

DECODING THE MARKET'S REACTION TO SETTLEMENT ANNOUNCEMENTS

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ABSTRACT

This study examines defendant stock price returns on the day preceding, the day of, and the day following announcements of settlements in various types of litigation from 2009 through 2014. I hypothesized that defendant returns would be significantly positive on the day of and the day following the announcement, regardless of the settlement amount, due to the market's perception of a decrease in cost and uncertainty associated with litigation. I further hypothesized that defendant returns would not be significantly positive on the day preceding the announcement, because the market presumably should not have had a reason to react. The results of my analysis support my first hypothesis; however, they also show a significant positive market reaction on the day preceding the announcement. This effect is likely due to the leakage of the settlement announcement and suggests future research should consider a larger event window.

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INTRODUCTION

It is no secret that lawsuits are expensive. For decades, academics have studied the costs incurred by defendant firms embroiled in litigation. A defendant's direct costs may include, *inter alia*, steep attorney's fees and a settlement amount, if not damages.¹ A defendant's indirect costs, though less tangible, may be even more severe. Litigation can take months, if not years, and during that time, a defendant's management will understandably be distracted by various filings, depositions, and trial. As a result, defendant's management will likely focus less attention on running the firm day-in and day-out and maintaining the firm's long-term strategic vision.² Additionally, when a firm is sued, it naturally suffers a hit to its reputation. Customers, suppliers, and creditors, disappointed in recent revelations about the firm and skeptical of its future viability, may no longer be interested in contracting with it; for the same reasons, the firm may have trouble hiring talented managers and employees.³ These parties may also suspect that the revelations uncovered thus far are just the tip of the iceberg and that as discovery progresses, additional allegations will be made, leading to further litigation expenses.⁴

Given the expansive costs, direct and indirect, incurred by a defendant firm and the uncertainty inherent in lawsuits, it is not surprising that the market has historically reacted significantly to different stages of the litigation process. Several studies using data from the

¹ See Sudheer Chava, C.S. Agnes Cheng, Henry Huang, & Gerald J. Lobo, *Implications of Securities Class Actions for Cost of Equity Capital and Shareholder Wealth* (August 1, 2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=929195, at 8.

² See *id.*; Lin Bai, James D. Cox, & Randall S. Thomas, *Lying and Getting Caught: An Empirical Study of the Effect of Securities Class Action Settlements on Targeted Firms*, 158 U. PA. L. REV. 1877, 1833 (2010); Eliezer M. Fich & Anil Shivdasani, *Financial Fraud, Director Reputation, and Shareholder Wealth*, 86 J. FIN. ECON. 306, 309 (2007); Sanjai Bhagat, John Bizjak, Jeffrey L. Coles, *The Shareholder Wealth Implications of Corporate Lawsuits*, 27 FIN. MGMT. 5, 10 (1998).

³ See Chava et al., *supra* note 1, at 9; Bai et al., *supra* note 2, at 1898; Fich & Shivdasani, *supra* note 2, at 309; Bhagat et al., *supra* note 2, at 10; Jonathan M. Karpoff & John R. Lott, *The Reputational Penalty Firms Bear from Committing Criminal Fraud*, 36 J. L. & ECON. 757, 785 (1993).

⁴ See Chava et al., *supra* note 1, at 9.

1980s and 1990s have shown that the announcement of a settlement during those decades resulted in a positive abnormal return in the defendant firm's stock price. For example, Bhagat et al. (1998), using a sample of filings and settlement announcements from 1981 through 1983, found that "when a defendant firm settles a suit with another firm, the defendant benefits from a significant wealth increase."⁵ Karpoff & Lott (1993) found that, in a sample of press announcements in the *Wall Street Journal* from 1981 through 1987, "[w]hen the initial press report indicates that a verdict or settlement of the fraud charges has been reached, the average two-day forecast error is .36 percent," though at an insignificant level.⁶ Koku & Qureshi (2006) used a sample of litigation events from 1990 to 1994 and found a significant, positive abnormal return on defendant stock prices the day the settlements were announced.⁷

Studies using more recent data have tended to focus on the market's reaction to particular events within securities class action litigation; often, the fraud commission, the fraud disclosure, and the initial class action filing. For example, Griffin et al. (2004) examined securities class actions from 1990 through 2002 and found a significant, positive stock price reaction to the beginning of the class period and negative stock price reaction to the end of the class period and the announcement that a company had been named in a securities fraud lawsuit.⁸ Fich & Shivdasani (2007) examined securities class actions from 1998 to 2002 and found a significant negative stock price reaction around the lawsuit filing date.⁹ Karpoff et al. (2008) examined Securities and Exchange Commission enforcement actions for fraud from 1978 to 2002 and

⁵ Bhagat et al., *supra* note 2, at 7, 10.

⁶ Karpoff & Lott, *supra* note 3, at 776.

⁷ Paul Sergius Koku & Anique A. Qureshi, *Analysis of the Effects of Settlement of Interfirm Lawsuits*, 27 *MANAGERIAL & DECISION ECON.* 307, 313, 315 (2006).

⁸ Paul A. Griffin, Joseph A. Grundfest, & Michael E. Perino, *Stock Price Response to News of Securities Fraud Litigation: An Analysis of Sequential and Conditional Information*, 40 *J. ACCT. FIN. & BUS. STUD.* 21, 24, 36 (2004).

⁹ Fich & Shivdasani, *supra* note 2, at 312, 316.

found a significantly negative market reaction to the firm's disclosure of an accounting irregularity, restatement, or other "trigger event"; the announcement by the firm of a formal or informal investigation by a federal agency; the disclosure of a regulatory proceeding against the firm by the Department of Justice or the Securities and Exchange Commission; and the announcement of the filing and settlement of any related class action lawsuits.¹⁰

Some studies of securities class action litigation have extended their analysis of the market's reaction to events that occur after the initial class action filing. For example, Marciukaityte et al. (2006) found that the stock price one, two, three, four, and five years following an announcement of fraud was "comparable" for a sample of companies accused of fraud from 1978 to 2001 and a matching sample of companies not accused of fraud.¹¹ Bai et al. (2010) found that, in a sample of defendants with class periods beginning after 1996, "relative stock market performance deteriorated from the Pre-class Period level in the year immediately after the lawsuit was filed" and "remained at low levels until years after the settlement of the lawsuit,"¹² suggesting that "the initiation of securities class actions had an instantaneous negative impact on stock prices, but that the impact was mostly absorbed within the first year of the lawsuit."¹³ Griffin et al. (2004) examined settlement announcements, specifically, and found a mean excess return of 2.96% on days -1 to 1 and 5.48% on days -2 to 2 for a sample of seventy-nine securities class actions.¹⁴ The authors disclosed, however, that the results were preliminary and suggested that a more detailed analysis of settlement announcements be the subject of a

¹⁰ Jonathan M. Karpoff, D. Scott Lee, & Gerald S. Martin, *The Cost to Firms of Cooking the Books*, 43 J. FIN. & QUANTITATIVE ANALYSIS 581, 582, 589-592 (2008).

¹¹ Dalia Marciukaityte, Samuel H. Szewczyk, Hatice Uzun & Raj Varma, *Governance and Performance Changes after Accusations of Corporate Fraud*, 62 FIN. ANALYSTS J. 32, 33, 40 (2006).

¹² See Bai et al., *supra* note 2, at 1898-99.

¹³ See *id.* at 1912.

¹⁴ Griffin et al., *supra* note 8, at 46.

future study.¹⁵

In this study, I analyze the market's reaction to a sample of seventy-six settlement announcements in various types of litigation from 2009 through 2014 (the "Move-the-Needle Settlement Database"). This study meaningfully enhances the existing literature in three ways. First, it will provide a necessary update to the studies that used samples from the 1980s and 1990s. Although those studies did, unlike more recent research, examine a range of litigation types and analyze the market's reaction to settlement announcements, specifically, the data are simply outdated. As Bhagat et al. (1998) conceded, "changes in the legal environment after the sample period reduce the applicability of some of the results to the legal landscape of the late 1990s."¹⁶ Second, it will provide an important expansion of more recent studies by, similar to the older studies, examining a range of litigation types and analyzing the market's reaction to settlement announcements. Class action lawsuits are fundamentally different than other types of litigation. They have higher direct costs and they tend to attract more negative publicity for defendants.¹⁷ Thus, the market's reaction to a class action lawsuit is different than the market's reaction to other types of litigation.¹⁸ As a result, the findings of a study of class action settlement announcements likely would not be applicable to all lawsuits.

Finally, the Move-the-Needle Settlement Database itself, attached as Appendix A, should be a useful resource to defendants, litigators, and corporate lawyers; essentially, all parties involved either directly or tangentially in litigation. The majority of litigation ends in settlement

¹⁵ *See id.*

¹⁶ Bhagat et al., *supra* note 2, at 24.

¹⁷ *See* Paul Sergius Koku, *An Analysis and the Effects of Class-Action Lawsuits*, 59 J. BUS. RES. 508, 511 (2006).

¹⁸ *See id.* at 512-13.

today.¹⁹ Thus, it is critical, now more than ever, that a defendant fully understand the repercussions of the decision to settle. However, in 2004, the Honorary Morton Denlow and Jennifer E. Shack noted that while the results of settlements “represent important practical precedent for courts and litigants, providing useful information that can assist clients, lawyers, and judges in settling other cases . . . little effort has been made until recently to collect and distribute settlement data.”²⁰ I hope that the Move-the-Needle Settlement Database will begin to fill that void.

METHODOLOGY

1. *Selecting the Sample*

In order to build the Move-the-Needle Settlement Database, I searched in Factiva for articles that appeared in the *Wall Street Journal*²¹ or the *New York Times* from January 1, 2009 through January 16, 2014 and contained the words (the “Search String”)²²:

- a. “Settle” or some variation thereof (e.g., settles, settled, settlement) in the title of the article; and
- b. “Share” or some variation thereof or “stock” within five words of “open” (or some variation thereof), “close” (or some variation thereof), “up”, “rose”, “fell”, or “down”

¹⁹ Recent research indicates that settlement rates differ by type of case and location of the court in which the case is heard. That said, in the aggregate, it appears that about 67% of civil cases settle. See Theodore Eisenberg & Charlotte Lanvers, *What is the Settlement Rate and Why Should We Care*, 6 J. EMPIRICAL L. STUD. 111, 130-33, 141, 146 (2009).

²⁰ Honorary Morton Denlow & Jennifer E. Shack, *Judicial Settlement Databases and Uses*, 43 JUDGE’S J. 19, 19 (2004).

²¹ Several researchers have used the *Wall Street Journal* to collect their sample of settlements. For example, Karpoff & Lott (1993) built their sample based on corporate reports of fraud appearing in the *Wall Street Journal*. See Karpoff & Lott, *supra* note 3, at 766. Bhagat et al. (1998) used a sample consisting of filings and settlements announced in the *Wall Street Journal* from 1981 through 1983. See Bhagat et al., *supra* note 2, at 10. Marciukaityte et al. (2006) relied on the *Wall Street Journal* to determine when frauds were first publicly announced. See Marciukaityte et al., *supra* note 11, at 33.

²² The actual language of the Search String was “HD=(settle*) and TD=((share* or stock) w/5 (open* or close* or up or rose or fell or down)).”

in the body of the article.

I selected the option to exclude “similar” duplicates in my search results and confirmed manually that the nineteen articles Factiva excluded were indeed “similar.” With these exclusions, the Search String returned one hundred ninety-five articles (the “Returns”).

Next, I reviewed the Returns to determine whether any additional articles should be excluded. First, I identified thirty-one near-duplicates that had not been identified by Factiva. Second, I identified seventy articles which were obviously irrelevant for the purposes of my study. For example, several articles discussed settlements where the defendant was not a company but an individual employee convicted of insider trading. In these cases, there would be no defendant stock price return to analyze. Third, I identified sixteen articles which were less obviously irrelevant. For example, one article was caught by the Search String for the following sentence: “Mr. Dimon later apologized in a letter to shareholders for letting ‘our regulators down.’”²³ In other words, the article contained a sentence that literally fit within the Search String: a variation of “share” – in this case, “shareholders” – fell within five words of “down.” However, the article never discussed a decrease in J.P. Morgan’s share price; thus, it was not an article the Search String was intended to capture. Ultimately, I excluded ten of these sixteen articles. I concluded that the other six articles were likely to be reporting Move-the-Needle Settlements based on the size of the settlements – all six exceeded one billion dollars²⁴ – alone. In sum, after cleaning the Returns for duplicate and irrelevant articles, eighty-four remained (each a “Move-the-Needle Settlement Announcement” and collectively the “Move-the-Needle Settlement Announcements”).

²³ Jessica Silver-Greenberg & Ben Protess, *JPMorgan Looks to Pay to Settle U.S. Inquiries*, THE NEW YORK TIMES, July 31, 2013, available at Factiva, Doc. No. NYTF000020130731e97v0003z.

²⁴ The six articles I included reported settlements of 1.7 billion dollars, 10 billion dollars, 2.43 billion dollars, 4 billion dollars, 1.1 billion dollars, and 1.7 billion dollars.

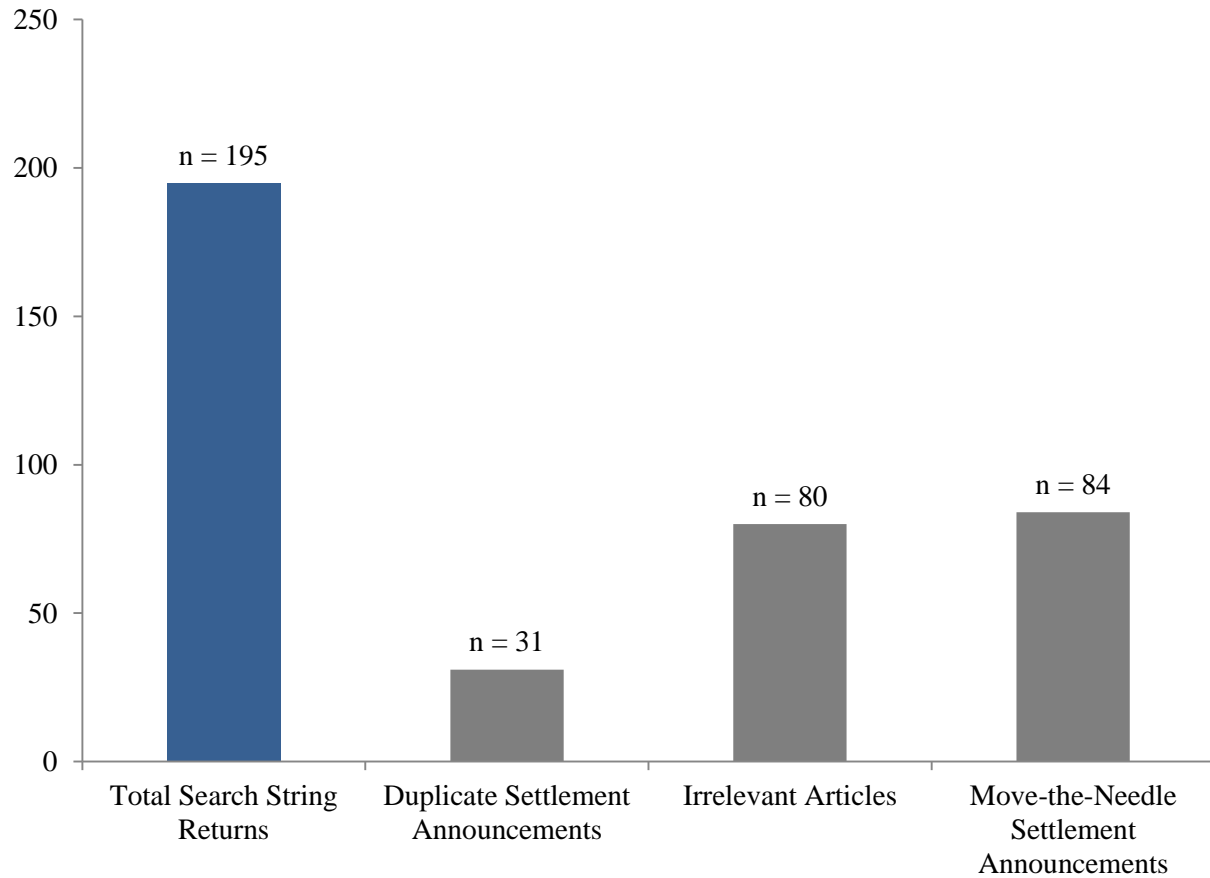


Figure 1 Total Search String Returns

Once my sample was finalized, I cross-checked the date of each Move-the-Needle Settlement Announcement, as published by the *Wall Street Journal* or the *New York Times*, against the date the same Move-the-Needle Settlement Announcement was made by *Reuters*. Because *Reuters*, until recently, has reported in closer-to-real-time than the *Wall Street Journal* and the *New York Times*, I deferred to the *Reuters* date when there was a discrepancy.²⁵

²⁵ There was only one Move-the-Needle Settlement Announcement which was not also made through *Reuters*. For that Move-the-Needle Settlement Announcement, I confirmed the date through other news sources.

2. *Collecting the Stock Price Returns Data*

First, I identified the defendant in each Move-the-Needle Settlement Announcement.²⁶ Several of the Move-the-Needle Announcements involved more than one defendant; specifically, in the eighty-four Move-the-Needle Settlement Announcements, there were ninety-two total defendants. Next, I identified, and removed from the sample, those defendants whose shares traded only on a foreign stock exchange. The remaining seventy-six defendants' shares, therefore, are traded on a United States stock exchange. These seventy-six defendants constitute the Move-the-Needle Settlement Database (see Appendix A).

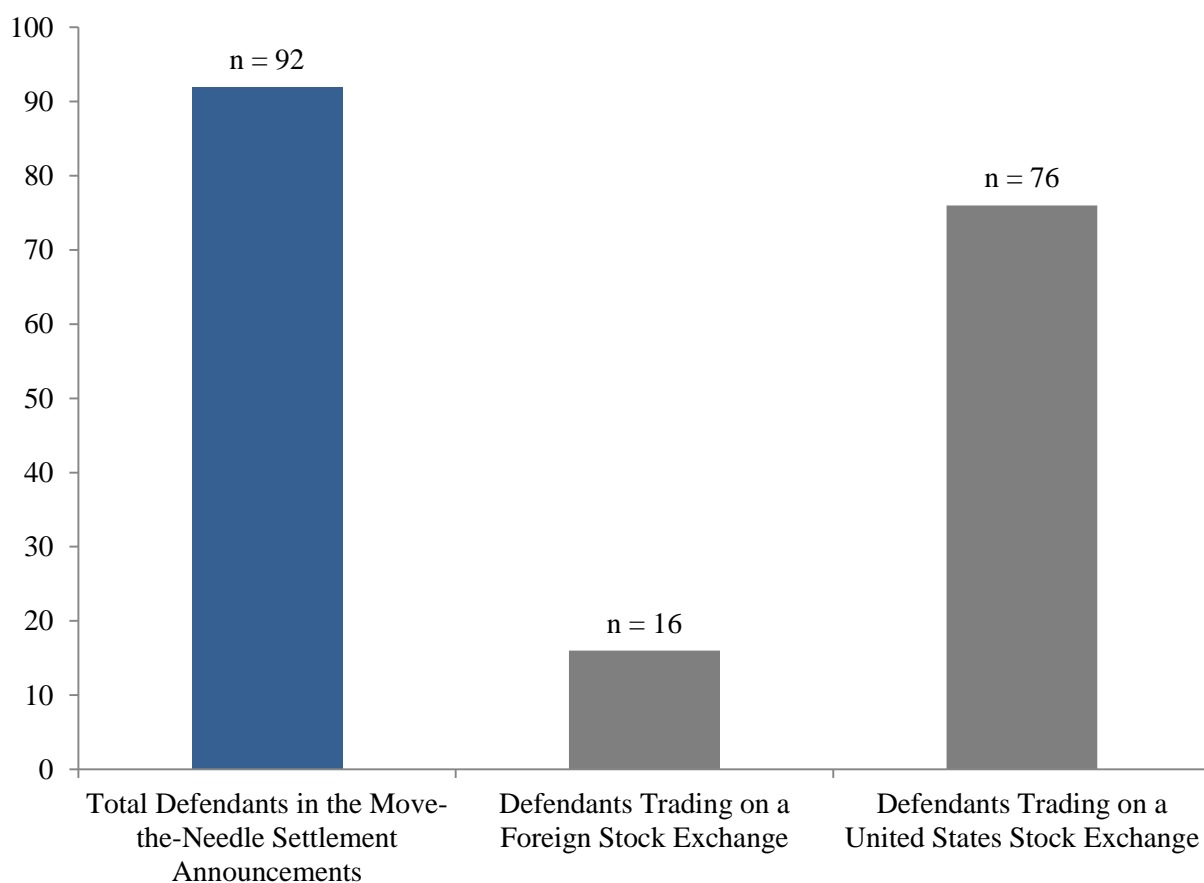


Figure 2 Total Defendants in the Move-the-Needle Settlement Announcements

²⁶ I identified the defendant from the text of the Move-the-Needle Settlement Announcement only. I did not confirm the identity of the defendant against any court documents.

According to CRSP's Share Type Code,²⁷ fifty-nine of the defendants are United States corporations whose common stock is traded on a United States stock exchange. One defendant is a United States corporation whose common units are traded on a United States stock exchange. Five of the defendants are foreign corporations whose common stock is traded on a United States stock exchange. Finally, eleven of the defendants are foreign corporations whose American Depository Receipts ("ADRs") are traded on a United States stock exchange.

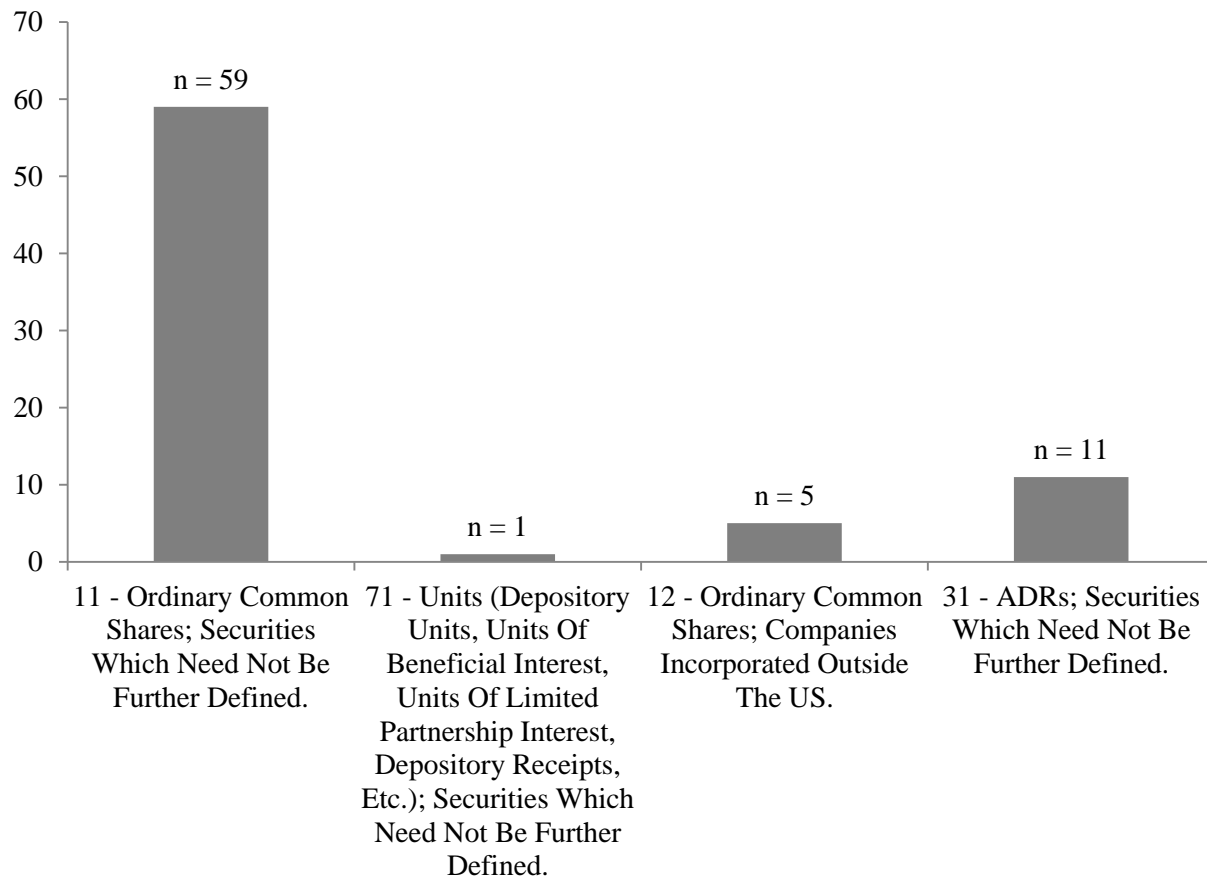


Figure 3 Defendants Trading on a United States Stock by Share Types Code

For each of the defendants, I pulled market-adjusted returns for their shares from CRSP, via Wharton Research Data Services, for three dates: one day prior to the Move-the-Needle

²⁷ See CRSP, NAME HISTORY ARRAY CODES, available at <http://www.crsp.com/products/documentation/name-history-array-codes>.

Settlement Announcement (“Day -1”); the day of the Move-the-Needle Settlement Announcement (“Day 0”); and one day following the Move-the-Needle Settlement Announcement (“Day +1”). In those cases where one of these three dates fell on a non-trading day, I used the last or next observed market-adjusted return rather than leave a missing value.

RESULTS

In order to determine the market’s reaction to the Move-the-Needle Settlement Announcements, I ran summary statistics on the Move-the-Needle Settlement Database. Specifically, I calculated the average return across all seventy-six defendants on Day -1, Day 0 and Day +1.²⁸ Given the results of existing literature, I hypothesized that the average returns on Day 0 and Day +1 would be positive and statistically significant (“Hypothesis 1”). I did not expect the average return on Day -1 to be positive and statistically significant (“Hypothesis 2”). Theoretically, the Move-the-Needle Settlement Announcement would not have been made by Day -1, so the market should not have had a reason to react.

The results of the summary statistics, reported in Table 1, support Hypothesis 1 but not Hypothesis 2. On Day -1, the average return was .003458. On Day 0, the average return was .012617. On Day +1, the average return was .007237. The average returns on all days are statistically significant: on Day -1 and Day +1 at the 5% level and on Day 0 at the 10% level.

²⁸ Returns were not available for defendant Constellation Energy Corporation Inc. on Day +1 due to the consummation of the merger between Constellation and Exelon.

	Day -1	Day 0	Day +1
Count	76	76	76
Average	0.003458	0.012617	0.007237
Standard Deviation	0.019112	0.056277	0.047606
t-statistic	1.577524	1.954412	1.325291
p-value	0.059442	0.027190	0.094549
t _{.05}	1.665425	1.665425	1.665425
t _{.10}	1.292941	1.292941	1.292941

Table 1 Summary Statistics

I suspect that I found significantly positive returns on the day before the Move-the-Needle Settlement Announcement due to leakage of news into the market. “[S]ubstantive information on . . . lawsuits is often in the public domain before the lawsuit is actually filed.”²⁹ I hypothesize that a larger window would reveal generally negative returns in the period preceding the Move-the-Needle Settlement Announcement as a result of the litigation costs discussed above. In future research, it would be important not to expand the window too much. Increasing the window would also increase the potential for noise.³⁰

DISCUSSION

The direct and indirect costs of litigation are well known. Thus, it is no surprise that the market reacts negatively to the filing of a lawsuit.³¹ It should also be no surprise that, as evidenced by this study and previously existing research, the market reacts positively to the settlement of a lawsuit.³² The endless stream of attorneys’ fees finally has run dry; management can refocus on running the company; and while reputational damage likely has already been

²⁹ Koku, *supra* note 17, at 514; *see also* Sanjaj Bhagat & Roberta Romano, *Event Studies and the Law: Part I: Technique and Corporate Litigation*, 4 AM. L. & ECON. R. 141, 144-145 (2002).

³⁰ *See* Bhagat & Romano, *supra* note 29, at 144-145.

³¹ *See* Griffin et al., *supra* note 8, at 24, 36; Fich & Shivdasani, *supra* note 2, at 312, 316; Karpoff et al., *supra* note 10 at 582, 589-592.

³² *See* Bhagat et al., *supra* note 2, at 7, 10; Karpoff & Lott, *supra* note 3, at 776; Koku & Qureshi, *supra* note 7, at 313, 315.

done, the company can begin a period of healing.³³ If this were the only phenomenon at work, one would expect to see a discrepancy in the market's reaction to "large" and "small" settlements. If the market is only concerned with cost, a larger-than-expected settlement may temper the market's positive response or even elicit a negative response.

To the contrary, this study found a positive average return across settlements of various litigation types and settlement amounts. These results appear to support the conclusion that the market is concerned not only with cost but also certainty.³⁴ Indeed, research suggests "[s]hareholders appreciate the removal of information asymmetries and the ambiguity associated with the lawsuit"³⁵ upon the announcement of a settlement. Everything about a lawsuit is an open question: the outcome; the duration of trial; the number of appeals and follow-up lawsuits.³⁶ By providing answers to these questions, settlements may be enough to restore the market's confidence in the defendant.

CONCLUSION

This study preliminarily suggests that today's market appreciates the removal of uncertainty, regardless of the type of lawsuit or size of the settlement. To confirm this finding, however, I would need to conduct further research. First, I would need to analyze the market's reaction to the Move-the-Needle Settlement Announcements by settlement amount. If there is any difference in the market's reaction, I hypothesize that the greater the settlement amount in comparison to the defendant's assets, the higher the returns in the wake of the Move-the-Needle Settlement Announcement. Bai et al. (2010) found the opposite result in a study of securities

³³ See Koku & Qureshi, *supra* note 7, at 313; Bhagat et al., *supra* note 2, at 24.

³⁴ See Chava et al., *supra* note 1, at 9.

³⁵ See Lars Helge Hass & Maximilian André Müller, The 2012 Meetings of the Canadian Law and Economics Association: Capital Market Consequences of Corporate Fraud: From Infringement to Settlement (September 29, 2012) at 26.

³⁶ See Koku & Qureshi, *supra* note 7, at 308-309.

class action settlements. They suggested that “[t]he settlement payment exacerbated liquidity constraints, making the defendants more vulnerable to liquidity crunches and prone to bankruptcy.”³⁷ In contrast, I would expect that the market views settlements as somewhat of a proxy for the litigation experience. In other words, the bigger the settlement, the more damaging the market expects the litigation would have been, and the more relieved the market will be to have avoided it. One study of securities class action lawsuits employs similar reasoning, positing that shareholders might appreciate the removal of uncertainty more when the settlement amount is large, since a large settlement is evidence that the plaintiffs had a strong case.³⁸

Second, I would need to test whether the type of plaintiff affected the market’s reaction to the Move-the-Needle Settlement Announcement. Bhagat et al. (1998) proposed that government plaintiffs would have more financing to bring a suit and less of an incentive to settle with defendants than private plaintiffs.³⁹ They did not, however, find significant differences in returns when defendants settled with government plaintiffs as opposed to private plaintiffs.⁴⁰ Despite Bhagat et al.’s results, given the characteristics of government plaintiffs, I would expect that the market would be more worried, and subsequently more relieved, when a defendant settles with a government plaintiff than a private plaintiff.

Third, I would need to analyze the returns by legal issue. Bhagat et al. (1998) also posited that lawsuits dealing with certain legal issues would be more damaging to plaintiffs than other lawsuits. For example, antitrust cases can bring treble damages and class actions are often

³⁷ Bai et al., *supra* note 2, at 1906.

³⁸ See Greg Niehaus & Greg Roth, *Insider Trading, Equity Issues, and CEO Turnover in Firms Subject to Securities Class Action*, 28 Fin. Man. 52, note 13 (1999).

³⁹ See Bhagat et al., *supra* note 2, at 8-9.

⁴⁰ See *id.* at 24.

particularly expensive to defend due to their sheer magnitude.⁴¹ Again, however, they did not find a significant difference in returns following settlement announcements in cases with different legal issues.⁴² Nevertheless, I find Bhagat's exploration of the differences in legal issues to be persuasive, and I would expect that the market would react more positively to the Move-the-Needle Settlement Announcement in those cases that have the potential to be particularly expensive.

Fourth, and finally, I would test whether the timing of the Move-the-Needle Settlement Announcement, in relation to the filing of the lawsuit, impacted the market's reaction. Hass et al. (2011) has proposed that the market will react more positively to defendants who settle early and thus avoid, *inter alia*, attorneys' fees and discovery costs.⁴³ I agree with Hass et al. and hypothesize that a relatively early settlement would be viewed favorably by the market.

Defendants, litigators, and corporate lawyers would all benefit from an understanding of how the market reacts to settlements of different amounts, against different parties, relating to different legal issues, and at different points in the litigation process. Whether or not future research confirms that the market does not care about the type of lawsuit and settlement amount, the results would be a valuable tool for all parties to keep in their settlement negotiation toolbox.

⁴¹ See *id.* at 9-10.

⁴² See *id.* at 19-20.

⁴³ See Hass & Müller, *supra* note 35, at 26.

BIBLIOGRAPHY

- Lin Bai, James D. Cox, & Randall S. Thomas, *Lying and Getting Caught: An Empirical Study of the Effect of Securities Class Action Settlements on Targeted Firms*, 158 U. PA. L. REV. 1877 (2010).
- Sanjai Bhagat, John Bizjak, Jeffrey L. Coles, *The Shareholder Wealth Implications of Corporate Lawsuits*, 27 FIN. MGMT. 5 (1998).
- Sanjai Bhagat & Roberta Romano, *Event Studies and the Law: Part I: Technique and Corporate Litigation*, 4 AM. L. & ECON. R. 141 (2002).
- Sudheer Chava, C.S. Agnes Cheng, Henry Huang, & Gerald J. Lobo, *Implications of Securities Class Actions for Cost of Equity Capital and Shareholder Wealth* (August 1, 2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=929195.
- CRSP, NAME HISTORY ARRAY CODES, available at <http://www.crsp.com/products/documentation/name-history-array-codes>.
- Honorary Morton Denlow & Jennifer E. Shack, *Judicial Settlement Databases and Uses*, 43 JUDGE'S J. 19 (2004).
- Theodore Eisenberg & Charlotte Lanvers, *What is the Settlement Rate and Why Should We Care*, 6 J. EMPIRICAL L. STUD. 111 (2009).
- Eliezer M. Fich & Anil Shivdasani, *Financial Fraud, Director Reputation, and Shareholder Wealth*, 86 J. FIN. ECON. 306 (2007)
- Paul A. Griffin, Joseph A. Grundfest, & Michael E. Perino, *Stock Price Response to News of Securities Fraud Litigation: An Analysis of Sequential and Conditional Information*, 40 J. ACCT. FIN. & BUS. STUD. 21 (2004).
- Lars Helge Hass & Maximilian André Müller, *The 2012 Meetings of the Canadian Law and Economics Association: Capital Market Consequences of Corporate Fraud: From Infringement to Settlement* (September 29, 2012).
- Jonathan M. Karpoff, D. Scott Lee, & Gerald S. Martin, *The Cost to Firms of Cooking the Books*, 43 J. FIN. & QUANTITATIVE ANALYSIS 581 (2008).
- Jonathan M. Karpoff & John R. Lott, *The Reputational Penalty Firms Bear from Committing Criminal Fraud*, 36 J. L. & ECON. 757 (1993).
- Paul Sergius Koku, *An Analysis and the Effects of Class-Action Lawsuits*, 59 J. BUS. RES. 508 (2006).
- Paul Sergius Koku & Anique A. Qureshi, *Analysis of the Effects of Settlement of Interfirm Lawsuits*, 27 MANAGERIAL & DECISION ECON. 307 (2006).
- Dalia Marciukaityte, Samuel H. Szewczyk, Hatice Uzun & Raj Varma, *Governance and*

Performance Changes after Accusations of Corporate Fraud, 62 FIN. ANALYSTS J. 32 (2006).

Greg Niehaus & Greg Roth, *Insider Trading, Equity Issues, and CEO Turnover in Firms Subject to Securities Class Action*, 28 FIN. MGMT. 52 (1999).

Jessica Silver-Greenberg & Ben Protess, *JPMorgan Looks to Pay to Settle U.S. Inquiries*, THE NEW YORK TIMES, July 31, 2013, available at Factiva, Doc. No. NYTF000020130731e97v0003z.

APPENDIX A

Move-the-Needle Settlement Database

Defendant	Day -1		Day 0		Day +1	
	Date	Return	Date	Return	Date	Return
[1] Apple, Inc.	1/14/2014	0.009080	1/15/2014	0.014914	1/16/2014	-0.004233
[2] Alcoa Inc.	1/8/2014	0.027726	1/9/2014	-0.013278	1/10/2014	-0.056567
[3] J.P. Morgan Chase & Co.	1/6/2014	0.008308	1/7/2014	-0.017612	1/8/2014	0.009642
[4] Archer Daniels Midland Co.	12/19/2013	0.015647	12/20/2013	-0.014639	12/23/2013	-0.012698
[5] Ocwen Financial Corporation	12/18/2013	-0.002706	12/19/2013	-0.018350	12/20/2013	-0.007189
[6] American Express Co.	12/18/2013	0.005704	12/19/2013	0.005460	12/20/2013	0.008601
[7] Teva Pharmaceuticals Industry Ltd.	12/16/2013	-0.008831	12/17/2013	0.006121	12/18/2013	-0.016648
[8] Fifth Third Bancorp	12/3/2013	-0.007203	12/4/2013	-0.004196	12/5/2013	0.001320
[9] Vale SA	11/26/2013	-0.028533	11/27/2013	0.000235	11/29/2013	0.038726
[10] Weatherford International Ltd.	11/25/2013	-0.011121	11/26/2013	0.011140	11/27/2013	-0.038445
[11] J.P. Morgan Chase & Co.	11/18/2013	0.019554	11/19/2013	0.009403	11/20/2013	0.002746
[12] J.P. Morgan Chase & Co.	11/14/2013	-0.000035	11/15/2013	0.004418	11/18/2013	0.019558
[13] SunTrust Banks Inc.	10/9/2013	0.002846	10/10/2013	0.011640	10/11/2013	-0.001486
[14] The Blackstone Group	8/27/2013	-0.000218	8/28/2013	0.008932	8/29/2013	0.016517
[15] UBS AG	7/24/2013	-0.001918	7/25/2013	0.002164	7/26/2013	-0.001348
[16] Exxon Mobil Corp.	7/15/2013	-0.002981	7/16/2013	0.004249	7/17/2013	-0.001054
[17] Google Inc.	6/14/2013	0.003650	6/17/2013	0.005243	6/18/2013	0.008419
[18] C.R. Bard Inc.	5/10/2013	0.006207	5/13/2013	0.003687	5/14/2013	0.006528
[19] Bank of America Corp.	5/3/2013	-0.006433	5/6/2013	0.050382	5/7/2013	-0.003680
[20] Bank of America Corp.	4/16/2013	0.010735	4/17/2013	-0.032902	4/18/2013	-0.015519
[21] E.I. DuPont de Nemours & Company	3/25/2013	0.000093	3/26/2013	-0.010635	3/27/2013	-0.001042
[22] Citigroup Inc.	3/15/2013	-0.002596	3/18/2013	-0.016070	3/19/2013	-0.007307
[23] BP plc	1/28/2013	0.011411	1/29/2013	0.014284	1/30/2013	-0.002520
[24] Bank of America Corp.	1/4/2013	0.007677	1/7/2013	0.001473	1/8/2013	-0.005858
[25] Transocean Ltd.	1/2/2013	0.009975	1/3/2013	0.066106	1/4/2013	0.048385
[26] Eli Lilly & Co.	12/19/2012	-0.004527	12/20/2012	0.001262	12/21/2012	0.015469
[27] Calvin Klein Inc.	11/19/2012	0.007726	11/20/2012	-0.007763	11/21/2012	-0.010020
[28] Bank of America Corp.	9/27/2012	0.007935	9/28/2012	-0.011132	10/1/2012	0.012068
[29] Citigroup Inc.	8/28/2012	-0.010980	8/29/2012	0.018586	8/30/2012	-0.000884
[30] Oracle Corp.	8/15/2012	0.005240	8/16/2012	0.008109	8/17/2012	0.003438
[31] Accretive Health Inc.	7/27/2012	0.023919	7/30/2012	-0.039787	7/31/2012	0.360957
[32] DirecTV Group Incorporated	7/19/2012	0.004485	7/20/2012	-0.002608	7/23/2012	-0.013231
[33] Abbott Laboratories	5/4/2012	0.005996	5/7/2012	0.001249	5/8/2012	0.005719
[34] Constellation Energy Group, Inc.	3/9/2012	0.010110	3/12/2012	0.029720	3/13/2012	
[35] Hitachi Displays Ltd.	12/23/2011	0.002546	12/27/2011	-0.010569	12/28/2011	0.004378
[36] MBIA Inc.	12/12/2011	0.024657	12/13/2011	0.015706	12/14/2011	0.058388
[37] Medtronic Inc.	12/9/2011	0.001835	12/12/2011	0.001824	12/13/2011	0.010666
[38] Merck & Co.	11/21/2011	-0.004528	11/22/2011	-0.005529	11/23/2011	0.003755
[39] GlaxoSmithKline PLC	11/2/2011	-0.018087	11/3/2011	0.010798	11/4/2011	0.003590
[40] Anadarko Petroleum Corp.	10/14/2011	0.035275	10/17/2011	0.074210	10/18/2011	0.039631
[41] Bank of America Corp.	8/19/2011	0.009303	8/22/2011	-0.079168	8/23/2011	-0.052975
[42] FXCM Inc.	8/11/2011	-0.009211	8/12/2011	0.157248	8/15/2011	0.070485
[43] Credit Suisse Group	8/11/2011	0.011736	8/12/2011	-0.008872	8/15/2011	-0.012885
[44] Bank of America Corp.	6/28/2011	-0.015709	6/29/2011	0.021297	6/30/2011	-0.026279
[45] Apple Inc.	6/13/2011	0.001479	6/14/2011	0.005268	6/15/2011	0.000312

Defendant	Day -1		Day 0		Day +1	
	Date	Return	Date	Return	Date	Return
[46] Tenaris SA	5/16/2011	0.011025	5/17/2011	-0.010271	5/18/2011	-0.011334
[47] Dish Network Corp.	4/29/2011	0.011464	5/2/2011	0.191453	5/3/2011	-0.016431
[48] Bank of America Corp.	12/31/2010	0.004709	1/3/2011	0.052405	1/4/2011	0.004833
[49] Ambac Assurance Corp	10/5/2010	0.046880	10/6/2010	0.324002	10/7/2010	0.011257
[50A] Visa Inc.	10/1/2010	-0.017074	10/4/2010	0.006945	10/5/2010	0.003029
[50B] Mastercard Incorporated	10/1/2010	-0.000934	10/4/2010	-0.001485	10/5/2010	-0.006221
[51] Novartis Ag	9/29/2010	0.000694	9/30/2010	-0.002266	10/1/2010	-0.013776
[52] Allergan Inc.	8/31/2010	-0.009906	9/1/2010	0.000775	9/2/2010	-0.002921
[53] The Stryker Corporation	8/25/2010	-0.005141	8/26/2010	0.002115	8/27/2010	0.009533
[54] Lowe's Cos.	8/6/2010	-0.018475	8/9/2010	-0.004003	8/10/2010	-0.013233
[55] AstraZeneca PLC	8/6/2010	0.009667	8/9/2010	0.000447	8/10/2010	0.021177
[56] The Goldman Sachs Group Incorporated	7/14/2010	-0.008330	7/15/2010	0.043104	7/16/2010	0.035360
[57] Northrop Grumman Corp.	6/22/2010	-0.000095	6/23/2010	-0.002325	6/24/2010	-0.000717
[58] CVS Caremark Corp.	6/17/2010	-0.002538	6/18/2010	0.017213	6/21/2010	-0.016183
[59] Marsh & McLennan Companies Inc.	6/10/2010	0.001847	6/11/2010	0.012660	6/14/2010	0.036675
[60] Reynolds American Inc.	4/12/2010	-0.000666	4/13/2010	-0.003255	4/14/2010	-0.014460
[61] InfoGroup Inc.	3/12/2010	0.005280	3/15/2010	-0.001712	3/16/2010	-0.006519
[62] AstraZeneca PLC	2/22/2010	-0.001245	2/23/2010	0.009343	2/24/2010	-0.008110
[63] Merck & Co.	2/9/2010	-0.016320	2/10/2010	-0.005167	2/11/2010	0.009110
[64] Boston Scientific Corporation	1/29/2010	-0.000492	2/1/2010	-0.038596	2/2/2010	-0.015353
[65] Mattel Inc.	10/13/2009	0.007580	10/14/2009	0.010014	10/15/2009	0.005643
[66] Dell Inc.	9/14/2009	-0.018990	9/15/2009	0.007845	9/16/2009	0.005796
[67] Value Line Inc.	11/3/2009	0.026099	11/4/2009	-0.012843	11/5/2009	0.071734
[68] General Electric Co.	8/3/2009	0.008539	8/4/2009	0.004278	8/5/2009	0.015214
[69] Research in Motion Ltd.	7/15/2009	0.030358	7/16/2009	0.021008	7/17/2009	0.003153
[70A] Credit Suisse Group	6/22/2009	-0.031565	6/23/2009	0.022963	6/24/2009	0.004406
[70B] Deutsche Bank AG	6/22/2009	-0.061597	6/23/2009	0.015103	6/24/2009	0.032276
[71] WellCare Health Plans Inc.	5/4/2009	-0.008261	5/5/2009	0.186252	5/6/2009	-0.036894
[72] Dow Chemical Company	3/6/2009	0.097702	3/9/2009	-0.099686	3/10/2009	0.021647
[73] Wal-Mart Stores Inc.	2/19/2009	0.021024	2/20/2009	0.002893	2/23/2009	0.011909
[74] Ford Motor Co.	1/12/2009	0.026366	1/13/2009	-0.062368	1/14/2009	-0.055250