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Notes

Protecting Mutual Funds from Market-Timing Profiteers: Forward Pricing International Fund Shares

DAVID WARD*

INTRODUCTION

It has been the worst crisis in the eighty-year history of the mutual fund industry. Beginning with a probe by New York Attorney General Eliot Spitzer, investigators and securities regulators have uncovered widespread improprieties in the $7.5 trillion mutual fund business. In case after case, hedge fund managers, brokers and mutual fund executives conspired to allow favored investors to rapidly trade in and out of mutual funds, taking advantage of pricing inefficiencies to reap hundreds of millions of dollars in profits at the expense of long-term shareholders.1

Spitzer uncovered two types of abuses, both related to the way mutual funds price their shares, practices known as late trading and market timing. Mutual fund share prices, unlike shares of stocks and bonds, are calculated once a day, usually at 4:00 p.m. eastern standard time, when the stock market where the shares that mutual funds hold are generally traded. All of the stocks, bonds and other securities held by the fund are valued based on their price at that time.

First, Spitzer discovered that the mutual funds were allowing hedge fund and other sophisticated investors to place buy and sell orders for mutual fund shares after the 4:00 p.m. closing time, but allowing their purchase price to be based on the closing price at 4:00 p.m., a practice known as “late trading” that is barred by the Securities and Exchange

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Commission. Second, mutual fund managers were allowing sophisticated traders to rapidly buy and sell shares of mutual funds that held thinly-traded securities (shares of stock that do not trade every day) or securities that traded on markets in Asia and Europe, in an effort to exploit changes in the stock’s value because of an underlying event, one that occurred before the shares were purchased by the funds but would not be reflected in the funds’ share price until later that day—a practice known as “market timing.”

Market timing works like this: mutual funds calculate the price of international securities or thinly-traded securities they hold at the last price at which they were traded, a price that is often hours old. Funds that hold shares of stock traded in Europe or Asia use the last available closing price, which is generally calculated when those markets have closed earlier in the day—11:30 a.m. eastern standard time generally for European markets and 2:00 a.m. eastern standard time the previous evening for shares traded on Asian exchanges. These opportunistic traders, (generally professional traders employed by hedge funds or brokerages) aided by complicit brokers and fund managers, would buy or sell shares during U.S. market trading hours after an event that occurred after the European or Asian markets had closed that could be expected to influence the price of those shares when they began trading again later that night in Asia or early the following morning in Europe. By doing so, these traders could buy shares knowing they would rise, guaranteeing themselves a profit. The practice is not specifically barred by the SEC, but many mutual fund boards bar the practice, and indictments by Spitzer and the SEC allege that the practice is fraudulent and violates the funds’ fiduciary duties to shareholders because the practice can cost the funds some profits, harming all the funds’ other shareholders.

This Note focuses on the issue of market timing. It examines current SEC efforts to curtail the practice, and concludes that the threat of prosecution may go far to curtail the most blatant abuses. However, this Note concludes that the new regulatory proposals do not sufficiently eliminate the potential for exploitive traders to market time mutual funds. This Note proposes that mutual funds holding shares of non-U.S. companies can change their share-price calculations in a way that will eliminate the ability of traders to market time those funds. Part I describes the current scandal, the extent to which it has spread

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4. See id. ¶ 23.
5. See id.
6. Id. ¶ 30; see also In re Alliance Capital Mgmt., L.P., Nos. 2205, 26312, 2003 SEC LEXIS 2997 (Dec. 18, 2003).
throughout the financial services industry, and the initial responses by Congress, investors and the SEC. Part II describes the history of market timing and the development of SEC rules designed to address earlier instances of market timing abuses. It demonstrates how those efforts repeatedly failed to curtail the growth of market timing abuses throughout the 1990s. This section also explains the development of the SEC's primary regulatory response to market timing—"fair value pricing" policies designed to encourage mutual funds to estimate a fair value for shares held in their mutual funds during instances when dramatic price moves in United States or overseas markets would make their traditional exchange-traded prices "stale" and therefore inaccurate and subject to market timing abuses. Part III surveys the academic analysis of the problems of market timing, documenting the extent of the problem, particularly the growth in market timing abuses in mutual funds that hold international shares. This section then reviews the academic estimates of the cost to long-term shareholders. This section also discusses the academic critiques of fair value pricing mechanisms. Part IV describes new rules proposed and enacted by the SEC in 2004 in an effort to stop the current abuses, specifically the Commission's emphasis on forcing mutual funds to develop and disclose their fair value pricing policies. Then, drawing on the academic research in this area, this Note demonstrates how these policies, just as the past efforts by the Commission, do not eliminate the regulatory structure of the mutual fund industry that allowed market timing in the first place. Part V outlines a partial solution to the problem, arguing that mutual funds holding international equity securities can easily and fairly eliminate the ability to market time those funds. This Note will argue that mutual funds should abandon the expensive and often inaccurate efforts to fair-price shares of securities traded on overseas markets, and should instead implement a forward pricing rule that calculates the value of those shares only after the mutual fund investor has bought or sold shares in the fund. While acknowledging that this proposal is not appropriate for all mutual funds, would increase the management costs of pricing the funds, and could delay the ability of investors to receive their investment funds once they have sold shares by up to twenty-four hours, this Note nonetheless argues that the benefits of this proposal to investors far outweigh its costs, and coupled with other measures the SEC has proposed in the wake of the current crisis, could go far to curtail future market timing abuses in the mutual fund industry.

I. CORRUPTION IN THE MUTUAL FUND INDUSTRY

A. A SCANDAL EXPOSED

This scandal began with a whistleblower. In June 2003, former Wall Street executive Noreen Harrington telephoned the office of New York
Attorney General Eliot Spitzer and informed Spitzer and his staff of widespread improprieties in the $7.5 trillion mutual fund industry. Specifically, she told Spitzer that managers at hedge fund Canary Capital Partners LLC, where Harrington had worked, were using improper and illegal trading strategies to profit from the rapid buying and selling of mutual fund shares. In doing so, these managers reaped tens of millions of dollars in profits at the expense of long-term shareholders. Spitzer’s subsequent investigation into the practices led to an announcement on September 3, 2003, that his office had reached a $40 million civil settlement with Canary Capital and its managing principal Edward Stern, a scion of one of the richest families in the United States.

I. Late Trading Mutual Funds

The indictment accused Stern of two types of improper trading in mutual funds. Spitzer claimed that Stern and the Canary hedge funds had been engaged in “late trading” mutual fund shares for at least the last four years, an illegal practice in which Canary, with the agreement and complicity of mutual fund management companies and their executives, placed orders to buy mutual fund shares after the market had closed and the funds had set their prices for that day. By doing so, Canary would be able to take advantage of activity that occurred between the time the market closed and the closing price for the shares was posted, and the time the funds or traders purchased the shares, activity that would be expected to affect the prices of the underlying shares of stocks, bonds or other financial instruments that the mutual fund held.

Mutual funds hold stocks, bonds and other financial instruments and price their fund shares once a day, at 4:00 p.m. eastern standard time, based on the price at that time of those financial instruments. (The closing price is known as the fund’s NAV, or Net Asset Valuation). Often, events occur shortly after 4:00 p.m. that will cause the prices of those shares to rise or fall. For example, a company may announce its quarterly earnings, and if they are better than expected, the stock would presumably rise the next day. Canary’s arrangement with its banks allowed the fund to place orders to buy or sell mutual fund shares after

10. Vickers, supra note 7, at 64.
11. Complaint ¶¶ 9, 15–21, Canary (No. 402830/03).
12. Id.
13. Id.
the 4:00 p.m. eastern standard time closing price. In effect, Canary was purchasing shares in which market-moving events had occurred, but were not yet reflected in the price used to calculate the mutual fund's NAV. Canary expected the stock price to rise the next day when it began trading on U.S. financial markets; when the market closed that following day and the mutual fund next calculated its NAV, Canary could expect to see the value of the fund's shares rise. Spitzer likened the practice to "betting today on yesterday's horse races." The Securities and Exchange Commission outlawed late trading in 1968 when it adopted "forward pricing rules" to the 1940 Investment Company Act. The Act requires funds to set the price for the shares investors had purchased after they had bought the shares—generally using the closing price for the stocks that were set at the end of that trading day.

2. Market Timing Abuses

Canary also agreed to settle allegations that it had engaged in a related practice known as "market timing," purchasing shares of mutual funds that held shares whose prices were set hours earlier—"stale prices" in the vernacular of the trade. For example, if a mutual fund holds shares of a stock that trade in Tokyo or Hong Kong, the fund uses the last closing price of those shares, as posted on those markets, when the fund calculates its NAV at 4:00 p.m. eastern standard time. Markets in Tokyo and Hong Kong, however, close fourteen hours earlier, at 2:00 a.m. eastern standard time. And that time difference can create problems in accurately calculating the correct share price because economic, political or market-moving events could occur while trading was underway in the U.S.—but after the markets in Europe or Asia on which those shares traded had closed—that could reasonably be expected to cause those stocks to rise or fall when they began trading on their markets later in the day.

For example, say the U.S. government unexpectedly announces at 2:00 p.m. eastern standard time that it is eliminating the taxes charged Japanese automakers to import cars into the U.S. This could cause the price of shares in Japanese car makers to rise when those markets opened later that evening in Tokyo and Hong Kong because the lower tariffs would make it less expensive to import cars into the United States. However, at 4:00 p.m. when mutual funds set their daily prices, they will

15. Complaint ¶ 48, Canary (No. 402830/03).
16. Id. ¶ 15.
17. Id.
18. Id. ¶ 10.
20. Complaint ¶ 23, Canary (No. 403830/03); Vickers, supra note 7, at 65.
base those prices on the prices of Asian stocks that were set fourteen hours earlier, when those markets previously closed and before the shares could reflect the positive tax news. Therefore if a trader knew the stocks would rise later that evening, he could buy shares in a U.S. mutual fund that held Asian stocks. That evening those Asian stocks would rise. The next day, when the mutual fund again calculated its prices, the mutual fund shares would be worth more because the Asian stocks it held had risen in value. Then, the day after that, the trader could sell his shares for a profit. That is market timing.

The SEC does not specifically bar market timing. The commission instead requires mutual funds to use either the last available exchange-traded price (generally the closing price on the exchange where the shares trade), and if that price is not available or is not accurate, the SEC requires that mutual funds use their best efforts to calculate their NAV based on a “fair value” of the underlying shares at the time it prices its shares. Many mutual fund prospectuses, however, disallow the use of market timing in their funds. They have established limits on the number of trades in and out of a fund each month, or enacted trading fees designed to eliminate market timing profits, or the funds simply bar investments from those who trade too frequently in and out of its funds.

The harm to long-term shareholders that Spitzer has uncovered is not insignificant. The problem with market timing and late trading is that it dilutes the profits of long-term shareholders. Market timing requires funds to keep more of their money in cash to pay the short-term market timers when they sell their shares, reducing the amount they can invest, and thus reducing the profits for all shareholders. Further, short-term traders reap profits that should be spread out proportionately among all investors; by selling their shares rapidly, short-term market timers reap a larger portion of the return than long-term investors. The losses to shareholders are estimated at billions of dollars a year. A recent academic study estimated that market timing abuses alone cost long-term shareholders $4.9 billion in a single year. According to Spitzer’s indictments, Canary alone allegedly reaped tens of millions of dollars in profits from its trading activities, which Spitzer alleged occurred from 1998 until Canary received its first subpoenas from the Attorney

22. Id.
25. Id.
26. Id.
General's office in the summer of 2003. And this was just the tip of the iceberg. As Spitzer, the SEC and other state regulators would soon discover, Canary was not alone in its abuses of the mutual fund industry. Spitzer's subsequent investigation uncovered that the hedge funds (investment funds that cater to wealthy individuals and institutions and are only lightly regulated by the SEC) were abetted by executives at banks, brokerage firms, trading administration firms—and those within the mutual funds themselves.

B. ABUSES ARE WIDESPREAD

Hedge funds such as Canary Capital could not operate alone. Their trading strategies required the complicity of a number of players. First, the funds needed brokers and brokerage firms that conducted the actual trades. Second, they needed the firms that processed the daily trading of mutual fund shares. And third, they needed the complicity of the mutual funds themselves, which would have to turn a blind eye to the rapid trading that, as Spitzer demonstrated, was occurring with frightening regularity right before their eyes.

Shortly after the Canary indictments, Spitzer announced felony charges against Bank of America executive Theodore Sihpol III, a private client account manager. According to Spitzer's allegations, Sihpol and Bank of America executives allowed Canary to trade in and out of the mutual funds it managed in return for commitments from Canary to deposit millions of dollars in separate funds managed by Bank of America. This alleged agreement reportedly benefited Bank of America, whose divisions profited from their relationship with Canary and the deposits he made in their funds.

Spitzer's discoveries set off a firestorm within the mutual fund industry and among the state and federal regulators who were charged with oversight of the industry. Within weeks, the SEC, along with state securities regulators in Massachusetts, undertook similar investigations, and mutual funds around the country began to conduct their own internal investigations. The problems were widespread. In the past year, Spitzer, state regulators or the SEC have indicted six mutual fund or brokerage officials, settled civil complaints with at least forty more, and have assessed more than $2.5 billion in fines, penalties and restitution.

Massachusetts securities regulators, under the leadership of Attorney General William Galvin, have filed administrative complaints against

30. Complaint ¶ 50, Canary (No. 402830/03).
31. Id.
companies, including Putnam Investment Management Inc., the second-largest mutual fund company in the state, and one of the ten largest in the United States. In addition to the alleged misdeeds at mutual funds, regulators discovered that executives at brokerage firms had been paid to help hedge funds disguise their identities when trading in and out of mutual funds, particularly after the mutual funds had discovered the market timing activities and attempted to bar the hedge funds from this type of trading.

Adding to the group of individuals and companies that were allegedly complicit in the improper trading techniques, regulators discovered that executives at Security Trust Co., a Phoenix, Arizona-based company that processed mutual fund trades for participants in retirement plans, were submitting hundreds of late trades and market timing trades on behalf of the Canary Capital hedge funds. The SEC brought civil fraud charges against three executives at Security Trust, Spitzer brought criminal larceny charges against the three, while at the same time the Office of the Comptroller ordered the company shut down.

By the end of 2004, many of the targeted firms had reached settlements with the SEC and Spitzer. Bank of America and Fleet Boston Financial Corp., whose Columbia funds had been targeted by regulators for allowing improper trading in its funds, agreed to pay a combined $675 million to settle the allegations, the largest fine extracted from the investigation. Overall, securities regulators have secured more than $2.5 billion in fines, penalties and restitution from mutual funds and other financial services firms targeted in the probe, and more than eighty executives have resigned or been fired.

From the indictments and administrative complaints emerged disturbing patterns of improper collaboration between hedge fund managers, the brokers that promoted and sold mutual funds (mainly to small individual investors), and the mutual fund managers themselves. In case after case, the mutual funds had established explicit rules against market timing. Yet time and time again, fund managers and bank executives put their personal and professional interests ahead of those of their customers and shareholders by allowing hedge funds to market time their funds, rapidly buying and selling shares to reap short-term profits at the expense of long-term shareholders.

33. Id.
Congress weighed in, holding hearings throughout the fall. Public hearings were held before Senate and House subcommittees charged with oversight of the industry's regulators.

SEC Chairman William Donaldson, appearing before the Senate Committee on Banking, Housing and Urban Affairs, testified that "the industry has lost sight of certain fundamental privileges," and promised a vigorous regulatory response. He expressed shock at the widespread nature of the abuses, and began by noting that "we all... have spent much time lately wondering how the current abuses could have happened." The commission should not have been so surprised.

II. MARKET TIMING MUTUAL FUNDS: AN HISTORICAL OVERVIEW

A. EARLY EVOLUTION OF THE SEC'S PRICING RULES

The problems associated with mutual fund pricing have been present since the development of mutual funds themselves, and the SEC has been grappling with rules to curtail the problems almost since the inception of the industry.

The first mutual fund was launched in 1924—The Massachusetts Investors Trust—followed three months later by Incorporated Investors, later named the Putnam Investors Fund. From their early years, funds struggled with the dual mandates of allowing investors to redeem their shares on demand, and pricing the shares held in the fund based on their current fair value. The problem with this dual mandate was that it often created a situation where short-term traders could take advantage of the ability to buy or sell mutual fund shares on demand because prices the mutual fund used did not accurately reflect the current value of the underlying shares. For example, mutual funds initially calculated the NAV of their shares at 4:00 p.m. eastern standard time, but did not apply them to transactions made until after 10:00 a.m. the following morning. A sophisticated trader could purchase fund shares early the following day, and as long as they made the purchase before 10:00 a.m., would buy at the day-old prices, profiting because they could see the change in the price of the shares the mutual fund held because those shares had already begun trading at 9:00 a.m. eastern standard time.

39. Id.
41. Zitzewitz, supra note 27, at 250.
42. Id.
1. **The 1940 Investment Company Act and the Problem of "Backward Pricing"**

The 1940 Investment Company Act was the first major effort by the SEC to craft a body of regulations governing the mutual fund industry. It was in some ways a reaction to the dilution of long-term shareholders' profits, and it eliminated many of the most blatant abuses of mutual fund pricing at the time. However, even after passage of the 1940 Act, mutual funds still used a methodology known as "backward pricing," that allowed speculative traders to profit from large market swings. Under the backward pricing formula, the price of a fund share was set based on the last posted NAV. This policy allowed traders to watch for shares that were rising or falling that day, purchase mutual funds that held those shares but whose price was calculated based on the share price before it had moved, then sell the following day once the mutual funds' NAV had been updated with the changed price.

2. **A Solution To Backward Pricing: SEC Adopts Forward Pricing Rule**

In 1968 the SEC adopted Rule 22c-1, an addition to the Investment Company Act of 1940, in an effort to end the abuses it saw from backward pricing. The new rules required mutual funds to set their prices at the end of each trading day, and, under the new rules, shares purchased that day would be priced based on the value of the shares at the end of the day. This so-called "forward pricing" model was designed to eliminate the market timing the SEC believed was rampant and that was harming long-term shareholders. Short-term traders could no longer buy mutual fund shares whose prices were based on the "stale prices" of underlying shares.

Rule 22c-1 did not fully correct the problem, however. As the number of mutual funds that offered investors the chance to invest in overseas markets grew, a new type of "backward pricing" abuses began to emerge, one that was possible because mutual funds were increasingly investing in stocks that traded in markets outside the United States.

Section 2(a)(4) of the 1940 Investment Company Act requires funds to price thinly-traded shares based on their "current market value,"
which the Commission describes as the share's last quoted share price on a national exchange. If a share does not have a readily available market price, as is the case for shares of thinly-traded companies, mutual funds are required to determine a “fair value” for the shares as determined in good faith by the fund’s board of directors. 48 However, this rule did not generally apply to shares of stock that traded in Europe and Asia—mutual funds could instead use the price of those stocks when they had closed hours earlier. As later abuses would demonstrate, the SEC’s efforts fell far short of curtailing the abuses.

B. THE EMERGENCE OF FAIR VALUE PRICING

The use of fair value pricing got little attention at the SEC until 1981, when two Putnam mutual funds petitioned the Commission for permission to adopt a fair value pricing methodology it had developed. 49 The subsequent no-action letter from the SEC (an interpretive decision often sought by those regulated by the Commission to ensure their practices comply with its rules) said Putnam could use financial algorithms and methodologies to estimate the fair value price of its international mutual funds on days when dramatic market moves during United States market hours (either general market moves of such a significant nature that they would be expected to impact Asian markets overall, or even just dramatic price moves in industries or market segments that would be expected to be repeated for shares in the same sector in Asia) made the closing prices of Asian equities no longer reflective of their current market price. 50 While the SEC first addressed the issue of fair value pricing in its 1981 response to Putnam, it did little more than to simply allow mutual funds to voluntarily adopt fair value pricing. 51 There were no requirements at the time that mutual funds adopt any sort of fair pricing regime for shares that trade in Europe or Asia; the guidelines stated that funds were not prohibited from using the earlier closing prices of shares on foreign exchanges, even on days when extraordinary events might leave those prices “stale” and warrant calculating different prices at the end of U.S. trading hours. 52

The Commission only began addressing the issue of fair value

48. 17 C.F.R. § 270.2a-4(a)(1) (2004) (“Portfolio securities with respect to which market quotations are readily available shall be valued at current market value, and other securities and assets shall be valued at fair value as determined in good faith by the board of directors of the registered company.”).


50. Id. See also Barbash, supra note 47, at 6.

51. See Barbash, supra note 47, at 6.

52. See id. (“Under the staff’s 1981 position, a fund may (but is not required to) price portfolio securities traded on a foreign exchange using fair value, rather than the closing prices of the securities on the exchange, when an event occurs after the close of the exchange that is likely to have changed the value of the securities.”).
pricing in a substantive way following the 1997 Asian economic crisis, which created repeated opportunities for market timing mutual funds that held shares of Asian equities.53 The problem reached a peak on October 28, 1997, when markets in Hong Kong dropped 14%, followed by a rally in New York later that day. Apparently, the dramatic price swings were being exploited by short-term traders who were rapidly buying and selling mutual fund shares to exploit the fact that mutual funds did not update their prices during U.S. market hours, despite events that would cause dramatic moves in Asian markets later that night.54 A few funds, Fidelity Investments in particular, had responded to the rapid trading of its shares by adopting fair value pricing to update the price of shares held in their Asian equity mutual funds to reflect the expected rise on the Hong Kong and other Asian exchanges later that day as a reaction to the rise of markets in New York. Traders who had been attempting to market time the fund challenged Fidelity’s actions, and a subsequent SEC investigation cleared the mutual fund company of any impropriety.55

C. THE SEC’s “SIGNIFICANT EVENTS” TEST

The mutual fund trading abuses that occurred during the Asian economic crisis led the SEC to embark on a comprehensive study of how mutual funds calculate their prices, and whether the lack of the use of fair pricing methodologies harmed long-term shareholders. After a year of review, the SEC announced its policy in a letter from Douglas Scheidt, the associate director and chief counsel of the Division of Investment Management to the Investment Company Institute’s (ICI) general counsel, Craig Tyle.56 The 1999 Scheidt letter reiterated the SEC’s position that funds should generally rely on market price quotations when they are readily available, and when accurate market prices are not readily available, the SEC suggested that funds use fair value pricing methods in calculating their NAV.57 Specifically, the SEC suggested that funds should use fair value pricing on days when the foreign markets on which the shares it held were traded were closed, and that mutual fund boards had an obligation to adopt fair value pricing methodologies for those shares.58 This letter did not clarify the questions within the industry about when mutual funds might be required to adopt fair value pricing, and what type of methods the funds might use when seeking to

53. Id.
54. Id. at 7; see also Ciccotello, supra note 40, § II.D.
55. See Ciccotello, supra note 40, § II.D.
57. Id.
58. Id.
implement a fair value pricing methodology. Two years later the SEC sought to clarify these issues.

In an effort to establish better guidelines, the SEC drafted a follow-up letter to the ICI in December 2001 addressing when mutual funds would be required to adopt fair value pricing methodologies. Specifically, the SEC said that when so-called “significant events” had occurred that the closing price of a security traded in an overseas market would no longer be considered a “readily available” price, and in those instances funds were required to use a fair pricing methodology to produce an accurate market price for those foreign securities it held. The letter, however, gave no explicit definition of what would constitute a “significant event” that would require the fund to use fair value pricing, though it did mention events such as a natural disaster or an armed conflict. The letter stated that “significant fluctuations in domestic or foreign markets may constitute a significant event.” The letter suggested that “[w]hether a particular event is a significant event depends on whether the event will affect the value of a fund’s portfolio securities.” The SEC said that there was a “good faith” onus on a fund’s board of directors to insure that the value of its securities accurately reflected their current market price at the time. In hindsight it appears that this reliance on the good faith efforts of mutual fund boards was misplaced.

III. Market Timing Abuses Increase

A. Studies Demonstrate Losses to Shareholders

Beginning in the late 1990s, academics began to document the widespread nature of market timing mutual funds, the costs to long-term investors, and why the current SEC rules were ineffectual in curtailing the abuses. The findings indicated that, despite SEC guidance to the mutual fund industry, market timing strategies remained profitable, with higher-than-average potential profits available with lower risks than would be associated with a buy-and-hold investment strategy. Some studies further demonstrated that these excess profits were coming at the

60. Id.
61. Id.
62. Id.
63. Id.
64. Id.
expense of long-term shareholders.\textsuperscript{66} Funds were forced to honor redemptions from short-term traders reaping profits that should have been spread out among long-term shareholders, and to adopt policies—such as keeping more of a fund’s investments in cash to meet increased redemptions of shares—that further reduced the profits of long term shareholders.\textsuperscript{67}

In one of the leading articles in the field, Eric Zitzewitz, an associate professor at the Stanford Graduate School of Business, attempted to quantify the potential profits available to short-term market timing traders, and the costs these trading strategies exacted on long-term shareholders. Zitzewitz’s article should have given mutual fund executives and regulators great pause.

Zitzewitz gathered pricing data from 11,556 mutual funds and calculated the number of potential arbitrage opportunities based on price changes in United States’ markets after European or Asian markets had closed (primarily looking at price changes in United States markets after 11:30 a.m. eastern standard time when European markets closed).\textsuperscript{68} Zitzewitz calculated potential opportunities for sophisticated traders to market time mutual funds, then compared the potential profits from those opportunities to a strategy of buy and hold investing. Based on an analysis of trading and pricing data from January 1998 until October 2002, Zitzewitz calculated that short-term traders reaped $4.9 billion in excess profits a year from market timing activities, with $4.3 billion of this profit coming from international mutual funds.\textsuperscript{69} Zitzewitz calculates that investors in regionally-focused international equity funds saw their annual returns sliced by 1.6% a year, while general international equity funds saw profits shrink by 0.81% a year.\textsuperscript{70} Even more troubling, a comparison of academic studies suggests that the number of instances of market timing of mutual funds was on the rise as more traders became aware of the potential for outsize profits. One earlier study estimated that investors were only losing about $1.1 billion a year in 1998, leading to a general conclusion that market timing abuses grew four-fold from 1998 to 2002.\textsuperscript{71}

Zitzewitz’s article concluded by questioning why market timing has become so prevalent. After discussing the potential legal and logistical problems with adopting methods to prevent market timing, Zitzewitz offered another explanation. “Another possibility, which one would

\textsuperscript{66} Goetzmann, \textit{supra} note 65.
\textsuperscript{68} Zitzewitz, \textit{supra} note 27, at 251–52.
\textsuperscript{69} \textit{ld.} at 260.
\textsuperscript{70} \textit{ld.}
\textsuperscript{71} See Goetzmann, \textit{supra} note 65, at 309.
hesitate to even suggest until all others are exhausted, is that fund management company employees directly benefit from allowing arbitrage.\textsuperscript{72} It turned out to be a stunningly prescient observation.

B. POSSIBLE SOLUTIONS AND THEIR LIMITATIONS

Even as academics were pointing out the widespread nature of market timing abuses within the mutual fund industry, many were also suggesting solutions that could begin to address the problem. Among the leading suggestions were, (1) the imposition of higher short-term trading fees and (2) the regular and consistent use of fair pricing methodologies for mutual funds holding international equities or shares of U.S. stocks that are thinly-traded and are therefore at risk of valuing those securities at "stale prices," leaving them vulnerable to market timers.\textsuperscript{73}

It is possible to estimate a "fair value" for shares of stock that do not trade often, or shares that last traded hours earlier on Asian or European markets. Currently there are financial products that trade in the United States that can provide relatively accurate predictions of the opening prices of those shares in home markets in Asia, Europe or Latin America.\textsuperscript{74} United States exchanges, including the New York Stock Exchange, the NASDAQ, and the American Stock Exchange, all now trade a variety of derivative securities whose values are designed to imitate the values of stocks, bonds or stock indexes outside the United States, while many individual stocks of the largest non-U.S. companies have shares that trade in the United States. Known as ADRs (American Depositary Receipts), these derivative securities allow investors to buy and sell an equivalent to the shares of foreign-based and foreign-listed stocks by buying an ADR that is traded on U.S. exchanges during U.S. trading hours and is expected to mimic the price of the original share as traded in Asia or Europe.\textsuperscript{75}

The proponents of fair pricing acknowledge that no one derivative security or other proxy could accurately reflect the change in prices for all of the international securities held by mutual funds. What many academics were suggesting, however, is that mutual fund boards could adopt a strategy that priced shares based on the cumulative data gathered from a variety of sources, and that a methodology could be put in place that would allow the fund to gather this data and extrapolate a

\textsuperscript{72} Zitzewitz, supra note 27, at 279.

\textsuperscript{73} See Ciccotello, supra note 40, §§ II.C, III.B.1–2; Goetzmann, supra note 65, at 288–90; Zitzewitz, supra note 27, at 269 (Zitzewitz and Ciccotello both discuss fair value pricing funds and the imposition of trading fees, while Goetzmann focuses solely on the adoption of fair value pricing methodologies.).

\textsuperscript{74} See Marcelle Arak, Trading Japan From Chicago: Equity Trading Techniques, Futures, Jan. 1, 2002, at 34.

price change that could be applied to all the shares in the fund.\textsuperscript{76} At least two companies currently offer fair pricing services for mutual funds.\textsuperscript{77}

Many of the academic studies conclude that fair value pricing, if done consistently, could eliminate most of the market timing abuses in mutual funds holding international equities traded in Europe or Asia. Zitzewitz estimates that adopting regular fair value pricing strategies will substantially reduce market timing activities for two reasons. First, the prices of the funds will more accurately reflect current prices.

Second, the use of fair value pricing inserts unpredictability in the pricing of mutual fund shares that make it difficult if not impossible for market timers to accurately capture any inefficiencies that existed in the old pricing methodology, even on days when the fair value pricing is not a 100\% accurate calculation of the expected move in the underlying shares.\textsuperscript{78} Professor Zitzewitz reported that one mutual fund pricing services methodology removes more than 95\% of NAV predictability, meaning that in nineteen out of twenty cases it would prevent a trader from correctly capitalizing on “stale prices.”\textsuperscript{79} Other academics, including William Goetzmann, Zoran Ivkovic and Geert Rouwenhorst, reached a similar conclusion, calculating that funds that use ADRs, futures contracts and derivatives to fair value price securities on a daily basis eliminate the profitability of market timing those mutual funds.\textsuperscript{80}

Nevertheless, the results are strikingly different when fair value pricing is utilized in more limited circumstances, such as under the “significant events” test proposed by the SEC in the 2001 Scheidt letter. Zitzewitz analyzes the use of fair value pricing whenever the fair value of the shares in a mutual fund are expected to vary by at least 1.5\% from the “stale” closing price of those shares hours earlier, a market move he describes as a “significant event” under the SEC rules.\textsuperscript{81} Under these circumstances, Zitzewitz estimates that on average, market timing traders’ profits would only be reduced by 10\%.\textsuperscript{82} Additionally, Zitzewitz points out that fair value pricing on days with significant market events requires the input of high level executives, a time-consuming and costly endeavor that many funds would presumably be reluctant to undertake very often.\textsuperscript{83} An earlier analysis of when funds would conduct fair value pricing determined that it occurred significantly less often on Friday afternoons, when the efforts to do so were presumably higher.\textsuperscript{84}

\textsuperscript{76} See 1999 Letter From Douglas Scheidt, \textit{supra} note 56, at 2–3.

\textsuperscript{77} Zitzewitz, \textit{supra} note 27, at 272.

\textsuperscript{78} Id.

\textsuperscript{79} Id.

\textsuperscript{80} Goetzmann, \textit{supra} note 66, at 305.

\textsuperscript{81} Zitzewitz, \textit{supra} note 27, at 270.

\textsuperscript{82} Id.

\textsuperscript{83} Id.

\textsuperscript{84} Id.
Professors Conrad Ciccotello, Roger Edelen, Jason Greene and Charles Hodges also attempted to quantify the savings that mutual funds would see from fair value pricing on significant events days only. They found that a mutual fund that adopted fair value pricing methodologies on the days with the one percent largest movement in the S&P 500 index (about two or three days a year) would reduce market timers' profits from 34.65% returns to 32.5%.\textsuperscript{85} Even if the funds used fair pricing methodologies on the top 20% of all market-moving days (about once a week), Ciccotello et al. conclude that the market timers’ profits would only be reduced to 23.5% a year.\textsuperscript{86} They write that “empirical evidence suggests that stale price traders have formed a systematic effort that is not tied only to big events but to daily trading, to bleed funds a little at a time.”\textsuperscript{87}

Further, the studies conclude that the current SEC rules were not effective in forcing mutual funds to develop and consistently use fair value pricing methodologies—even on the limited times when there had been a significant market event. Zitzewitz’s analysis of funds’ NAVs has found that it is unlikely that the “vast majority” of international mutual funds have used fair value pricing even once during the period of May 2001 to September 2002, a period that was noted for its volatility and price swings.\textsuperscript{88} Even the SEC now concludes that most funds do not use fair value pricing. A survey of 960 mutual funds found that one-third of the funds had not once used fair value pricing during the past twenty months, and have said they had only used fair value pricing five times or less during the same period.\textsuperscript{89}

IV. The SEC’s Response to the Current Crisis

A. Rules to Discourage Market Timing

The SEC promised a vigorous response to the current crisis, and in many ways has delivered. The Commission has brought dozens of enforcement actions against rogue mutual funds, heightened corporate governance and director independence rules, and passed new regulations requiring increased disclosure by mutual funds in its reports to the SEC.\textsuperscript{90} From a governance and ethics standpoint, the Commission staff has strengthened the compliance and disclosure requirements for mutual funds, required funds to adopt a code of ethics, ordered an increase the number of independent board members to 75% of a fund’s board, and granted fund boards the power to hire an independent staff and counsel

\textsuperscript{85} Ciccotello, supra note 40, § IV.A.
\textsuperscript{86} Id.
\textsuperscript{87} Id.
\textsuperscript{88} Zitzewitz, supra note 27, at 273.
\textsuperscript{90} See Donaldson Statement, supra note 38.
that would report directly to the board.91

1. SEC’s Fair Value Pricing Rules

The SEC has also specifically addressed the issue of market timing in new regulations. However, the new rules only reiterate the rule requiring funds to use fair pricing methodologies on days when a significant event would make the prices of the international equities it held stale.92 They would, however, strengthen the disclosure by mutual funds of the policies and practices it has in place to detect and deter market timing. Specifically, the SEC requires that mutual funds disclose in their offering documents or prospectuses the policies the funds have adopted towards market timing, and how their procedures insure compliance with its market-timing policies.93 Additionally, the new rules reiterate that mutual fund directors, particularly the independent directors not employed directly by the mutual fund, have a fiduciary obligation to monitor the funds to insure that they are complying with SEC regulations and the funds’ stated policies in regard to market timing.94 Finally, the SEC would require that mutual funds fair value price their securities “under certain circumstances” to prevent the type of market-timing abuses that have come to light.95 Nevertheless, this requirement remains voluntary. In a response to the SEC’s initial proposal, the Investment Company Institute (“ICI”), the mutual fund trade association, pointed out that the fund need only include an explanation of the circumstances that the fund would use fair value pricing.96 Implicit in these rules is that mutual funds will use fair value pricing in certain circumstances; what is left unsaid is what those circumstances might be and how the mutual funds would determine when those triggers had been reached. The ICI’s response to the SEC implicitly acknowledges this; it urges that the Commission not require that funds “must identify every circumstance that might require it to fair value securities in its portfolio.”97 SEC Chairman Donaldson on the other hand has described the reforms as “substantial and far reaching” and designed to alter the way in which the fund industry is

93. Id.
94. Id.
95. Id.
97. Id.
regulated over the long term.  

2. The Proposed 2% Redemption Fee

In addition to the above-mentioned governance and fair value pricing rules, the SEC considered a separate measure to curtail market timing abuses—requiring funds to charge a mandatory 2% redemption fee for any shareholder who purchases mutual fund shares and then holds them less than five days. The Commission described the policy as aimed at "reducing or eliminating the ability of shareholders who frequently trade their shares to profit at the expense of their fellow shareholders." But the proposal drew significant industry opposition. One study, by the Boston-based Tower Group, estimates that it would cost the mutual fund industry more than $3 billion over three years to implement. The SEC has backed away from this proposal, saying now that it will only be a "voluntary" measure funds can implement if they see fit.

B. Why the SEC's Market Timing Rules Fall Short

The current spate of new regulations, coupled with increased enforcement and monitoring efforts by the SEC as well as criminal and civil indictments brought by Eliot Spitzer and other state regulators, will likely curb many of the current abuses. The rules requiring increased independence of mutual fund boards, better oversight by mutual fund board directors, an independent staff, or a requirement that the industry develop heightened ethics standards will all lead to a better functioning mutual fund industry.

However, the fair value pricing rules the SEC has proposed still leave many mutual funds vulnerable to market timers, and thus susceptible to continued losses that must be borne by individual shareholders. The current SEC rules on fair value pricing emphasize that mutual funds need to adjust the prices they use in calculating their closing share prices only when significant events have occurred between the time the shares last traded on an exchange and when the mutual funds are calculating their NAVs, the same position the Commission took in its 1999 and 2001 letters to the Investment Company Institute. The theory is that absent significant market-moving events, the

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98. Donaldson Statement, supra note 38.
100. Id. at 11,764.
difference in share prices from when those shares last traded and when they will trade later are too small for traders to exploit profitably. The academic analysis of this type of trading casts much doubt on that assumption; indeed, recent studies concluded that even if mutual funds were fair value pricing as often as once a week, market timing arbitragers could still collect returns more than 23% a year above returns they would normally receive.

V. A Partial Solution

A. Expand the Forward Pricing Rule

In its proposal suggesting a rule requiring a 2% redemption fee, the SEC also requested comments on additional ways it could alter or expand the fair pricing rules to discourage market timing. The Commission then asked for comments on the following proposal:

Should the Commission require that funds determine the value of purchase and redemption orders at the net asset value calculated the next day after it receives those orders, rather than at the time that the fund next calculate its NAV? Under such an approach, market timers would not be able to predict whether the next day’s NAV would be higher or lower, and, therefore, would not be able to trade profitably. On the other hand, such an approach would diminish ordinary investors’ ability to promptly effect their mutual fund investment decisions.

So far the Commission has not given a strong indication it will adopt such a proposal. But as this Note argues, it should.

Congress and the SEC have twice before been faced with widespread abuses in the mutual fund industry where sophisticated investors, often aided by complicit mutual fund managers, have exploited pricing inefficiencies in the mutual fund industry to extract extra profits from long-term investors. In both 1940 and 1968, Congress and the SEC leveled the playing field for individual investors by requiring that fund shares that are bought or sold are priced based on the nearest available future price. In 1940, the SEC required that funds set their NAVs once a day (at 4:00 p.m. eastern standard time generally) and that any trade after that time is calculated at the next closing day’s price. In 1968, the SEC forced the industry to adopt a forward pricing rule so that the price of shares bought are calculated at the closing price later that day. Therein lies one partial solution to the current crisis.

104. See supra Part III.
105. See Mandatory Redemption Fees, supra note 99, at 11,767.
106. Id. at 11,768.
107. See supra Part II.
108. See supra Part II.
109. See supra Part II.
110. See supra Part II.
The SEC should give mutual funds that trade international securities a choice. They could use fair value pricing on a consistent basis. Or, they could adopt policies that would forward price their shares. Under this proposal, the time at which a mutual fund shareholder bought or sold his shares would determine at what time his price was set. In each instance, the price would be set based on the subsequent closing prices of the stocks it held in the markets where those underlying shares are primarily traded.

For example, under the current rules, a mutual fund shareholder in the United States who bought shares of a fund that held stocks that traded in Japan would have the price of his shares calculated at 4:00 p.m. eastern standard time using the prices of Japanese equities when they last traded fourteen hours earlier in Tokyo. Under this proposal, that calculation would be delayed until 2:00 a.m. eastern standard time, when markets in Japan had closed—preventing an arbitrager from buying (or selling) shares during U.S. trading hours knowing that markets would rise (or fall) in Japan later, and thereby getting the benefit of “stale” prices at the expense of other shareholders. Under this proposal, the mutual fund share value would be calculated using forward pricing, that is, based on prices after the Japanese market had next closed. Any effect a United States-based event had on Japanese shares would be reflected in market trading of those shares—and in the price that was used to calculate the value of the mutual fund shares in the United States.

Similarly, if an investor bought or sold shares of a mutual fund that held shares in European companies during United States market trading hours (after European markets had closed, generally at 11:30 a.m. eastern standard time), those sales or purchases would not be priced until the following day, after European markets had again traded.

The equation gets slightly more complicated if mutual funds hold shares of stock that trade in Asia, Europe and the United States, but nonetheless, the principle remains the same. Once an investor buys or sells a share, it is not priced until each of the markets in which the funds have shares have traded and closed. So an investor who purchased shares of a mutual fund with U.S., European and Japanese equities would have his shares priced after each market had closed following his purchase. So for example, if a U.S. shareholder purchased shares or a mutual fund between 9:00 a.m. eastern standard time and 11:30, that purchase would be priced at 2:00 a.m., after the European, United States and Asian markets had subsequently closed. Similarly, if this same shareholder purchased his shares between 11:31 a.m. eastern standard time and 4:00 p.m. eastern standard time, that purchase price would be calculated at 11:30 a.m. the following day, after the United States, Asian, and then European markets had closed.

In each of these cases, the price would be able to be accurately
calculated within twenty-four hours. More importantly, this process would eliminate the ability of market timers to take advantage of stale prices because none of the prices would be stale. Regardless of the time the shares were bought or sold, the underlying security would have been traded on an open market after the buy or sell but before they were priced. This is the natural evolution of the SEC's forward pricing rules, applied in a modern context where shares trade in all time zones.

This proposal could act as a cost-effective alternative to the current efforts to force mutual funds to fair value their shares. As the academic literature (and empirical evidence from the current crisis) indicates, many mutual funds that hold international equities do not fair price their shares under any circumstances. A definitive explanation for this lack of fair pricing is not readily apparent. Nevertheless, the cost (both in straight dollars as well as in manpower hours of senior executives and directors) of developing and implementing fair pricing methodologies is substantial and points out a reason why many mutual funds resist voluntary fair pricing requests. In urging funds to only use fair value pricing on days when there have been significant market events, the SEC has implicitly acknowledged the costs and difficulties of accurately calculating the fair values for myriad instruments on a daily basis.

Further, this solution bypasses the problems of “fair pricing” shares of myriad instruments traded in differing markets. Fair value pricing often requires estimates based on indicators in the United States that may misinterpret what might be expected to happen once those shares actually trade in their home market. For example, ADRs are available for hundreds of companies, but not nearly every company in which a mutual fund would buy a security. Additionally, market indexes are broad gauges of markets, not completely accurate indicators of how much an individual stock or bond will move in price in reaction to a significant event hours earlier. For example, if there was a terrorist attack against the United States, shares of most companies would be expected to track the market indices and fall. Shares of defense contractors, or security companies, however, might move in the opposite direction, depending on investor sentiment of the fallout from the attack.

The current solutions to these problems only provide rough estimates of what shares may do once they begin trading later. A proposal that bases pricing on the trading in the shares after it occurs will always be accurate.

B. LIMITATIONS TO THE FORWARD PRICING PROPOSALS

This proposal is not a panacea for all that ails the mutual fund industry. Given the repeated cases of improper self-dealing by mutual

fund managers and lax oversight or outright complicity by fund boards, no solution will completely deter improper practices without honest managers and an independent board to ensure compliance. The SEC is correct to press for reforms in mutual fund corporate governance and oversight.

Further, while fair value pricing international funds will address the majority of market-timing instances, it does not address the problems of market timing in mutual funds that hold thinly-traded U.S. equities. Thinly-traded equities are shares in companies that do not trade on a daily basis; in some instances days go by between trades. In those instances, it would be impractical to force a mutual fund to wait days or even weeks to price the shares in the mutual fund. Further, as at least one study notes (Goetzmann, 2001), forward pricing becomes increasingly complex and expensive for the small class of mutual funds that hold shares that trade in multiple international markets.

Critics may also argue that this proposal creates a slight delay for investors in receiving a confirmation price for the mutual fund shares they bought or sold. To an extent they are correct, but that criticism overstates the demands of mutual fund shareholders as weighed against the benefits of forward pricing. Additionally, in almost every instance, the price difference in adopting this proposal will be so slight as to be unnoticeable by most investors, particularly long-term investors who aren’t measuring profits in small daily price change increments. Mutual funds are designed for long-term shareholders, whose interests are little harmed by a several hour delay in receiving a price for their purchase or sale. Most shareholders who buy and sell shares of mutual funds cannot be expected under most current brokerage rules from being able to withdraw their funds without some delay (usually a day or two). Even trades on national exchanges such as the NYSE and Nasdaq take up to three days to “clear” or become final. And weighed against the advantages, the delay becomes even less pressing. Mutual fund shareholders saw their profits reduced by about $4.9 billion a year from unscrupulous market-timing activities by rapacious professional traders and investors. Any solution that eliminates or at least dramatically reduces those losses would be rightly welcomed by the average mutual fund investor.

CONCLUSION

The mutual fund industry faces its greatest crisis in confidence since its inception. The SEC is facing criticism for failing to detect the

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112. See Zitzewitz, supra note 27, at 260 (noting that of the estimated $4.9 billion in losses in mutual fund shareholder profits from market timers in 2001, an estimated $4.3 billion of that comes from international equity funds).

113. Goetzmann, supra note 65, at 305.
problems plaguing the mutual fund industry, as well as earlier problems at companies such as Enron and WorldCom. But with the crisis comes an opportunity—both for regulators to establish new rules that benefit average investors instead of professional traders, and for the mutual fund industry to adopt the best practices that will restore confidence in their industry and lure back average investors who make up the bulk of mutual fund investors and are the ones leaving the industry in record numbers.

This proposal is simple to implement, is fair to the funds and to the investors, and would completely eliminate the ability of traders to exploit “stale prices” in international mutual funds to reap gains at the expense of average investors.