on most of the country's publicly traded issuers.²³⁴ This

²³⁴ See, e.g., Securities Exchange Act of 1934, 15 U.S.C. 12(a) (prohibiting the trading of a security on a national securities exchange that is not registered on such an exchange); 15 U.S.C. 12(g) (requiring issuers with stocks with more than specific numbers of holders of record or assets to register as public companies); 15 U.S.C. § 15(d) (requiring registration in connection with a public offering).

regime requires the issuer, on a regular basis, to answer in a filing a large number of questions concerning its business and finances. The most detailed filing is the annual 10-K filing, with some of its questions requiring updating each quarter in a 10-Q filing. Specified important events such as entering into important agreements, changes in control, senior officer changes and material asset acquisitions and sales trigger an 8-K filing obligation within four business days of the event. The U.S. periodic disclosure regime also includes Regulation FD that is intended to be an antidote to some corporations' practice of selectively disclosing material information to specific outsiders who are expected to trade on it. Europe has a somewhat different mandatory disclosure system, one aspect of which requires an issuer to disclose all new nonpublic information as soon as possible.

1. The relationship of mandatory affirmative disclosure to informed trading. One purpose of affirmative disclosure requirements is to directly make share prices more accurate. The efficient market hypothesis tells us that once information is publicly disclosed, it is fully reflected in price very quickly.²³⁵ Affirmative disclosure requirements, however, have a second important function as well: reducing or eliminating informed trading based on the information and the reduction in liquidity that accompanies such trading. The less information from within an issuer is nonpublic, the less insiders and their tippees can engage in their socially undesirable informed trade.

The benefits of mandatory disclosure go beyond this, however. The increased liquidity in an issuer's stock resulting from a less informed trading means that fundamental value traders face lower trading costs and hence will increase their level of activity. In other words, there will be less crowding out of this socially valuable fundamental value informed trading because it will be less crowded out. Admittedly, because securities filings are public announcements, more mandatory disclosure means there will be more announcement trading, which is socially undesirable. But announcement traders have only a very short time to act and so their trades in aggregate damage liquidity much less than would have the trades by insiders and their tippees. Moreover, even this minor damage to liquidity could be largely avoided if the release of the content of a filing was postponed until after the end of regular trading hours and firms were similarly constrained in their own announcements absent a pressing need such as stemming a developing flood of trading by insiders and their tippees.²³⁶

Mandatory disclosure can favorably affect the level of fundamental value informed trading in another way as well. When an issuer discloses more about itself, fundamental value informed traders may find it more worthwhile to gather and analyze additional information. This is because the information that is received may constitute a valuable input to the process of further discovery. Thus, for example, it may be more

²³⁵ Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. Fin. 383 (1970).

²³⁶ This result could be effected not only by government regulation, but instead by stock exchange rules. Currently the NYSE provides that where a disclosure is to be made during trading hours, NYSE should be notified and it will consider whether trading should be temporarily halted. NYSE, *NYSE Listed Company Manual*, Section 202.06(B), <http://nysemanual.nyse.com/LCM/Sections/>. NASDAQ has a similar rule. NASDAQ Rule IM-5250-1

worthwhile for an investor to gather and analyze information (not yet gathered and analyzed by others) concerning the market for the product of an issuer that has disclosed basic financial information about itself than to gather and analyze information concerning the market for the product of a firm that has not engaged in such disclosure.²³⁷

2. *Regulation FD*. Regulation Fair Disclosure (“Reg. FD”),²³⁸ adopted in August 2000, is intended to stop the practice of “selective disclosure,” whereby an issuer withholds material information from the general public but furnishes it selectively to certain outsiders such as analysts, institutional investors, or shareholders likely to trade on the information.²³⁹ Regulation FD provides that where the disclosure of material information to such outsiders is intentional, the issuer must simultaneously make the information available to the general public, and where it is unintentional, the issuer must make the information publicly available promptly thereafter.²⁴⁰

On the whole, the effects of Reg. FD are consistent with what our analysis in Part III recommends. This analysis suggests that it would be undesirable for issuers to buy or sell their securities while in possession of material nonpublic information and that tipping by an issuer would therefore also be undesirable. The Reg. FD ban on intentional selective disclosure therefore makes sense. So does the requirement of prompt public disclosure after an unintentional selective disclosure of material information when combined with the more limited personal benefit rule for Rule 10b-5 actions recommend here.²⁴¹ On the one hand, we want to avoid chilling analyst interviews, which is the rationale for the limited personal benefit rule. On the other hand, that is the sole purpose of the personal benefit test. If, by accident, material information is released in an analyst interview, it is undesirable that it become the basis of informed trading. Reg FD does the best that can be done to minimize this informed trading without chilling analyst interviews (and related discussion among financial professionals).

There has been considerable controversy in the empirical literature as to whether Reg. FD improves price accuracy and whether it lowers the cost of capital.²⁴² A number of possible stories can be told in these regards.²⁴³ The imposition of Reg. FD might have

²³⁷ While important, the details of this discussion are beyond the scope of this article. See MERRITT B. FOX, FINANCE AND INDUSTRIAL PERFORMANCE: THEORY, PRACTICE AND POLICY, 34-43 (1988); John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 728-29 (1984); Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393, 405 (1980).

²³⁸ SEC Regulation FD, 17 C.F.R. §§ 243.100-243.103.

²³⁹ *Selective Disclosure and Insider Trading*, Exchange Act Release No. 43,154 (Aug. 24, 2000) 65 FR 51716, 51716.

²⁴⁰ *Id.*

²⁴¹ See *supra* Section V.A.

²⁴² See, e.g., Anup Agrawal, Sahiba Chadha & Mark A. Chen, *Who Is Afraid of Reg FD? The Behavior and Performance of Sell-Side Analysts Following the SEC’s Fair Disclosure Rules*, 79 J. BUSINESS 2811, 2822 (2006) (finding that analyst forecasts become less accurate following Reg FD); Zhihong Chen et al., *Regulation Fair Disclosure and the Cost of Equity Capital*, 15 REV. ACCT. STUD. 106, 139 (2010) (finding that the cost of capital decreased following Reg FD).

²⁴³ See Merritt B. Fox, *Regulation FD and Foreign Issuers: Globalization’s Strains and Opportunities*, 41 VA. J. INT’L L. 653, 673-67 (2001).

decreased price accuracy because previously an issuer, by analysts with tidbits of selective disclosure of material information, may have been able to attract the following of analysts who would otherwise not find following the issuer worthwhile.²⁴⁴ Alternatively, Reg. FD might have increased price accuracy because it ended a corrupt game by which an issuer gave such tidbits in return for overly positive analyst reports.²⁴⁵ Reg. FD's reduction in the amount of informed trading would definitely improve liquidity and have a favorable effect on the cost of capital.²⁴⁶ If Reg. FD increased price accuracy as well, then it would be an unambiguous improvement from a social welfare perspective.²⁴⁷

Regardless of which story is correct, there is a better solution that would both reduce the amount of informed trading and allow issuers to attract share-price-accuracy enhancing analyst followings: keep Reg. FD but allow issuers openly to pay analysts to follow them in the same way that they pay accountants to certify their accounts. Two features of such an arrangement could help assure objectivity. One is the development of an analyst business where a reputation for objectivity is an asset that, because the reputation makes its reports more value, the analyst would not want to jeopardize by giving a falsely optimistic report in return for getting business. The other is to require that the arrangement involves a long-term contract spanning a few years, so that a bad report does not lead to an issuer dropping the analyst in retaliation.

3. *European continuous disclosure regime.* The EU Market Abuse Directive subjects issuers to a continuous disclosure regime concerning inside information.²⁴⁸ This regime requires an issuer to disclose as quickly as possible inside information directly involving that issuer.²⁴⁹ This approach has virtues and defects. If an issuer suspects that insiders or their tippees are trading based on the internal information, then it is certainly desirable for an issuer to publicly disclose that information. However, if there is no reason to suspect insider trading, the issuer may have a good business reason to keep the information secret, which would benefit the shareholders by allowing the issuer to generate a larger expected cash flow. And in terms of the real economy efficiency benefits from greater price accuracy, little is gained from a slightly earlier disclosure of this information. Even if the issuer can be exempted if it has such a business reason, placing the burden on the issuer of showing that reason may lead to earlier disclosure on average than is desirable out of a desire to avoid the cost and risks of a fight with regulators.

²⁴⁴ *Id.* at 674-675.

²⁴⁵ *Id.* at 677-678.

²⁴⁶ *See supra* Subsection I.B.2.

²⁴⁷ *Id.*

²⁴⁸ *See* Council Directive 2003/6, 2003 O.J. (L 96) 16 (EC)7 (31).

²⁴⁹ *Id.* Article 6 states, "Member States shall ensure that issuers of financial instruments inform the public as soon as possible of inside information which directly concerns the said issuers."

E. Return of Insider Profits

Section 16(b) of the Securities Exchange Act is an express prohibition of certain forms of insider trading under federal law.²⁵⁰ Section 16(b) requires insiders to disgorge to their firm any profit they gain from “any purchase and sale, or any sale and purchase, of any equity security” of the company within a six-month period. Although §10(b) is far better known, § 16(b) generates a considerable amount of interpretation and litigation.²⁵¹

Critics have suggested that § 16(b) is ineffective because all the insider has to do is wait six months to engage in the reverse transaction that realizes her profit. This Article, though, suggests it can be quite useful. It dramatically reduces insiders’ incentives to trade based on any form of material non-public inside information, *other than information that should have a considerably long-term impact*. This is because regardless of what information motivates the insider to engage in an initial transaction, whether purchasing or selling, the insider will have to wait six months before transacting again. During those six months, a large number of market-moving events are likely to impact a company’s stock price. Accordingly, § 16(b) makes trading based on inside information less attractive by mandating that insiders can only rebalance their portfolios after a considerable amount of time, thereby leaving them in a riskier position during the interim because of the reduced portfolio diversification due to the inside trade.²⁵² The kind of information that will remain rational to trade on will be information likely to have a price impact only in a very long period of time, which is precisely the kind of information this Article suggests it is most socially valuable for insiders to trade on.²⁵³

F. Market Structure Rules

Rules governing the structure of the stock market can also be tailored to help promote socially desirable trading and reduce socially undesirable trading. This is especially so with announcement trading, which we find socially undesirable, but which, because it involves information that is already public, is not prohibited by Rule 10b-5 and would be difficult to cost-effectively regulate this way.

We will consider two potential market structure responses briefly here – one involving stock exchange announcement rules and the other involving the regulation of the electronic connections among stock exchanges and with liquidity suppliers.

1. Stock exchange announcement rules. The New York Stock Exchange (“NYSE”) Listed Company Manual requires firms to quickly release material new information. Section 202.05 (“Timely Disclosure of Material News Developments”) provides that listed companies should “release quickly to the public any news or

²⁵⁰ Securities Exchange Act of 1934, ch. 404, § 16(b), 48 Stat. 881, 896 (codified at 15 U.S.C. § 78p(b) (1988)).

²⁵¹ See Merritt B. Fox, *Insider Trading Deterrence Versus Managerial Incentives: A Unified Theory of Section 16(b)*, 92 MICH. L. REV. 2088, 2091 (1994).

²⁵² See Fox, *supra* note 285, at 2107-2138.

²⁵³ A derivative suit under state corporation law can provide a similar remedy to Section §16(b). The theory is that a corporate officer or director that trades on inside information breaches her fiduciary duty to the corporation to which she therefore should return her profits. See, e.g., *Diamond v. Oreamuno*, 248 N.E.2d 910, 912 (N.Y. 1969)

information which might reasonably be expected to materially affect the market for its securities.”²⁵⁴ Section 202.06 (“Procedure for Public Release of Information; Trading Halts”) similarly requires that “substantive items of unusual or non-recurrent nature,” such as dividend announcements, mergers, acquisitions, tender offers, stock splits, or major management changes “should be handled on an immediate release basis.”²⁵⁵

A rule that that a listed issuer should disclose important news as soon as is practical makes sense in terms of our analysis when an issuer has reason to suspect that important news yet to announced is being used as the basis of insider trading. Otherwise, however, it would be better that the issuer be required to wait until after trading has stopped for the day. To announce during the trading day is to invite announcement trading. Thus, revisiting this NYSE rule to require announcements after trading hours – so that the announcement will essentially be known to market makers and market participants alike when active trading resumes – would be beneficial.

2. *Market connection regulation.* The modern market’s primary liquidity suppliers, high-frequency traders (“HFTs”), utilize a number of technologies. Stocks of any significance trade on each of a number of different trading venues, the NYSE being just one. Each venue is essentially just a computer (a “matching engine”) that matches standing limit orders that constitute the bids and offers, with incoming marketable orders.²⁵⁶ The primary source of these bids and offers are the modern market’s primary liquidity suppliers, high-frequency traders (“HFTs”).²⁵⁷ HFTs typically have computers “co-located” right next to each venues matching engine. Each of an HFTs co-located computers is connect to each other one by high speed fiber optic cable, whereby it constantly updates information concerning transactions occurring in every stock in which they regularly trade, as well as changes in the bids and offers posted by others on each trading venue. This information is automatically fed into a computer that uses algorithms to change its own bids and offers posted at each venue.²⁵⁸

Through this setup, an HFT can learn of a transaction at one venue and change its quotes at every other venue with lightning speed. So, for instance, an algorithm can learn of a very large transaction at one venue, suggesting large orders may also be heading to the other venues that would transact against the HFTs’ bids or offers at these venues. The HFT can potentially make these changes before these large orders arrive at the other venues.

Critics have labeled this practice of changing quotes “electronic front running” and have suggested various ways of stopping it involving rules relating to the use of these

²⁵⁴ NYSE, *NYSE Listed Company Manual*, <http://nysemanual.nyse.com/LCM/Sections/>.

²⁵⁵ *Id.*

²⁵⁶ *See supra* Section II.B.

²⁵⁷ *Id.*

²⁵⁸ *See* Charles R. Korsmo, *High Frequency Trading: A Regulatory Strategy*, 48 U. RICH. L. REV. 523m 540 (defining attributes of HFTs).

connections.²⁵⁹ This may be too narrow a view. Because the persons sending these large orders are informed traders, the availability of electronic front-running allows HFTs to make these informed trades more expensive. By being better protected this way, HFTs face lower costs from dealing with informed traders and hence in a competitive business narrow their spreads.²⁶⁰

Electronic front running probably has quite different effects on different types of informed trading. Trading in large amounts in rapid time is expensive do so as a general matter because it involves running through the book transacting against less and less favorable quotes. Thus a trader will not do it unless the information motivating one's trade is rapidly going to become fully public. The ultimate example of such a trader is an announcement trader – the person who trades in the brief time after the announcement before the price has fully adjusted. The next best example is an insider who knows of a corporate announcement to be made very soon. Where the information one possesses has a longer-term horizon before becoming public – fundamental information – there is no reason to trade in massive size rapidly. Thus, electronic front-running stands to make announcement trading, which is socially undesirable, less profitable, and may do the same for some issuer insider trading as well. Yet it should have no direct effect on fundamental value trading.²⁶¹ Indeed, by discouraging announcement traders and perhaps some insider traders and hence lowering spreads, electronic front running is likely to help fundamental value traders, which is a socially desirable activity. All of this cautions against a precipitous adoption of reforms aimed at ending electronic front-running.

V. CONCLUSION

This Article provides a general framework for analyzing the social desirability of different types of informed trading. Decades of debate surrounding insider trading have made both academics and the public widely familiar with one type of informed trading – information obtained from within a stock's issuer or other institution, i.e., insider trading. The universe of informed trading, however, is much larger.

All informed trading makes share prices more accurate, which enhances efficiency in the real economy. But, all informed trading also, through the trading losses imposed on liquidity suppliers, tends to make markets less liquid, which is costly in efficiency terms. There is thus a fundamental trade-off in how informed trading affects the two principal social functions served by the stock market – accurate pricing and providing liquidity.

We analyzed all of the distinct types of informed trading, and argued that doing so illuminates how the different types of private information nonetheless vary markedly in their social value. The tradeoff between the social benefits from price accuracy and the

²⁵⁹ See MICHAEL LEWIS, *FLASH BOYS: A WALL STREET REVOLT* (2014). We analyze the practice elsewhere. See Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191, 226-232 (2015).

²⁶⁰ See *supra* Section II.C.

²⁶¹ *Id.* at 236-238.

social costs of decreased liquidity depends importantly on the time horizon for when the improvement in price accuracy would otherwise occur without the informed trade. Some types of informed trading, such as announcement trading, impose a social cost, through negative effects on liquidity, while creating no social benefit. Other forms of private information, such as fundamental value information, also impose a cost on liquidity, but create important positive social benefits in terms of the incentives they create for producing price-accuracy-improving information that then gets reflected in price. Trading based on various forms of confidential information from inside issuers and from inside other institutions can now be placed in a broader context, revealing that while some types are clearly undesirable, others may, in fact, be useful. Finally, we canvassed a variety of regulatory reforms that could reduce the profitability of announcement-based trading and thus its prevalence.