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USE OF ECONOMIC ANALYSIS IN FRAUD ON THE MARKET CASES

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In 1988, in *Basic, Inc. v. Levinson*,[1] (*Basic*), the United States Supreme Court adopted the fraud on the market theory in order to create a presumption of reliance in a Security & Exchange Commissions Rule 10(b) securities fraud case. As a result, it will be significantly easier to certify a class in order for a plaintiff to bring a class action for securities fraud. However, while simplifying the initial class certification, the fraud on the market theory injects economic theory and studies into the determination of securities fraud.

This article first explains the economic and legal background behind the fraud on the market presumption. Then, the landmark case of *Basic* is examined for guidance in applying the presumption and proving defenses to that presumption. Lastly, it is shown how economic analysis can be used in proving or disproving fraud on the market, including an empirical study of the events in *Basic*. The Court's decision in *Basic* invites the use of economic/financial analysis, without recognition or guidance concerning that use. This article illustrates the importance of financial analysis in pursuing and defending a securities fraud case based on the fraud on the market presumption.

I. INTRODUCTION TO THE ECONOMIC BASIS FOR FRAUD ON THE MARKET

The United States Congress adopted the Securities Exchange Act in 1934, and specifically section 10(b),[2] in order to prevent fraudulent and deceptive acts in the buying and selling of securities, and to encourage

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[1] 485 U.S. 224 (1988).
[2] Sec. 10(b) of the Securities Exchange Act of 1934 (Exchange Act), 15 U.S.C. § 78j(b)(1982). See also Rule 10(b)(5) enacted by the Securities and Exchange Commission (SEC) under this provision 17 C.F.R. § 240.10b-5 (1981).

the free flow of information to the market about those securities.[3] The SEC enforces those provisions, and a private cause of action has been recognized for civil damages as well.[4]

The elements of the common law tort of deceit are used as the basis for the individual action for damages under 10(b).[5] To prove deceit, a plaintiff must show that a defendant made a knowing, or reckless, false statement intending to induce reliance by the plaintiff, upon which the plaintiff justifiably relied, thereby suffering damages.[6] As applied to the exchange of securities, the individual reliance requirement has been criticized as being too restrictive in an era when most sales and purchases are made in an impersonal market. Direct reliance on a misstatement may be difficult to prove, therefore preventing recovery by a class of plaintiffs dealing in an indirect market.

The fraud on the market theory allows recovery for "indirect" reliance on the market rather than direct reliance on a misstatement or omission by relying on the financial hypothesis of an efficient market.[7] Courts are willing to accept the individual's reliance on the market because of the economic/financial hypothesis of an efficient market. The theory is that the "stock market operates efficiently when professional investors compete to predict future market values of individual securities."[8] This is because these professionals are trained to evaluate, and have the resources to evaluate, market information. Therefore, if the analysts have control of sufficient capital, the market will reflect the true, intrinsic value of the stock.[9] An investor need not make individual inquiries to obtain market information, but instead can rely on the price of the security in the market as a true reflection of its value.[10] Since the fraud on the market theory is premised on the economic hypothesis of an efficient market, it is necessary to consider that theory in more detail.

Financial theory and rigorous statistical testing of market efficiency began in the 1960's. When financial economists refer to market efficiency they are addressing the ability of market prices to correctly reflect avail-

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[3] *See* H.R. Rep. No. 1383, 73rd Cong., 2d Sess. 11 (1934).

[4] *See* Superintendent of Ins. v. Banker's Life and Casualty Co., 404 U.S. 6, 13 n. 9 (1971); Blue Chip Stamps v. Manor Drug Stores, 421 U.S. 723, 730 (1975) (private cause of action recognized when suit brought by an actual purchaser of a security).

[5] *See* Note, *Fraud on the Market: An Emerging Theory of Recovery Under SEC Rule 10b-5*, 50 GEO. WASH. L. REV. 627, 632 (1982).

[6] *See* L. PROSSER, HANDBOOK OF THE LAW OF TORTS § 105 (5th Ed. 1984).

[7] *See* Note, *The Fraud on the Market Theory Efficient Markets and the Defenses to an Implied 10b-5 Action*, 70 IOWA L. REV. 975, 979 (1985).

[8] *Id.*

[9] This is also known as the market model of investment decision making. *Id.* at 982.

[10] In fact, individual investigation under this hypothesis would be economically inefficient. *Id.* at 983. An important corollary of this theory is that information is quickly translated into the marketplace. *Id.* at 979.

able information. This is important to investors because they can more appropriately allocate their resources when a security's price accurately reflects all economically relevant information.[11]

Market efficiency is not determined by a bright line test, but is considered a matter of degree. There are three theoretical degrees of market efficiency.[12] The first degree is known as the weak-form of market efficiency. This theory hypothesizes that present market prices will reflect *past* price or volume dependencies or trends. The second degree of market efficiency is termed semi-strong, which would occur when all "obviously publicly available" information is reflected in the security's price. This information includes annual and quarterly reports, press releases, and certain macroeconomic statistics and balance sheet transformations such as debt issue, capital investments or stock splits. There has been extensive empirical financial testing of the semi-strong form of market efficiency, with almost unanimous agreement on its applicability to established markets.[13] The last degree of possible market efficiency is called strong form efficiency. This form hypothesizes that the market reflects non-public restricted information. Empirical studies, however, fail to provide support for this type of efficiency.[14]

Most financial studies have evaluated the New York Stock Exchange and to a lesser degree, the American Stock Exchange. The semi-strong theory of efficiency may be less applicable to firms whose stock is thinly traded. The lower the volume of trading, the less likely it is that certain information will be assimilated into the market. If information is passed through the market, assimilation will be at a slower rate than heavily traded stock, which may respond to information as quickly as one day.[15] Regional exchanges are generally untested for efficiency. They may not qualify under the semi-strong theory, because they are characterized by many small companies and speculative stocks.

In summary, market efficiency is viewed as a continuum by economists. The weak and semi-strong theories are widely accepted as applicable to the New York Stock Exchange, and perhaps the American Stock Exchange. But, the semi-strong theory is probably inapplicable to smaller, regional exchanges. The strong form of efficiency is not supported by financial studies.

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[11] When markets are informationally efficient, they also become more allocationally efficient. For an excellent discussion of market efficiency and the efficient capital market hypothesis, see Note, *The Efficient Capital Market Hypothesis, Economic Theory and the Regulation of the Securities Industry*, 29 STAN. L. REV. 1031 (1977).

[12] For a comprehensive review of the literature, see Fama, *Efficient Capital Markets: A Review of Theory and Empirical Works*, 25 J. FIN. 383 (1970). *See also*, T. COPELAND and J. WESTON, FINANCIAL THEORY AND CORPORATE POLICY 285-311 (1983).

[13] Fama, *supra* note 12.

[14] *Id.*

[15] Virtually every study finds significant market response on the day the information is released or the event occurs. Typically, market adjustments on following days are relatively minor. *Id.*

The application of the efficient market theory to securities fraud and manipulation affects the element of reliance. Theoretically, it is not necessary for the individual investor to read and ingest market information because the current market price reflects an assimilation of any public information available about a stock. Therefore, there should be no requirement for subjective reliance in a fraud case. The individual who trades based on the assumption of the efficient market will be injured when misstatements are made, because the market will not reflect the intrinsic value of the stock. Reliance on the high integrity of the market replaces reliance on a particular misstatement or omission.[16] Courts have called this reliance on the high integrity of the market, instead of subjective reliance on misstatements or omissions, the fraud on the market theory.

II. JUDICIAL BACKGROUND OF FRAUD ON THE MARKET

The fraud on the market theory had been discussed in the circuit courts with favor, if not consistency, before the United States Supreme Court addressed the issue in *Basic*. Actually the Supreme Court case of *Affiliated Ute Citizens v. United States*[17] is seen as a precursor of, and encouragement for, circuit court adoption of the fraud on the market theory. In this case, bank employees encouraged Ute Indians to sell to non-Indians, stock of a corporation which handled tribal assets. They did not inform the Indians of facts which may have discouraged the sales.[18] The Supreme Court held that the bank had an affirmative duty to disclose the material facts, and that in a case "involving primarily a failure to disclose, positive proof of reliance is not a prerequisite to recovery.[19] Thus, the first step was taken to lighten the burden of proving direct reliance on the alleged misstatement in a 10(b) action.

The first circuit court to recognize the fraud on the market theory, and establish a rebuttable presumption of reliance on market integrity, was *Blackie v. Barrack*,[20] a Ninth Circuit Case decided in 1975. The plaintiffs

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[16] *See* Grzebielski, *Should the Supreme Court Recognize General Market Reliance in Private Actions Under Rule 10b-5?*, 36 BAYLOR L. REV. 335, 342 (1984). This article also contains an excellent discussion of the efficient market theory. *Id* at 342-49.

[17] Basic, Inc. v. Levinson, 406 U.S. 128 (1972).

[18] *Id.* at 153.

[19] *Id.* For a discussion of reactions to this case, see Black, *Fraud on the Market: A Criticism of Dispensing With Reliance Requirements in Certain Open Market Transactions*, 62 N.C.L. REV. 435, 444-45 (1984).

[20] 524 F.2d 891 (9th Cir. 1975), *cert. denied*, 429 U.S. 816 (1976).

The major Circuit Court cases are discussed in this article. For further cases that have adopted the fraud on the market theory, see Finkel v. Docutel/Olivetti Corp., 817 F.2d 356 (5th Cir. 1987), *cert. denied*, 485 U.S. 959 (1988); Teamsters Local 282 Pension Trust Fund v. Angelos, 762 F.2d 522 (1985), *aff'd*, 839 F. 2d 366 (7th Cir. 1988) (fraudulently induced loan); *In re* Union Carbide Corp. Con-

brought a class action lawsuit alleging that misrepresentations and mis-
calculations were made in a company's annual report and other docu-
ments which inflated the price of its stock. The class consisted of those
who bought the stock during the 27-month period of alleged misrepre-
sentations. Since the plaintiffs had to establish reliance as an element of
a 10(b)-5 action, defendants argued that proof of individualized reliance
defeated the element of commonality needed to certify the class.[21]

The Ninth Circuit noted that the reason for requiring reliance is in
order to prove causation between the wrong and the injury. Because of
the "impersonal stock exchange context"[22] the court accepted proof of
causation by a showing of a qualifying purchase and a material misre-
presentation. The court noted that, "materiality circumstantially estab-
lishes the reliance of some market traders and hence the inflation in the
stock price - when the purchase is made the causational chain between
defendant's conduct and plaintiff's loss is sufficiently established to make
out a prima facie case."[23] The court rejected defendant's argument that
this reasoning removed the "compensatory"[24] nature of the action; in other

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sumer Prods. Business, 676 F. Supp. 458 (S.D.N.Y. 1987) (accepted only on open,
developed market; *In re* Apple Sec. Litig., 672 F. Supp. 1552 (N.D.Cal. 1987),
modified, 886 F. 2d 1109 (9th Cir. 1989), *cert. denied*, 110 S. Ct. 3229 (1990)(harm
occurs without knowledge of misrepresentation because of fraud on the market);
Sheftelman v. Jones, 667 F. Supp. 859 (N.D.Ga. 1987) (allows class certification);
Nelson v. Craig-Hallum, Inc., 659 F. Supp. 480 (D.Minn. 1987) (allows class
certification); Shapiro v. Merill-Lynch, 634 F. Supp. 587 (S.D.Ohio 1987) (accepted
in open market transaction); Abelson v. Strong, 644 F. Supp. 524 (D.Mass. 1986)
In re Storage Technology Corp. Sec Litig., 630 F. Supp. 1072 (D.Colo. 1986) (open
market transaction); Rosenberg v. Digilog, 648 F. Supp. 40 (E.D.Pa. 1985); Gross-
man v. Waste Management, Inc., 589 F. Supp. 395 (N.D.Ill. 1984); Klein v. Com-
puter Devices, Inc., 591 F. Supp. 270 (S.D.N.Y. 1984); *In re* McDonnell Douglas
Corp. Sec. Litig., 587 F. Supp. 625 (E.D Mo. 1983) (plaintiff relied on integrity of
market); Sanders v. Thrall Car Mfg. Co., 582 F. Supp. 945 (S.D.N.Y. 1983); Rose
v. Arkansas Valley Envtl. & Util. Auth., 562 F. Supp. 1180 (W.D.Mo. 1983);
Zuckerman v. Franz, 573 F. Supp. 351 (S.D.Fla. 1983); Weckesser v. Westerling,
531 F. Supp. 276 (S.D.Ohio 1981) (scheme asserted); Mottoros v. Abrams, 524 F.
Supp. 254 (N.D.Ill. 1981); *In re* Texas Int'l. Sec. Litig., 114 F.R.D. 33 (W.D. Okl.
1987) (open market); *In re* Consumers Power Co. Sec. Litig., 105 F.R.D. 583 (1985).

For cases where fraud on the market has not been applied, see Zlotnick v. TIE
Communications, 665 F. Supp. 397 (E.D.Pa. 1987) (fraud on market inapplicable
because plaintiff did not believe misrepresentations); Platsis v. E. F. Hutton and
Co., Inc., 642 F. Supp. 1277 (W.D.Mich. 1986), *cert. denied*, 485 U.S. 962 (1988)
(fraud on market inappropriate when plaintiff bought directly from issuer); Rein-
gold v. Deloitte, Haskins and Sells, 599 F. Supp. 1241 (S.D.N.Y. 1984) (not applied
because market inefficient); Lucas v. Florida Power and Light Co., 575 F. Supp.
552 (S.D.Fla. 1983) (fraud on market inapplicable because plaintiff didn't read
misleading documents); Fausett v. American Resource Management Corp., 542
F. Supp. 1234 (D.Utah 1982) (fraud on market rebutted since plaintiff already
committed to sell); Gibb v. Delta Drilling Co., 104 F.R.D. 59 (N.D. Tex. 1984)
(need scheme to defraud when fraud on market applied to new securities).

[21] Blackie v. Barrack, 524 F. 2d 904, 906 (9th Cir. 1975), *cert. denied*, 429 U.S.
816 (1976).

[22] *Id.* at 906.

[23] *Id.*

[24] *Id.*

words, that it transformed it into a strict liability basis of recovery. Instead, the court explained, the plaintiff obtained the benefit of an inference of reliance (based on proof of materiality) which shifted to the defendant "the burden of disproving a prima facie case of causation."[25] The defendant would successfully defeat the inference of reliance by showing either that the statement was immaterial, the market did not act upon the statements, or the plaintiff knew the statement was false or would have purchased anyway had he known the statement was false. This result, the court said, was consistent with the goal of the securities statutes by protecting impersonal market participants who should be able to rely on a fraud-free market.[26]

The next case to expand upon the standard set forth in *Blackie* was *Panzirer v. Wolf*,[27] in the Second Circuit. The plaintiff purchased stock in a company because of a favorable article in the Wall Street Journal and because her broker found no negative comments about the company. Because of accounting discrepancies (omissions) in financial reports, plaintiff alleged the price of the stock was artificially high, supported by the fact that less than a year later the company declared bankruptcy. The plaintiff alleged that she had relied upon the integrity of the market as a whole when purchasing the stock, even though she had evidently not relied upon the stock price itself. In addition the court expanded the circumstantial proof of reliance on the market rationale in *Blackie*, by allowing the plaintiff to recover because of her reliance on information disseminated by third parties, because those third parties relied upon the market.[28] This reliance upon those who relied theory seems to create a standard which cannot be rebutted.[29] Indeed, the court did not identify any method of refuting the presumption.

Schlick v. Penn-Dixie Cement Corp.[30] involved an alleged manipulation of stock through proxy solicitations in order to effect a merger. Thus, both 10(b) and 14(a) were in issue.[31] The Second Circuit held that "proof of transaction causation is unnecessary by virtue of the allegations as to the effectuation of a scheme to defraud which includes market manipulation."[32] The court distinguished between loss causation, which it equated with economic loss, and transaction causation, which it related to reliance. The court cited *Affiliated Ute* for the proposition that trans-

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[25] *Id.*

[26] *Id.* at 907.

[27] Panzirer v. Wolf, 663 F.2d 365 (2d Cir. 1981), *vacated as moot*, 459 U.S. 1027 (1982). *See generally*, Grzebielski, *supra* note 16; Note, *Panzirer v. Wolf: An Extension of the Fraud-on-the-Market Theory of Liability Under SEC Rule 10b-5*, 32 CATH.U.L.REV. 695 (1983).

[28] Panzirer, 663 F. 2d at 367.

[29] Black, *supra* note 19, at 452.

[30] Schlick v. Penn-Dixie Cement Corp., 507 F.2d 374 (2d Cir. 1974), *cert. denied*, 421 U.S. 976 (1975).

[31] This paper only discusses the 10(b) cause of action.

[32] *Schlick*, 507 F.2d at 381.

action causation is presumed when there is an omission.[33] It seemed to extend *Affiliated Ute* by holding that proof of transaction causation is also unnecessary upon a showing that the market was manipulated. Instead, all that is necessary is proof of economic loss, or loss causation. No exceptions were noted to the presumption of transaction causation.

The Fifth Circuit addressed the fraud on the market controversy in *Shores v. Sklar I*,[34] decided in 1981. The plaintiff purchased newly issued bonds that depreciated rapidly. Two allegations were brought; that specific misrepresentations were made in the offering circular and that the issuer conspired to sell unmarketable securities. The plaintiff did not read the circular before his purchase, and defendants argued that this should preclude recovery because of a lack of reliance. The court distinguished sections 10b-5(1) and (3) from 10b-5(2). They interpreted section (2), the prohibition of misleading material misrepresentations or omissions, to require reliance. In contrast, sections (1) and (3), the sections prohibiting fraudulent actions, practices or schemes, were distinguished. Under (1) and (3) no direct reliance need be proven since the "requisite element of causation in fact would be established if Bishop [the plaintiff] proved the scheme was intended to and did bring the bonds onto the market fraudulently and proved he relied on the integrity of the offerings of the securities market."[35] The court argued that this judicial holding supported the underlying broad purpose of the securities laws to protect investors from fraud. It dismissed the argument that incentives for full disclosure would be defeated by allowing one who did not read disclosure material to recover, because this case involved securities that were unmarketable, absent the fraud.[36]

In 1983, the Tenth Circuit faced the fraud on the market hypothesis in *T.J. Raney & Sons, Inc. v. Irrigation Fuel Authority*.[37] Again, this case involved the selling of bonds which the plaintiff alleged were not lawfully issued. Once issued, it was argued that the proceeds were illegally diverted.[38] The court noted the difference between applying the fraud on

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[33] *Id.*

[34] Shores v. Sklar I, 647 F.2d 462 (5th Cir. 1981) (en banc), *cert. denied*, 459 U.S. 1102 (1983). This case is noted as "I" because after the court reversed and remanded it to the district court, class certification was still denied. A second appeal is found at *Shores v. Sklar II*, 844 F.2d 1485 (11th Cir. 1988).

[35] Shores v. Sklar I, 647 F. 2d at 469.

[36] *Id.* at 470-71.

For other cases addressing the unmarketability of securities see Ross v. Bank South, N.A., 837 F.2d 980 (11th Cir. 1988) (scheme to issue unmarketable tax exempt bonds); Kirkpatrick v. J. C. Bradford and Co., 827 F.2d 718 (11th Cir. 1987) (not an open market, but unmarketable absent defendant's fraud); Goldwater v. Bird, 664 F. Supp. 403 (S.D.Ill. 1986) (newly issued bonds must be unmarketable absent fraud); *In re* N.Y. City Mun. Sec. Litig., 87 F.R.D. 572 (1980) (materiality of nondisclosure proves causation).

[37] T.J. Raney & Sons, Inc. v. Irrigation Fuel Authority, 717 F.2d 1330 (10th Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984).

[38] *Id.* at 1331.

the market theory to well-developed and actively traded securities versus bond sales on a lesser market. However, they chose to follow *Shores I* and held that the plaintiff stated a valid claim by alleging that he "relied on the availability of the bonds as indicating their lawful issuance."[39] By so doing, the Court expressed their intent to give broad effect to the securities laws in order to protect investors.

The Eleventh Circuit also decided a fraud on the market case, in 1984, in *Lipton v. Documation, Inc.*[40] The plaintiffs alleged that because of false financial information intentionally disseminated into the market, that the price of Documation Securities was artificially high. Plaintiffs did not rely on the erroneous statements, but did rely on the market to reflect the true value of the securities. The court reaffirmed reliance as an element in a 10b-5 action because it proves causation and ensures "that the federal securities laws do not expose defendants to limitless liability or become transformed into merely private enforcement mechanisms."[41] It distinguished *Shores I* because it did not deal with an open market transaction.[42] The court adopted the position in *Blackie* that reliance is a required element in 10b-5, but may be presumed in an open market. The presumption could be rebutted by showing that the plaintiff would have purchased anyway, or that the misrepresentations were immaterial.[43]

Fraudulently marketed bonds were the disputed security in *Harris v. Union Electric Co.*[44] in 1986. The plaintiffs alleged that the prospectus inaccurately described the call features of the bonds. If the features had been truthfully known, the plaintiff would not have purchased the bonds, so the court treated this case as one of omission rather than strict misrepresentation. Based on that reasoning, then reliance upon material omissions was presumed, without proof of direct reliance, following the precedent of *Affiliated Ute.*[45]

Lastly in 1986 the Third Circuit, in *Peil v. Speiser,*[46] distinguished the reasoning in *Shores I* as to the different application of reliance to 10b-5(a) and (c) versus 10b-5(b).[47] The court assumed that the *Shores I* decision

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[39] *Id.* at 1333.

[40] Lipton v. Documation, Inc., 734 F.2d 740 (11th Cir. 1984), *cert. denied,* 469 U.S. 1132 (1985).

[41] *Id.* at 742.

[42] *Id.* at 745 (the court gives a very good analysis of the reasoning in Shores v. Sklar I).

[43] *Lipton,* 734 F.2d at 748.

[44] Harris v. Union Electric Co., 787 F.2d 355 (8th Cir.), *cert denied,* 107 S. Ct. 94 (1986).

[45] *Id.* at 365. Fortunately, this reasoning is unique to *Harris.* Otherwise, *any* misrepresentation would also include an omission, of the truth.

[46] Peil v. Speiser, 806 F.2d 1154 (3d Cir. 1986).

[47] The courts are still divided on this issue of newly issued securities. Even within the same state, courts have come to opposite conclusions. *Compare* Jackson v. First Fed. Sav. of Arkansas, F.A., 709 F. Supp. 863, 876 (E.D. Ark. 1988) (following distinction in *Shores I) with* Dingler v. T.J. Raney & Sons, Inc., 708 F. Supp. 1044, 1049 (W.D.Ark. 1989) (*Shores I* is unsound). *See also* Lubin v. Sybedon Corp., 688 F. Supp. 1425 (S.D.Cal. 1988) (factually distinguishes *Shores I).*

was limited to a case involving newly issued securities. Because there was no market to respond to a single misrepresentation under 10b-5(b), reliance on such a nonexistent market could not be presumed. The prevalence of a scheme under 10b(a) and (c) could effect the entire marketability of a security, however, and thus reliance on that marketability could be presumed. The *Peil* court's interpretation of *Shores I* was immaterial to its own fact situation because it was deciding a case involving a developed market. Thus, it held the distinction between 10b-5 (a) and (c) and 10b-5(b) to be inapplicable, "because a well-developed market can reasonably be presumed to respond to even a single misrepresentation or omission concerning a stock already being traded in that market."[48] The court applied the fraud on the market theory, which allowed recovery despite the non-reliance on the defendant's statements, because of presumed reliance on the marketplace. The reliance could be refuted by showing that the alleged actions did not affect the price of the stock or that the plaintiff would have purchased the stock regardless of the misrepresentations.[49]

The cases before *Basic* can be analyzed based upon several categories. First, the cases agreed in their interpretation and application of *Affiliated Ute*. If the facts involve an omission or nondisclosure, then reliance will be presumed because of the difficulty of proving a prospective action. *Harris* is the only case which extends this logic to interpret the misstatement of a fact as the omission of the truth about a fact. This interpretation would effectively negate the distinction between omission and misrepresentation, since every misrepresentation is an omission of the truth. This logic is fortunately singular to the *Harris* case, and thus can be discounted. Thus, the omission cases are clearly handled by an extension of *Affiliated Ute*.

The misrepresentation cases, however, must be further separated into ones involving an open market and those involving trades on less public and less open markets. The open market cases are characterized by the cases of *Blackie, Panzirer, Schlick, Lipton* and *Peil*. All of these cases utilize a presumption of plaintiff's reliance on the integrity of an established market to reflect the true value of a security. In *Panzirer*, the reliance on the market is attenuated because the plaintiff relied indirectly on the market, through reports in the media. *Panzirer* and *Schlick* also seem to create presumptions which are irrebuttable, since they do not identify any circumstances which would overcome the presumption of reliance. In comparison, *Blackie* listed four ways the defendant could overcome the presumption of reliance, by proving that; 1) the presumption was immaterial, 2) the market did not react to the statements, 3) the plaintiff knew the statement was false, or 4) the plaintiff would have acted anyway, despite the false statements.[50] *Lipton* only recognized the

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[48] Peil v. Speiser, 806 F. 2d 1154, 1163 (3d Cir. 1986).
[49] *Id.*
[50] *See supra* note 26 and accompanying text. Compare the analysis in Black, *supra* note 19 at 447-50.

immaterially of the statements and the plaintiff who would act despite the false statements as methods to rebut the presumption. *Peil* identified two defenses to the presumption of reliance, that the plaintiff would have acted anyway or that the price of the stock was unaffected by the misrepresentations. The open market cases, then, agree on the creation of a presumption of reliance on the integrity of the market, but disagree about the rebuttability of that presumption.

Shores I and *Raney* are the cases dealing with undeveloped markets, both involving the sale of new bonds. *Raney* basically adopts the rationale of *Shores I*, while specifically noting the inapplicability of the broad fraud on the market theory to less developed markets.[51] It implies that the key to applying the fraud on the market theory is that the securities be actively traded on a market which reacts to and internalizes information. In the absence of a well developed market, *Shores I* requires that there be a pervasive scheme to manipulate securities (in these cases, to market unmarketable bonds), in order to dispense with direct reliance on the defendant's actions. In essence, when an underdeveloped market is involved, reliance on the market cannot be presumed because it is not warranted. However, an investor's reliance on the basic marketability of a security can be presumed, and it is a violation of 10(b)(2) if a deceptive scheme puts unmarketable securities on the market.[52]

As the Supreme Court of the United States agreed to hear the appeal of *Basic*, the circuit courts were divided on key issues involved in the fraud on the market theory. They each embraced the fraud on the market theory to some extent, but applied different presumptions and allowed defendants differing, if any, defenses.

III. *Basic, Inc. v. Levinson*

Basic, Inc. (Basic) was a company with publicly traded stock that manufactured goods used by the steel industry. It was the target of a merger by Combustion Engineering Co. (Combustion) as early as the mid-1960's, but negotiations between the two began in earnest in 1976. In 1977 and 1978 Basic stock was heavily traded, and increased in value. Basic officers, and the company, issued three statements during those two years denying any negotiations and disclaiming any knowledge of reasons for the stock's activity. On December 18, 1978, Basic asked for a suspension of trading of its stock, and on December 19, 1978, the board of directors of Basic approved Combustion's offer for all of its outstanding shares.[53]

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[51] T. J. Raney & Sons, Inc. v. Irrigation Fuel Authority, 717 F.2d at 1332. *See also*, Note, *The Fraud-on-the-Market Theory*, 95 HARV.L.REV. 1143, 1153-58 (1982) (argues the theory should only apply to well developed markets).

[52] *See supra* note 37 and accompanying text.

[53] Basic, Inc. v. Levinson, 485 U.S. 224, 226-28 (1988).

Plaintiff shareholders brought a class action against Basic and its directors under Section 10(b) and Rule 10b-5. They claimed injury because the three false or misleading public denials depressed the price of the stock. The class consisted of those who sold Basic stock between the first alleged misstatement and before the suspension of trading. The District Court allowed a presumption of reliance, therefore certifying the class. However, it held as a matter of law that the statements made were immaterial since there was at that time no agreement in principle about the merger. Thus, summary judgment was granted to Basic.[54]

The case was appealed to the Sixth Circuit. The Sixth Circuit affirmed the certification of the class action, but reversed and remanded the summary judgment. It held that any merger negotiations are material, and that it believed Basic's statements were misleading. The Court also adopted the fraud on the market theory, specifically a rebuttable presumption of reliance on the misstatements, in order to approve certification of the class.[55]

The Supreme Court, on appeal, approved the use of a rebuttable presumption of reliance in order to certify the class action suit. The majority opinion was written by Justice Blackmun for a 4-2 majority. Justices Rehinquist, Scalia and Kennedy did not participate in the decision. Justice White wrote an important dissent, in which Justice O'Conner joined.[56]

Blackmun began by summarizing the fraud on the market theory in one paragraph.[57] He then noted that it was not the court's province to "assess the general validity of the theory, but to consider whether it was proper for the courts below to apply a rebuttable presumption of reliance, supported in part by the fraud-on-the-market theory."[58] The Court reaffirmed reliance as an element of the fraud/misrepresentation action under 10b-5, because it provides causation between the act and injury.[59] However, it then noted that, "There is, however, more than one way to demonstrate the causal connection."[60] The Court cited *Affiliated Ute* as an example of when positive proof of reliance was not required. The development of an enormous impersonal market was cited as the main reason why changes in the reliance requirement were necessary. In noting the difference between face-to-face transactions and market transactions the Court stated:

> The market is performing a substantial part of the valuation process performed by the investor in a face-to-face transaction. The market is acting as the unpaid agent of the investor, informing him that given all the information available to it, the value of the stock is worth the market price.[61]

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[54] *Id.* at 229.
[55] *Id.* at 229-30.
[56] *Id.* at 225.
[57] *Basic*, 485 U.S. at 241-42.
[58] *Id.* at 242.
[59] *Id.* at 243.
[60] *Id.*
[61] *Id.* at 244 (*quoting In re* LTV Securities Litigation, 88 F.R.D. 134, 143 (1980)).

The Court then turned to a discussion of the use of presumptions in the law, which arise "out of considerations of fairness, public policy, and probability, as well as judicial economy."[62] This particular presumption was supported by legislative policy to "facilitate an investor's reliance on the integrity" of the market, and by the goal of increased ease of enforcement of 10b-5.[63] The Court also relied upon "common sense and probability" to prove that markets reflect public information and that investors rely upon honest markets.[64]

The Court continued by discussing the ways in which the presumption could be rebutted. Generally, any evidence which "severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price" would serve to rebut the presumption.[65] Specifically, the Court recognized that the defendant could show that the elements were not shown in the case, that a distortion in price was not caused by the misrepresentation, or that the plaintiff would have acted even if he knew of the misrepresentation.[66] The Court, in a footnote, identified the elements necessary for a plaintiff to succeed as: (1) "the defendant made public misrepresentations"; (2) "the misrepresentations were material"; (3) "the shares were traded on an efficient market"; and (4) "the plaintiff traded the shares between the time the misrepresentations were made and the time the truth was revealed."[67] Two examples were noted as to the other defenses. First, a defense would be successful if it could be proven that the 'market makers' knew of the merger negotiations. Second, a defense would succeed if the defense could prove that the plaintiff did not believe the statement that merger negotiations were not underway, and transacted instead for an unrelated reason.[68]

The dissent begins by lamenting the adoption of a theory which the Court does not understand, and doesn't have the facilities to test. It calls the efficient market hypothesis and its corollaries, "nothing more than theories which may or may not prove accurate upon further consideration."[69] The limited resources of the Court and the radical departure from traditional proof of a securities violation should be left to the legislature to decide, according to the dissent.[70]

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[62] *Basic*, 485 U.S. at 245.

[63] *Id.* at 246.

[64] *Id.* In a footnote, the Court once again refused to adopt any particular economic theory. *Id.* at n.24.

[65] *Id.* at 248.

[66] *Basic*, 485 U.S. at 248-49.

[67] *Id.* at n.27.

[68] *Id.* at 249. In footnotes again the Court refused to comment upon the speed of the reflection of information in the market, or to comment upon the determination of damages. These were left up to the District Courts. *Id.* at n.n.28, 29.

[69] *Id.* at 254.

[70] *Id.*

The dissent gives other substantive facts for its reasoning. First, in looking at Congressional intent, the legislative history shows that Congress considered and rejected a proposal to eliminate reliance as an element of the securities fraud action. The dissent believed that the majority had indeed eliminated any "meaningful" proof of reliance, because of the difficulty of proof in rebutting the presumption.[71] Secondly, the adoption of the fraud-on-the-market theory conflicted with the Congressional policy of full disclosure in the securities market. By not requiring plaintiffs to rely upon public disclosures, the decision removed the reason for disclosures.[72] Lastly, the dissent proposed that the facts of this particular case made it "an exceedingly poor candidate for the Court's fraud-on-the-market theory."[73] The certified class time period of fourteen months was too long, and the fact that the plaintiffs were mostly sellers was highly unusual. In addition, the defendants in the case did not trade in Basic stock, so they did not benefit from the misrepresentation. Therefore, the case should not be covered under 10(b) since the law's prohibition is against fraud "in connection with" the exchange of securities.[74] Lastly, the facts of the case led to results which the dissent calls peculiar, where investors who speculated and profited on the possibility that the company's statements were false may be able to recover, since they can claim reliance on the market. The dissent concludes by describing the decision as "a departure in securities law that we are ill-suited to commence - and even less equipped to control as it proceeds."[75]

The use of the fraud on the market theory will proceed, despite the dissent's warning. The following sections analyze what the future questions may be, and how parties may equip themselves with financial analytical tools to address those questions.

IV. CONVERGENCE OF LEGAL AND ECONOMIC THEORY

A. Inconsistencies

The Court, at least twice, disclaimed responsibility for reviewing and accepting the economic/financial theories it utilized.[76] It is clear that it did not completely incorporate those theories, since several areas of the opinion are inconsistent with economic rationale. Primarily, the use of defenses to rebut the presumption conflicts with the underlying premises of the efficient market theory. Previous critics have noted that "[t]he nonreliance and immateriality defenses reflect a misunderstanding of the foundations of the fraud on the market theory, and an adherence to traditional assumptions of investor behavior which is no longer justified in light of modern research into securities markets."[77]

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[71] *Basic*, 485 U.S. at 258.
[72] *Id.* at 258-59.
[73] *Id.* at 259-60.
[74] *Id.* at 261.
[75] *Basic*, 485 U.S. at 263.
[76] *See supra* notes 33 and 39.
[77] Note, *The Fraud on the Market Theory: Efficient Markets and the Defenses to an Implied 10b-5 Action*, 70 IOWA L.REV. 975, 978 (1985).

The nonreliance defense is improper economically because the question should be whether the market was affected rather than the individual. The injury is passed through the market. The nonreliance defense can produce inconsistent results in the determination of individual cases, when investors were affected by the same market fluctuations.

The inconsistency between the economic and legal significance attached to nonreliance can be traced to different interpretations of causation. The economic viewpoint is that if the investor trades in a market that has been misled, which therefore reflects an incorrect valuation of the security, the investor has been injured. The legal approach encompasses that reasoning, but requires additional proof of another type of causation. Some courts call the first type of causation, loss causation.[78] It amounts to proof of economic loss. However, proof of economic loss only, without the requirement of a closer nexus, could effectively create a type of strict liability for an investor's injury. To avoid this, courts have also required proof of transaction causation. This means that there must be a link, more than damages, between the defendant and plaintiff. This link is the reliance on the market. If the plaintiff exchanged securities for another reason or would have traded anyway, then the chain of causation is broken, and the plaintiff could not recover.

The purpose of transaction causation is to limit liability to manageable proportions. However, as the dissent in *Basic* complains, proof of nonreliance will be very difficult.[79] A statement by the plaintiff that he relied on the integrity of the market to reflect its true value would be very difficult, if not impossible, to disprove because of its subjectivity. A related area that is unclear after the Court's decision is that of indirect reliance on the market. For example, in *Panzirer*, the plaintiff relied on reports in the media, which contained information about the market. Her reliance on the market was indirect. It is easy to foresee a common occurrence of an investor relying on the advice of a broker, which advice is erroneous because of a false statement made by the company. Would this indirect reliance suffice under the *Basic* rationale? If the Court maintains the rationale of adapting to the changing, impersonal, securities market, then indirect reliance on the market, through a professional, should satisfy its requirement of reliance on the market. This is logical because it can be assumed that the professional advisor relied on the market, and because the individual also relied on the basic integrity of the market by allowing his money to be invested in that market. In today's complicated and volatile securities markets, professional advice is often sought. An investor should not be penalized for relying on a professional.[80] The result, however, would be to further expand the category of those who could recover under the fraud on the market theory.

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[78] *See* Schlick v. Penn-Dixie Cement Crop., 507 F. 2d 374, 380-84 (2d Cir. 1974), *cert. denied*, 421 U.S. 976 (1975).

[79] *Basic*, 485 U.S. at 256 n.7.

[80] *See* Grzebielski, *supra* note 16, at 347-48.

Regarding the materiality defense, economists would argue that the damages sustained can be measured mechanically, and therefore there is no need to determine materiality by judicial judgment. The measurement of the security's return will determine whether the statement or omission was significant.[81]

In essence, the market will decide whether the information is material, and one need only look to the reaction of the market to determine materiality. The legal definition of materiality differs significantly. The court defined a fact as material if a reasonable investor would consider it significant.[82] This conclusion is based on the 'indicated probability that the event will occur and the anticipated magnitude of the event.'[83] This legal application conflicts with the economic hypothesis because emphasis is given to the individual investor rather than the marketplace. The small investor, according to economic theory, has little or no effect on the market. Instead, the market is controlled by professionals, thereby making the market efficient because of their access to and superior assimilation of information. Extrapolating from this, the investor who is reasonable would not make an individual determination of materiality, but would rely on the market to do so instead.[84] Thus, a defense of non-materiality could be determined mathematically and should not be dependent upon the individual investor. This element of the economic hypothesis of market efficiency conflicts squarely with the legal and congressional emphasis on the protection of the individual investor, and the promotion of individual access to truthful information.

Despite the Court's decision of materiality, it recognized a defense to the presumption that the price in the market was not distorted by the misrepresentation. This seems to give effect to the economic view that materiality will be reflected in the market. Likewise, the example given by the Court that knowledge of the 'market makers' would prevent distortion of price and thus be a defense is inconsistent with implementation of the reasonable investor approach to materiality. The Court relates these defenses to the requirement that injury be caused by reliance on the market.[85] If the market was not fooled, then the investor would not be injured. This, however, conflicts with the analysis of materiality, which is based upon the reasonable investor standard. Since reliance is on the market, materiality should be determined by the reaction of the market, instead of the determination of the reasonable investor's belief, when a presumption of reliance on the integrity of the market is invoked. Thus, the inconsistencies between proving materiality and rebutting the presumption would be eliminated.

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[81] *See* Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 Bus. Law. 1, 5-7 (1982); Note, *The Measure of Damages in Rule 10b-5 Cases Involving Actively Traded Securities*, 26 Stan.L.Rev. 371, 386-90 (1974).

[82] Basic, Inc. v. Levinson, 485 U.S. 224, at 231-32.

[83] *Id.* at 238.

[84] *See* Fischel, *supra* note 81, at 3-5.

[85] *Basic*, 485 U.S. at 248.

The rebuttable presumption of reliance on an efficient market is based upon "common sense and probability" as well as economic theory. Since the Supreme Court sidestepped important issues, they must be faced on a case by case basis by the District Courts,[86] who will be required to define the interplay between common sense and economic analysis.

V. IDENTIFYING LEGAL USES OF FINANCIAL ANALYSIS

Financial analysis will be important for courts to consider when attempting to answer some of the important questions left open by *Basic*. However, even with the use of data and studies, uncertainty will remain in some areas. This section identifies the extent of usefulness of economic analysis in fraud on the market cases, and illustrates that use with an empirical study of the *Basic* case.

First, the Court supplies no legal definition of an efficient or inefficient market, but only seems to operate on a sense of probability. It may be that a plaintiff should merely request a court to take judicial notice of the fact that a market is efficient.[87] On the other hand, courts may decide to consider empirical data of efficiency offered by financial experts.[88] The courts will find however, that the financial information they seek is generally unavailable. The question of an efficient market is critical where small markets or new issues are involved. *Shores I* and *Raney* represent examples of such cases. Economists have limited their studies for the most part, however, to the New York Stock Exchange. Relevant data for other markets may be unavailable or incomplete. Courts may decide that any market for which data is unavailable cannot be determined to be efficient, or they may rely on their own common sense or probability to determine the issue.[89] A District Court is in less of a position to make

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[86] Other gaps are left for trial courts to fill in based upon economic theory. For example, the Court specifically declined to address the issue of damages. *Id.* at 248 n. 28. Certainly, in future cases, it will be argued that damages should be assessed according to the mechanical formulation espoused by economists. The defense of an inefficient market, or the timing of the market's response to information are critical questions which the Court, in a footnote, leaves to the trier of fact. *Id.* at 249 n. 29. These are questions whose answers (if there are definite ones) may lie in empirical research and academic postulation, which may be less than definitive.

[87] *See*, Note, *Rule 10b-5 Securities Fraud: Regulating the Application of the Fraud-on-the-Market Theory of Liability*, 18 J. MARSHALL L.REV. 733, 747-48 (1985) (efficiency should be a question of law, listing applicable factors).

[88] Since *Basic*, the question of defining an efficient market has been addressed, but unanswered, as the cases have been concerned with procedure, so far. *See* Cammer v. Bloom, 711 F. Supp. 1264 (D.N.J. 1989) (pretrial evidentiary hearing on efficiency of market unnecessary); Garfinkel v. Memory Metals, Inc., 695 F. Supp. 1397 (D.Conn. 1988) (efficient market determination goes to merit of case); Tolan v. Computervision Corp., 696 F. Supp. 771 (D.Mass. 1988) (efficient market presumption is not to be rebutted before trial).

[89] Capitalization of listed firms, the frequency of cross-listing, the volume of trading and the extent of institutional interest in the listed issues should be factors in assessing the efficiency of smaller, regional exchanges.

these complex judgments than the Supreme Court of the United States. As the dissent argued, perhaps the Court should have left these determinations to the legislature.

According to the standards set out by *Basic*, defenses to the fraud on the market theory include that the market did not react to the misrepresentation, for example, or that the market makers did not believe the misleading information. It will be difficult to summon up some particular individuals, who can be identified as 'market makers,' and who will confess to knowledge of the truth. The effect of a misrepresentation, an event, however, can be analyzed using data about the movement of the market around that date.

Empirical financial analysis will provide significant evidence to show whether the market responded to the incorrect information. An investor can show that some activity by management resulted in an economic loss for shareholders by demonstrating that the stock traded at a price below what it normally would have traded. Conversely, if there is no significant difference, then a defendant has a basis for arguing that the market makers did not believe the information, for whatever reason, that the market did not react to the information, and there was no distortion in price. Thus, the defendant could successfully rebut the fraud on the market presumption, and the plaintiff would be required to prove individual reliance on a misstatement. That analysis is described below, and the *Basic* facts are used as an example of how the empirical analysis would be used.[90]

In order for an investor to show that some activity by management resulted in an economic loss for shareholders, he must demonstrate that the stock traded at a price below what it normally would have traded. The difference in value represents the per-share loss, expressed as:

$$\text{LOSS} = P_n - P_a$$

where
P_n = normal trading price
P_a = actual trading price

Existing research methodologies that analyze share performance and equity behavior use rates of return rather than share prices.[91] This allows inter-firm or firm and industry comparisons to be more meaningful, since a rate of return standardizes changes in the stock price. This allows for a comparison of a $10 change for a $100 priced stock, with a $6 change for a stock valued at $25.

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[90] Use of empirical event study is suggested by Fischel, *supra* note 81. *See also* Beck-Dudley, *The Efficient Market Theory and Insider Trading: Are We Headed in the Right Direction?* 27 AM. BUS. L.J. 441, 459-61 (1989) (applies event methodology to insider trading).

[91] For instance, all of the asset valuation models are stated in terms of equilibrium rates of return rather than share price level. *See* Sharpe, *Capital Asset Prices: A Theory Of Market Equilibrium Under Risk*, 19 J. FIN. 425 (1964); Black & Scholes, *The Pricing of Options and Corporate Liabilities*, 71 J. POL. ECON. 637 (1973).

The rate of return on a stock, ignoring any dividends, is simply the percentage change in price. That is:

$$\frac{P_{new} - P_{old}}{P_{old}}$$

where   ROR = rate of return
                 P_{new} = new stock price
                 P_{old} = old stock price

For instance, if a stock was selling at $89.50 per share and then the stock price declined to $73.75, the ROR would be -17.6%. Obviously one can calculate ROR's over a week, a month, a quarter or any other specified time period. In order to examine the impact of a solitary event on shareholder wealth and thereby estimate the magnitude of an economic loss, researchers generally examine daily rates of return.[92]

More specifically, one studies the pattern of daily stock rates of return over a period surrounding the event of interest. This allows one to determine if there is evidence of information leakage prior to the event or a lingering effect in the post-event period. Generally, the impact on shareholder wealth is focused on the actual event day itself. This is because financial markets are quick to respond to events that contain information relevant to a firm's future financial performance.[93]

The actual daily rates of return calculated with this methodology are adjusted for the expected rate of return. After netting out the expected component of return, only the residual component remains. The estimation of daily expected rates of return for a stock is accomplished through use of an empirical model called the Capital Asset Pricing Model (CAPM).[94] Extensively tested and applied,[95] the CAPM postulates a stock's expected return as follows:

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[92] The use of daily rates of return in examining the impact of information-laden events on shareholder wealth is well established. *See* J. MARTIN, S. COX & R. MACMINN, THE THEORY OF FINANCE: EVIDENCE AND APPLICATIONS 263-285 (1988) (a review of major studies using this approach).

[93] Among the many studies that could be cited where this is true, see Fama, *supra* note 12.

[94] For a discussion of the origins and development of the CAPM, see Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk,* 19 J. FIN. 425 (1964); Lintner, *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets* 41 REV. ECON. STATISTICS 13 (1965); Mossin, *Equilibrium in a Capital Asset Pricing Market,* 34 ECONOMETRICA 168 (1966).

[95] *See* Fama, *Risk, Return, and Equilibrium,* 69 J. POL. ECON. 30 (1971); Fama & MacBeth, *Risk, Return, and Equilibrium: Empirical Tests,* 71 J. POL. ECON. 607 (1973); Roll, *Critique of the Asset Pricing Theory's Test,* 75 J. FIN. ECON. 129 (1977).

$$\text{EXPECT} = \text{RISKFREE} + \text{BETA} \times (\text{MARKET} - \text{RISK-FREE})$$

where EXPECT   = expected daily rate of return for the stock
       RISKFREE = return on the riskless asset
                  (e.g. U.S. Government bond)
       BETA   = an index of the stock's sensitivity to the aggregate
                  market for stocks
       MARKET   = expected return on the market portfolio for that
                  day; often proxied by the S&P 500 Index

Thus for each stock, we can estimate an expected return for the day. It is this expected component of return that incorporates the impact of marketwide or macroeconomic factors (e.g., Gross National Product, unemployment, interest rates). We then subtract this expected component from the actual return to obtain a residual component of return:

$$\text{RES} = \text{ROR} - \text{EXPECT}$$

where   RES = residual rate of return
             ROR = actual or realized daily rate of return

We perform this calculation of the residual rate of return in order to control for those factors that systematically influence the level of stock returns and could thereby distort our estimate of the rate of return attributable to firm specific performance. Thus, if one observes a negative residual rate of return for a stock upon the announcement of some event, it can be attributed to that event rather than a generally depressed stock market. This approach is extremely robust and has been used to examine the impact of events as diverse as quarterly earnings announcements, the release of the monthly Consumer Price Index and the resignation of corporate CEO's.

A number of different issues and concerns arise in the application of the event methodology. Though chiefly focusing on the statistical and estimation procedures, they nevertheless impact the interpretation of the final empirical results.[96] The following discussion will review some of the more important choices and topics associated with this methodology.

In order to calculate a residual rate of return we net an expected return from the actual or realized rate of return. There are alternative approaches to calculating the expected return. The most common method is the risk and market adjusted approach that is used in this study. Other

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[96] For an excellent introductory discussion of the interpretation of statistical levels of significance and use of the t-statistic, see J. VAN MATRE & G. GILBREATH, STATISTICS FOR BUSINESS AND ECONOMICS 301-14 (3d ed. 1987). Numerous event studies employ the t-statistic to infer significance. *See* DeAngelo and Rice, *Antitakeover Charter Amendments and Stockholder Wealth, Journal of Financial Economics,* 12 J. FIN. ECON. 329 (1983); Mikkelson & Ruback, *An Empirical Analysis of the Interfirm Equity Investment Process,* 14 J. FIN. ECON. 523 (1985).

methods use either a simple historical average of the stock's past returns or the mean market return, without adjusting for the security's specific risk. Depending upon the specific circumstances of the case, these alternative methods may perform better or provide greater computational facility relative to the risk and market adjusted method.[97]

Another issue that plagues users of this approach is missing data. Data over the relevant periods may be missing due to unavailability or nontrading. Several choices face the investigator. Each of the approaches have their merits and no method appears dominant for every instance.[98]

If the event methodology approach is applied to a group of firms, as is usually done, then there is the possibility of events clustering in calendar time. This is especially true for investigators examining the impact of government regulations, tax law changes or modifications on accounting methods. Such clustering increases the variance of abnormal returns and consequently reduces the ability of standard statistical tests to detect abnormal performance.[99] Thus, if several misrepresentations were made around the same date, this approach may be unhelpful.

The last issue that we would like to examine in using the event method approach is the measurement of the market return. Finance theory and the asset valuation literature suggests that use of a dollar-valued weighted market index. That is, the equities in the market portfolio are weighted by the dollar value of their shares outstanding. In such a portfolio, larger capitalized firms will be more fully represented. An equally-weighted index, however, with all firms receiving the same emphasis is more likely to detect abnormal performance, and is the index that should be used, for the most part.

Although the event method approach is a widely employed technique and presents highly technical and quantitative results, it is not without judgment on part of the investigator. Understanding the researcher's options and potential for bias in the results will permit a better interpretation of the findings from this method. Event methodology should be used and is reliable, but the legal players should be aware of the possible variations in order to ensure standard application of the analysis.

Let us now apply this approach, event methodology, to Basic, Inc. On October 21, 1977, Basic issued a public statement denying they were in the process of merger negotiations. Furthermore, they disclaimed knowledge of any information that might account for the recent heavy trading in Basic's stock.

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[97] For an overview of the issues and choices involved in the application of the event methodology, see Peterson, *Event Studies: A Review of Issues and Methodology*, 28 Q.J. BUS. & ECON. 36, (1989).

[98] For an analysis of the relative effectiveness of these methods under a number of different scenarios, see Brown & Warner, *Measuring Security Price Performance*, 8 J. FIN. ECON. 205 (1980); Brown and Warner, *Using Daily Stock Returns: The Case of Event Studies*, 14 J. FIN. ECON. 3 (1985).

[99] For a discussion of the possible uses and biases in alternative methods for handling missing data, see Eades, Hess, & Kim, *Market Rationality and Dividend Announcements*, 14 J. FIN. ECON. 581 (1985).

The actual statistical results are presented in Table 1. In the period preceding Basic's public announcement we see that the residual rates of return are without statistical significance. That is, the variation in these rates of return are viewed as random fluctuations, driven by chance rather than economic factors. On the day of the announcement, however, we note a residual return of -0.60% to Basic's equity. Estimation of the widely used statistic indicates that the likelihood of obtaining this sized residual purely by chance is less than 1%.[100] For the ten days following this announcement, the residual rates of return again vary without statistical significance. Thus, the empirical evidence from the event methodology approach clearly attributes the unusually large negative residual return to the actions of management on that day.

TABLE 1
RESIDUAL STOCK RETURNS FOR BASIC, INC. OVER THE
PERIOD SURROUNDING THE FRAUDULENT ANNOUNCEMENT
OF OCTOBER 21, 1977

DAY	DAILY PERCENTAGE RESIDUAL RATE OF RETURN	t STATISTIC
10 OCT 1977	0.013	0.618
11 OCT 1977	-0.007	-0.364
12 OCT 1977	0.004	0.019
13 OCT 1977	0.009	0.396
14 OCT 1977	0.024	1.554
17 OCT 1977	-0.013	-0.295
18 OCT 1977	0.044	1.148
19 OCT 1977	0.038	1.021
20 OCT 1977	0.022	1.067
21 OCT 1977	-0.060	-2.892*
24 OCT 1977	0.005	0.363
25 OCT 1977	0.037	0.357
26 OCT 1977	0.024	0.891
27 OCT 1977	0.017	0.962
28 OCT 1977	-0.008	-1.043
31 OCT 1977	0.002	0.786
1 NOV 1977	0.016	1.084
2 NOV 1977	0.016	1.084
3 NOV 1977	0.044	1.240

*Indicates statistical significance at the 1% level

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[100] *See* C. HUANG & R. LITZENBERGER, FOUNDATIONS FOR FINANCIAL ECONOMICS; J. MARTIN, S. COX & R. MACMINN, *supra* note 92.

Given that Basic, Inc.'s stock closed at $20 per share on the preceding trading day, we calculate the following dollar loss per share:

$$\text{LOSS} = (\text{CLOSING PRICE}) \times (\text{RESIDUAL RETURN})$$
$$= (\$20) \times (0.006)$$
$$= \$0.12$$

With 1,347,000 shares outstanding, the total economic loss suffered by shareholders was $161,640.

On 6 November 1978 Basic's management again released fraudulent statements regarding possible merger negotiations. The results from an event study around this date are presented in Table 2. There are no statistically significant residual returns. The residual return observed on 6 November 1978 is a chance variation, due to random stock price movements. This failure to observe a response, however, is not difficult to interpret. Stock prices are moved by new information. By this time in 1978, speculation, information leakage and investor analysis had eliminated any news content of managerial press releases. Indeed, the market had determined that the announcements were incorrect and consequently failed to move Basic's stock price in any significant manner.

TABLE 2
RESIDUAL STOCK RETURNS FOR BASIC, INC. OVER THE PERIOD SURROUNDING THE FRAUDULENT ANNOUNCEMENT OF 6 NOVEMBER 1978

DAY	DAILY PERCENTAGE RESIDUAL RATE OF RETURN	t STATISTIC
24 OCT 1978	-0.015	-0.645
25 OCT 1978	0.022	0.434
26 OCT 1978	-0.026	-1.317
27 OCT 1978	0.036	1.524
30 OCT 1978	0.007	1.099
31 OCT 1978	0.005	0.212
1 NOV 1978	0.009	0.263
2 NOV 1978	-0.031	-1.096
3 NOV 1978	0.010	0.765
6 NOV 1978	0.024	0.441
7 NOV 1978	-0.027	-0.901
8 NOV 1978	0.013	0.274
9 NOV 1978	0.016	1.443
10 NOV 1978	0.024	0.156
13 NOV 1978	0.031	0.692
14 NOV 1978	0.017	1.013
15 NOV 1978	0.027	1.476
16 NOV 1978	0.006	0.288
17 NOV 1978	-0.029	0.196
20 NOV 1978	-0.033	0.763

The implications for this empirical analysis are significant. It shows the market did react to the first press release by Basic. However, because there was no market reaction caused by the second statement, the reliance on the market to reflect the true value was not compromised. The result should be the shortening of the class period. All those who traded after the second statement should be required to provide actual reliance on the misstatement.

VI. CONCLUSION

The extent to which economic theories and empirical analysis of the efficient capital market are incorporated within securities law is uncertain. The Supreme Court avoided wholesale adoption of economic theory. Nonetheless, the Court recognized the changing nature of securities transactions, from face to face sales to trades in an impersonal market where buyer and seller never meet. In order to adapt the laws to this developing environment, the Court recognized that reliance can be indirect, by reliance on the market, thus expanding *Affiliated Ute*. The Court thus chose to at least recognize the economic concept of an efficient market. A strong argument can be made that empirical analysis will now be essential to a securities fraud case when the presumption of reliance on the market is invoked. It provides the clearest evidence of the market's response to particular information, which may provide a defense to the presumption of reliance. Empirical studies do not, however, offer a bright line test for market efficiency. This is a question the courts must set standards for in the future, as a new era of 10(b)(5) litigation ensues.