EMPIRICAL STUDY

THE SEC FORM 8-K: FULL DISCLOSURE OR FULLY DILUTED? THE QUEST FOR IMPROVED FINANCIAL MARKET TRANSPARENCY

This Empirical Study analyzes the changes in corporate disclosure behavior resulting from the informational paradigm shift originally promulgated by the Securities and Exchange Commission ("SEC") and ultimately effectuated by the Sarbanes-Oxley Act of 2002. Our Study's findings seem to support the prevalent theory that the increased mandatory disclosures and plethora of 8-K items have desensitized investors and diluted the informational value of those corporate disclosures. Nevertheless, our results reflect the fundamental shift in the regulatory model to one premised upon more disclosure, greater SEC involvement, heightened corporate accountability, and an increased investor demand for market transparency.

As compared to 2000, the total number of annual 8-K filings has increased nearly 550% through August 2004. In addition to the substantial increase in filing frequency, 2002 saw a shift in the particular items filed under Form 8-K. While between 2000 and 2002 companies disclosed most frequently under the catchall Item 5, 2002 saw a shift in disclosure to the more substantive Item 9 (Regulation FD) and Item 12 (Results of Financial Condition and Operations).

Although there have been clear overall frequency increases of Form 8-Ks as well as noticeable shifts in the type of 8-K filings, our Study demonstrates that there has been little subsequent market reaction to individual 8-K filings. Specifically, our Study shows that the market has reacted to only two particular filings: Item 4 (Change in Registrant's Accountant) and Item 12 (Results of Financial Condition and Operations). This disjoint between increased corporate disclosure and subsequent market reaction, or the lack thereof, seemingly substantiates the theory that the new real-time disclosure regime has had the unintended effect of diluting financial information while desensitizing market investors.

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I. INTRODUCTION

In the wake of the Enron and WorldCom accounting scandals, investors, lawmakers, and securities regulators alike demanded heightened corporate accountability and increased financial market transparency.[1] Because of these stakeholder demands and general concerns for increased securities market efficiency, Congress responded swiftly by passing the Sarbanes-Oxley Act ("Sarbanes-Oxley" or "Act") in the summer of 2002.[2] The Act furnishes the SEC with heightened enforcement powers and allows the SEC to promulgate rules to enhance the quality and timeliness of corporate

1. *See, e.g.,* Delroy Alexander, *Auditors Under Fire for Failing to Flag Problems; Big 5 to Institute Tougher Standards*, CHI. TRIB., Dec. 8, 2001, at N1; Gretchen Morgenson, *Enron's Many Strands: Weighing Laws; 2 Routes Proposed to Limit Stock Conflicts of Interest*, N.Y. TIMES, Feb. 7, 2002, at C6.

2. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified in scattered sections of 11, 15, 18, 28, and 29 U.S.C.) (Supp. II 2002).

disclosures.[3] This Empirical Study focuses on the impact that the Sarbanes-Oxley Act has had on the level of corporate disclosure. Specifically, it analyzes the SEC's requirement, promulgated pursuant to the mandate of the Sarbanes-Oxley Act, that all registered companies furnish a current report whenever an event from an expanded list under Form 8-K occurs.

This Study initially examines the categorical types of 8-Ks filed and the frequency of those filings during the period from January 1, 2000, to August 23, 2004. Next, it examines the market reaction to specific 8-K filings, focusing on whether the market significantly reacts to a filing and, if so, what types of filings trigger an abnormal market response. Additionally, this Study analyzes whether company profitability directly correlates to the frequency of 8-K filings over this Study's time period. Our analysis finally considers those critics of the mandatory disclosure regime who would question Justice Louis Brandeis's oft-quoted adage: "Sunlight is said to be the best of disinfectants; electric light the most efficient policeman."[4]

II. BACKGROUND

A. *Form 8-K*

The SEC "created Form 8-K in 1936 as the form to be used by companies to file 'current' reports when specific extraordinary corporate events occur."[5] Prior to the expansion of the Form 8-K requirements promulgated pursuant to section 409 of Sarbanes-Oxley, the events that required a company to file a Form 8-K report were limited to six categories: bankruptcy, change in control, acquiring or disposing of significant assets, change in accountants, resignation of a director, and change in the fiscal year.[6] Though the SEC has revised the structure of Form 8-K several times since its adoption, the structure created during a round of revisions in 1977 is substantially the same as that in force at the time of the Sarbanes-Oxley Act.[7]

3. *Id.* § 3, 116 Stat. at 749-50 (codified at 15 U.S.C. § 7202 (Supp. II 2002)).

4. LOUIS D. BRANDEIS, OTHER PEOPLE'S MONEY AND HOW THE BANKERS USE IT 92 (1914). *See generally* Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation*, 81 WASH. U. L.Q. 417 (2003) (urging the need of the disclosure-based regulatory regime to consider the recipients' use of the information).

5. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 67 Fed. Reg. 42,914, 42,914 (proposed June 25, 2002) (to be codified at 17 C.F.R. pts. 228, 229, 240, 249).

6. *Id.*

7. Wally Suphap, *Getting it Right Versus Getting it Quick: The Quality-*

B. Sarbanes-Oxley Act of 2002

Reacting to the wave of major corporate scandals, such as Enron, Congress responded with what commentators suggest is the most aggressive and pervasive legislation in the realm of securities regulation since the Securities Act of 1933 and the Securities Exchange Act of 1934.[8] In 2002, Congress passed the Sarbanes-Oxley Act "[t]o protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws . . . ."[9] Though companies have been required to file periodic reports under Form 8-K since 1936,[10] in addition to their 10-Q and 10-K filings, the SEC has acted consistently with the purpose of the Sarbanes-Oxley Act to move closer toward the Act's vision of "real time disclosure."[11] The implementation of more expansive and more timely disclosure has come as no surprise since "[d]isclosure is the SEC's chief regulatory tool"[12] to ensure increased market transparency.

C. 2004 Amendments to Form 8-K

On June 12, 2002, the SEC took the first steps in moving toward a continuous and rapid disclosure regime, which is a primary objective of the Sarbanes-Oxley Act.[13] In a press release, the SEC announced that the Commissioners voted to propose an expansion of the Form 8-K disclosure requirements and an acceleration of filing deadlines. Less than one year later, the SEC issued its final rule.[14]

Section 409 of the Sarbanes-Oxley Act added a new section 13(*l*) to the Securities Exchange Act of 1934. This new section requires public companies to disclose "on a rapid and current basis such additional information concerning material changes in the financial

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Timeliness Tradeoff in Corporate Disclosure, 2003 COLUM. BUS. L. REV. 661, 678.

8. *See* Larry E. Ribstein, *Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002*, 28 J. CORP. L. 1, 3 (2002); *see also* Larry Catá Backer, *Surveillance and Control: Privatizing and Nationalizing Corporate Monitoring After Sarbanes-Oxley*, 2004 MICH. ST. L. REV. 327, 331.

9. Sarbanes-Oxley Act § 1.

10. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 67 Fed. Reg. at 42,914.

11. Sarbanes-Oxley Act § 409.

12. Paredes, *supra* note 4, at 427.

13. Press Release, SEC Release No. 2002-88, SEC Proposes Requiring Certification of Quarterly and Annual Reports; Proposes New Form 8-K Disclosures and Filing Deadlines (June 12, 2002), *available at* http://www.sec.gov/news/press/2002-88.htm.

14. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. 15,594 (Mar. 25, 2004) (to be codified at 17 C.F.R. pts. 228, 229, 230, 239, 240, 249).

condition or operations of the issuer . . . as the Commission determines, by rule, is necessary or useful for the protection of investors and in the public interest."[15] The SEC determined that "[u]nder the previous Form 8-K regime, companies were required to report very few significant corporate events."[16] The SEC asserted that the revisions to Form 8-K would "benefit markets by increasing the number of unquestionably or presumptively material events that must be disclosed."[17] In addition, the new disclosure requirements would further complement the SEC's disclosure philosophy by "provid[ing] investors with better and more timely disclosure of important corporate events."[18]

1. Individual Items

In 1977, the SEC "made significant amendments to create the general structure" of Form 8-K disclosure requirements.[19] Under these amendments, in effect until August 23, 2004, the filing deadlines required that a company report certain corporate events within five business days of their occurrence and others within fifteen days.[20]

When the SEC proposed its amendments in 2002, one month before the passage of Sarbanes-Oxley, Form 8-K consisted of nine disclosure items.[21] Six of the items described specific events that required companies to file Form 8-K.[22] Item 1 required disclosure of change in control of the company. A company's acquisition or disposition of a significant amount of assets had to be disclosed under Item 2.[23] Item 3 required disclosure of a company's bankruptcy or receivership. A change in the company's certifying accountant was disclosed under Item 4. Resignation of a company director had to be disclosed under Item 5, and Item 6 required disclosure of a change in fiscal year. Under Item 9, companies were

15. Press Release, SEC Release No. 2002-155, SEC Proposes Rules to Implement Sarbanes-Oxley Act Reforms (Oct. 30, 2002), *available at* http://www.sec.gov/news/press/2002-155.htm (quoting Sarbanes-Oxley Act § 409).

16. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. at 15,594.

17. *Id.* at 15,595.

18. *Id.*

19. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 67 Fed. Reg. 42,914, 42,914 (proposed June 25, 2002) (to be codified at 17 C.F.R. pts. 228, 229, 240, & 249).

20. *Id.*

21. *Id.*

22. *See id.*

23. *Id.*

required to make Regulation FD disclosures.[24] Item 10 required disclosure of any amendment to or waiver of the registrant's code of ethics, and Item 11 required disclosure of any suspension of trading in benefit plans.[25] Finally, under Item 12, companies were required to disclose their results of financial condition or operations.[26]

Beyond these mandatory disclosure-triggering items, companies were permitted to file Form 8-Ks disclosing information the company deemed to be of importance to investors under Item 5.[27] In other words, Item 5 was a convenient catchall 8-K provision for many corporate disclosures. Under Item 7 companies were required to include exhibits and financial statements and pro forma financial information in connection with a business acquisition.[28] For an itemized summary of Form 8-K, see Chart 1 below:

Chart 1:
Summary of 8-K Amendments

DISCLOSURE PROVISION	NEW ITEM	OLD ITEM	COMMENTS
Entry into Material Agreement	1.01	-	New Item
Termination of Material Agreement	1.02	-	New Item
Bankruptcy/Receivership	1.03	3	Identical
Complete Acquisition or Disposition of Assets	2.01	2	Very Similar
Result of Operations/Financial Condition	2.02	12	Identical
New Financial Obligation	2.03	-	New Item
Accelerated Financial Obligation	2.04	-	New Item
Costs for Exit/Disposal Activities	2.05	-	New Item
Material Impairments	2.06	-	New Item
Delisting/Failure to Maintain Listing Standards	3.01	-	New Item
Unregistered Sale of Equity	3.02	-	Moved from 10Q/K
Material Modification to Right of Security Holders	3.03	-	Moved from 10Q/K
Change in Accountants	4.01	4	Identical
Non-Reliance - Previously Issued Financial Statements	4.02	-	New Item

24. *See id*. at 42,914-15.

25. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. 15,594, 15,609 (Mar. 25, 2004) (to be codified at 17 C.F.R. pts. 228, 229, 230, 239, 240, 249)*; see also* Suphap, *supra* note 7, at 679.

26. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. at 15,598.

27. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 67 Fed. Reg. at 42,915.

28. *Id.* at 42,914.

DISCLOSURE PROVISION	NEW ITEM	OLD ITEM	COMMENTS
Change in Control	5.01	1	Substantially same
Departure, Election of Officers and Directors	5.02	6	Expanded
Change Articles/Bylaws/Fiscal Year	5.03	8	Expanded
Suspended Trading in Benefit Plans	5.04	11	Expanded
Amendment/Waiver of Code of Ethics	5.05	10	Identical
Regulation FD	7.01	9	Identical
Other Events	8.01	5	Identical
Financial Statements and Exhibits	9.01	7	Substantially same

This Study analyzes the market reaction to Form 8-Ks filed between January 1, 2000, and August 23, 2004, by focusing on the twelve items relevant under the former requirements. However, the amendments to Form 8-K significantly expanded some existing items and added new items.[29] Of note, under new Item 4.02 disclosure is required when the company concludes that "previously issued financial statements covering one or more years or interim periods no longer should be relied upon because of an error in such financial statements."[30] This item covers those situations where the company concludes that the prior statement should not be relied upon because of error or where an independent accountant "has notified a company that it should take action to prevent future reliance."[31] Also significant, under new Item 2.03 disclosure is required when a company becomes obligated under a direct financial obligation that is material to the company or is obligated under an off-balance sheet arrangement.[32]

29. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. at 15,594.

30. *Id.* at 15,604.

31. *Id.*

32. *Id.* at 15,598-99. This item refers to the definition of "off-balance sheet arrangement" under Regulation S-K, Item 303(a)(4)(ii):

> [T]he term off-balance sheet arrangement means any transaction, agreement or other contractual arrangement to which an entity unconsolidated with the registrant is a party, under which the registrant has: (A) Any obligation under a guarantee contract . . . ; (B) A retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to such entity for such assets; (C) Any obligation, including a contingent obligation, under a contract that would be accounted for as a derivative instrument, except that it is both indexed to the registrant's own stock and classified in stockholders' equity in the . . . statement of financial position . . . ; or (D) Any obligation, including a contingent obligation, arising out of a variable interest . . . in an unconsolidated entity that is held by, and

III. METHODOLOGY

A. Generally

We limited our Study to New York Stock Exchange ("NYSE") companies, and then randomly selected 200 firms from the nearly 2700 firms listed on the NYSE.[33] Once we randomly generated our sample set, we categorized our sample firms by industry and obtained the ticker symbol and SEC code for each firm. The SEC codes for each firm can be found on the SEC Web site—*http://www.sec.gov*—and link the user to the firm's general SEC filing history.

To navigate the results and discussion section of this Study, a brief overview of our methodology is necessary. Our Study is segmented into three general sections. First, we analyze the type and frequency of 8-Ks filed during the time period of January 1, 2000, to August 23, 2004. Second, we examine the stock market reactions to each individual 8-K filing to determine whether the market, in fact, reacts to a particular filing and, if so, how it reacts. Last, we explore firm profitability and its correlation to the frequency of 8-Ks filed by our sample set.

B. Time Period

Since this Study primarily aims at analyzing the effects of the Sarbanes-Oxley Act on the amount of 8-Ks filed and subsequent market reactions, the time frame of this Study begins on January 1, 2000, and ends on August 23, 2004. This time frame is appropriate because the Sarbanes-Oxley Act was ratified on July 30, 2002,[34] a date that approximately splits our time frame into two equal temporal segments, pre- and post-Sarbanes-Oxley. Considering that the Sarbanes-Oxley Act was enacted to rectify the accounting scandals of the new millennium, we hypothesized that our findings would demonstrate significant increases in filing activity after the enactment of the Act.[35] Of note, our time period ends on August 23,

> material to, the registrant, where such entity provides financing, liquidity, market risk or credit risk support to, or engages in leasing, hedging or research and development services with, the registrant.

Regulation S-K, 17 C.F.R. § 229.303(a)(4)(ii) (2005). This additional item represents the SEC's efforts to address those practices that precipitated the Enron scandal. Allan Horwich, *New Form 8-K and Real-Time Disclosure*, REV. SEC. & COMMODITIES REG., June 6, 2004, at 109, 109 (2004).

33. NYSE Inc., New York Stock Exchange Listed Companies, *available at* http://www.nyse.com/about/listed/1089312755443.html.

34. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified in scattered sections of 11, 15, 18, 28, and 29 U.S.C.) (Supp. II 2002).

35. For discussion of market reaction, see *infra* Part IV.B.

2004, because this date is when the Form 8-K expanded from the twelve original items to its current eighteen categories.[36]

C. *Data Source*

The raw data that was collected for this Empirical Study can be found on the SEC Web site—*http://www.sec.gov*. A user can search all company filings and forms by clicking on the "EDGAR" link located on the SEC homepage. The EDGAR page will allow a user to look up a company's Central Index Key ("CIK") number that allows the user to find the individualized CIK for each firm. A user will gain access to all of a particular company's filings, including 8-Ks, by following those steps. This data source generated the basic 8-K filing input that is at the core of this Study. We recorded each sample company's entire 8-K filing activity in spreadsheets by categorizing filings according to type and date of filing. As a result, our compiled spreadsheet yielded type and frequency trends.

D. *Form 8-K Type and Frequency*

We scanned through each firm's filing history from January 1, 2000, to August 23, 2004, to extract all of the firm's 8-K filings during that time period. Each 8-K filing was then recorded by item type and filing date into a spreadsheet to generate the base input for our type and frequency analysis. Of note, we assigned the filing date to each 8-K so that we could isolate the specific market reactions for each 8-K.[37]

In order to avoid volume skews in our data, we intentionally did not record any Item 7 filings because these itemized filings are usually coupled with another item and rarely filed individually.[38] Item 7 filings disclose supplementary financial statements and exhibits that generally accompany the other eleven substantive itemized categories.[39] Since Item 7 filings only disclosed financial statements and exhibits normally coupled with another same-day 8-K filing, we assumed that the market would never react to an Item 7

36. Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. 15,594, 15,594 (Mar. 25, 2004) (to be codified at 17 C.F.R. pts. 228, 229, 230, 239, 240, 249).

37. See Appendix, Tables 2a and 2b for Sample. For further discussion of methodology, see *infra* Part III.E.

38. *See* Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 67 Fed. Reg. 42,914, 42,914 (proposed June 25, 2002) (to be codified at 17 C.F.R. pts. 228, 229, 240, 249) ("A seventh item requires companies to furnish exhibits and to list any financial statements and pro forma financial information included as part of Form 8-K in connection with a business acquisition.").

39. *See id.*

filing alone. By not including Item 7 filings, we avoided any potential duplicative misrepresentations in overall filing frequency. Additionally, by disregarding all Item 7 filings across the time period, we avoided any frequency biases in either the pre- or post-Sarbanes-Oxley periods.

E. Market Reaction

In addition to studying the effect that the Sarbanes-Oxley Act had on the type and frequency of 8-K filings in the post-Enron period, we also sought to discover whether the financial markets actually reacted to the 8-K postings.

To determine whether the market reacted to individualized 8-K filings, we used the University of Chicago's Committee on Research of Security Prices ("CRSP") database. By recording each 8-K filing date by company, the CRSP database allowed us to pull NYSE market information for each day relative to that particular filing. Here, we focused on both the company's returns for the day of the filing as well as the overall market returns on the day of the filing.

To calculate the company's return, we determined the percent change in the firm's stock price (i.e., the firm's daily return). The firm's daily return is computed by subtracting the firm's stock price on the day of the filing from the firm's stock price the day before (i.e., yesterday's price), divided by the firm's stock price the day before:

$$[(P_{today} - P_{yesterday}) / P_{yesterday}]$$

Likewise, we also calculated the NYSE's daily return, which is the percent change in the market on the day of an 8-K filing. Similar to the firm's daily return equation, the market's daily return is calculated by subtracting the market's overall daily return on the day of the filing from the market's overall daily return the day before, divided by the market's overall daily return on the day before:

$$[(MktP_{today} - MktP_{yesterday}) / MktP_{yesterday}]$$

Once we calculated the firm's daily return and the respective market daily return, we then found the market adjusted return. The market adjusted return is computed by subtracting the firm's daily return from the market daily return:

$$[(P_{today} - P_{yesterday}) / P_{yesterday}] - [(MktP_{today} - MktP_{yesterday}) / MktP_{yesterday}]$$

The market adjusted return is the value of significance to our Study because it isolates the firm-specific daily returns by factoring out the general market changes that are exogenous to the sample firm's activities. In other words, the market adjusted return specifically focuses on any changes in the individual firm's daily return which results from that firm's activities. Of note, although the market adjusted return eliminates general daily market shifts, it does not factor out other potential exogenous factors, such as isolated macroeconomic happenings in a particular industry. For this Study, however, the market adjusted price adequately reflects any significant changes in the firm's daily return that might result from an 8-K filing.

In addition to calculating the firm's market adjusted return on the day of its 8-K filings, we also calculated one-day and two-day lagged firm market adjusted returns. These lagged values are calculated by:

$$[(P_{yesterday} - P_{yesterday\text{-}1}) / P_{yesterday\text{-}1}] - [(MktP_{yesterday} - MktP_{yesterday\text{-}1}) / MktP_{yesterday\text{-}1}]$$

and

$$[(P_{yesterday\text{-}1} - P_{yesterday\text{-}2}) / P_{yesterday\text{-}2}] - [(MktP_{yesterday\text{-}1} - MktP_{yesterday\text{-}2}) / MktP_{yesterday\text{-}2}]$$

By determining the lagged market adjusted returns, we account for the market reaction to an 8-K filing before its actual recordation. The lagged market adjusted return, in essence, accounts for the efficiency of the market as it foresees financial events and disclosures or responds to information leakages (i.e., corporate press releases). Because we considered a three-day period to analyze the market reactions to 8-K filings, our results show that there are some abnormal market reactions to certain 8-K filings at different times.[40]

After calculating the adjusted market returns on the day of the 8-K filing and lagged periods, we found the average adjusted market returns for each 8-K item over the entire period of January 1, 2000, to August 23, 2004.[41] To determine whether any of our average adjusted market returns were statistically significant, we used hypothesis testing to decide whether our market reaction results were statistically significant. In our market reaction hypothesis test, the null hypothesis is that there are not abnormal market reactions to any 8-K filings. Alternatively, our research hypothesis is that there are significant adjusted market returns associated with individual 8-K filings.[42]

40. *See infra* Part IV.E.

41. In other words, we found the mean adjusted market return by taking the average of each item's individual effect on the market returns.

42. Abstractly, the null hypothesis represents the default possibility that

To determine which hypothesis accounted for our results, we performed a series of t-tests. These t-tests determined whether the market adjusted returns are significantly different from zero. In general, the t-statistic ("t-stat") is the determinative value for hypothesis testing, where the t-stat is based on the data that provides the best information for discriminating between the null hypothesis and research hypothesis.[43] If the t-stat is significant, then we conclude an association exists between the event of an 8-K filing and the market reaction.[44]

In addition to a t-stat, every t-test has a corresponding p-value, which determines the probability that the research hypothesis is correct. Put differently, a p-value gives the probability, assuming that the null hypothesis is true, that such data would be observed. Conventionally, the null hypothesis is rejected whenever the p-value is less than 0.10 or 10%.[45] Here, the p-value represents the probability that the average adjusted market return is not significant.[46]

F. Firm Profitability

After compiling the type and frequency data, certain market attributes and trends that correlated with 8-K filings became apparent. Because this Empirical Study aims at thoroughly investigating the nature of 8-K filings, we further explored these market trends to expose additional results that would be of interest

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one will accept unless there is convincing—statistically relevant—evidence to the contrary. *See* ANDREW F. SIEGEL, PRACTICAL BUSINESS STATISTICS 375 (5th ed. 2003). Conversely, the research (or alternative) hypothesis is to be accepted only if there is convincing statistical evidence that would rule out the null hypothesis as a reasonable possibility. *Id.* "Accepting the research hypothesis represents a much stronger position than accepting the null hypothesis because it requires convincing evidence." *Id.* at 375-76.

43. *Id.* at 386. In other words, the t-test is the statistical vehicle for our hypothesis testing to ascertain if our mean adjusted market returns are statistically significant. The critical value in a t-test, the t-stat, is the test value and represents how many standard errors there are separating the reference value (zero) and the mean. *See id.*

44. This t-stat is compared to the appropriate critical value taken from a standard table of critical values (e.g., the t-table) to determine which hypothesis should be accepted. *Id.* at 386-90.

45. *Id*. at 392-93. In other words, the smaller p-values indicate that the research hypothesis is more probable than not. *Id.* In other words, if p = 0.10, then data with such large difference from the null hypothesis occur less often than ten times in 1000 random samples, e.g., substantiating the research hypothesis. *See id.*

46. *See id.* For example, if the p-value is less than 0.10, then conventional practices deem that there is an abnormal and statistically-relevant market reaction to an 8-K filing. For further discussion, see *infra* Part IV.B.

to the legal community, regulators, and financial investors alike.

In addition to our hypothesis testing of market reactions to 8-K filings, we examined the relationship of a firm's economic performance to its annual 8-K filing frequency. Here, we assumed that each sample company's annual Return on Investment ("ROI") is an adequate indicator of overall economic performance. Traditionally, ROI is a primary measure of a corporation's profitability because it measures how effectively the firm uses its assets and capital to generate a profit.[47] Generally speaking, the higher a company's ROI, the better its economic performance.[48] Here, we calculated the current ROI for each of the 200 sample companies and correlated it to the total number of 8-K filings recorded over the period of January 1, 2000, to August 23, 2004.[49]

Our null hypothesis was that there is no correlation relating to a firm's ROI and the number of 8-Ks filed between January 1, 2000, and August 23, 2004. Alternatively, our research hypothesis was that an inverse relationship existed between a firm's economic performance and the frequency in which it filed 8-Ks. In other words, the lower a firm's ROI (i.e., the worse the firm was performing in terms of profitability) the higher the frequency of 8-K filings for that firm.[50]

IV. RESULTS & DISCUSSION

A. *Type & Frequency Results: A Windfall of 8-K Disclosure*

Once we compiled all of our 8-K filings by type and date, several trends emerged demonstrating the impact that the Sarbanes-Oxley Act has had on corporate disclosures. First, certain types of 8-Ks are filed much more than others. In 2000, 261 of the 396 8-K filings in our sample were Item 5 (catchall) filings, accounting for approximately 66% of total filings. In 2001, Item 5 filings accounted for 476 of a total of 660 8-K filings, or roughly 72%. In 2002, Item 5

47. *See* R. CHARLES MOYER ET AL., CONTEMPORARY FINANCIAL MANAGEMENT 83-84 (9th ed. 2003).

48. *See id.* at 84. Return on Investment, or ROI, is defined as the ratio of earnings after taxes (i.e., income) to total assets—EAT/total assets. *Id.* Earnings after taxes equals revenues minus cost of sales, operating expenses, and taxes over a given period of time. *Id.* at 85. Earnings are the reason a corporation exists, and are often the single most important determinant of a firm's stock price. Earnings are important to investors because they give an indication of the company's expected future dividends and the firm's potential for growth and future capital appreciation.

49. For a more thorough explanation of hypothesis testing, the t-stat, and p-value, see SIEGEL, *supra* note 42, at 374-402.

50. For statistical findings, see *infra* Part IV.F.

filings accounted for over 61% of total annual filings (569 of the total 927 filings). However, this filing trend radically changed after 2002. In 2003, there were 624 Item 9 (Regulation FD) filings and 603 Item 5 filings, which accounted for nearly 40% and 39% of total filings, respectively. In 2004, there were 533 Item 12 (Results of Financial Condition and Operations) filings, 482 Item 5 filings, and 329 Item 9 (Regulation FD) filings, which accounted for roughly 38%, 34%, and 23% of total 8-K filings, respectively.

Arguably, these trend shifts in 8-K filing behavior that occurred between 2002 and 2003 are directly attributable to Sarbanes-Oxley and the public desire for more accountable and forthright corporate disclosures. Moreover, not only did Sarbanes-Oxley increase the total amount of financial disclosure by firms, but it also materially altered the type of information that was being disclosed. Before the enactment of the Sarbanes-Oxley Act in 2002, companies were seemingly complacent with filing the majority of their 8-Ks in the catchall Item 5. However, after Sarbanes-Oxley and its mandate for more accurate disclosures, companies shifted to more exacting categorized filings such as Items 9 and 12. This shift is strongly indicated by the 34% decrease in Item 5 filings in 2004, down from 72% in 2001. In a matter of three years the percentage of Item 5 filings decreased by nearly 50%, while the percentages of Item 9 and 12 filings significantly rose during that same period. In sum, it seems evident that after the Sarbanes-Oxley Act, companies became more diligent and forthcoming in their 8-K filings.

In addition to the shift in type of 8-K filings, our data yield important overall frequency trends. In 2000, there were only 396 total filings. In 2001, 660 total filings. In 2002, 927 total filings. In 2003, 1548 total filings and in 2004, 1400 total filings (through August 23, 2004).[51] This steady increase in the overall frequency of 8-K filings demonstrates the impact that the Sarbanes-Oxley Act and investor concerns over corporate scandals had on market disclosure. In fact, by 2003 the total frequency of 8-K filings had increased nearly 550% from the total frequency in 2000. Chart 2 summarizes these frequency trends:

51. Although our data seem to indicate the frequency level of total 8-K filings peaks in 2003, in reality our 2004 data only cover filing frequency up to July 30, which is the day that 8-K filing types were expanded to 18 types. In other words, July 30, 2004 is the end date for our frequency data; and therefore, the frequency data are skewed because undoubtedly if one were to extrapolate the original itemized filing frequencies out to December 31, 2004, there would be over 1548 filings (2003 total). In fact, an extrapolated annualization of year 2004 yields a total of 2174 filings.

Chart 2:
Cumulative Percentage Increases in 8-K Frequency

YEAR	TOTAL # OF 8-K FILINGS	% INCREASE OF 8-KS (AS COMPARED TO 2000)
2000	396	-
2001	660	67%
2002	927	234%
2003	1548	391%
2004	2174	549%

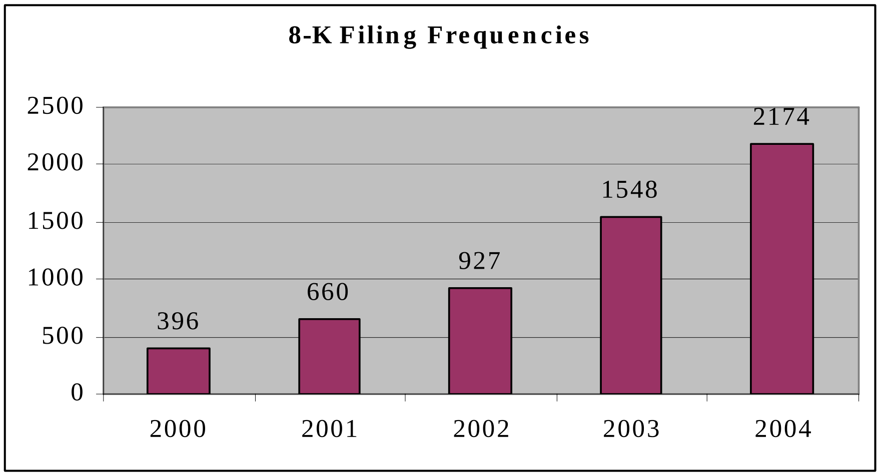
This steady frequency increase is also apparent in our data collected after the Form 8-K expansion, between August 23, 2004, and November 1, 2005. Though the expansion of listed items would naturally lead to an increase in filings, this sample set yields 4678 filings over the fifteen-month period. Chart 3 summarizes this increase:

Chart 3:
Frequency of Newly Expanded Form 8-K Filings

8-K ITEM TYPE	8-K FILING FREQUENCY	% OF TOTAL 8-K FILINGS
1.01	1023	21.87%
1.02	104	2.22%
1.03	2	0.04%
2.01	100	2.14%
2.02	1000	21.38%
2.03	178	3.81%
2.04	11	0.24%
2.05	26	0.56%
2.06	24	0.51%
3.01	8	0.17%
3.02	28	0.60%
3.03	36	0.77%
4.01	36	0.77%
4.02	30	0.64%
5.01	10	0.21%
5.02	444	9.49%
5.03	94	2.01%
5.04	11	0.24%
5.05	4	0.09%
7.01	686	14.66%
8.01	823	17.59%
Total	**4678**	**100%**

Furthermore, the overall impact that Sarbanes-Oxley has had, prior to the new amendments, is visually illustrated in Chart 4:

Chart 4:
Annual Changes in 8-K Filing Frequencies



When one considers the effects Sarbanes-Oxley had on both the type and overall frequency with which companies filed 8-K disclosures, the impact the Act had on market transparency is apparent. Though our Study uses the passage of Sarbanes-Oxley as a point of reference, this is merely convenient for purposes of comparison. The trend toward increased transparency had begun, and the SEC was encouraging more continuous and forthright disclosure before the Act. One can account for the gradual frequency increases before Sarbanes-Oxley as corporate responses to the impending increased regulatory regime, an awareness of investor concerns, and the ever-looming threat of class action suits.

Nonetheless, the events of 2002 greatly accelerated the pace at which corporations filed 8-Ks and caused a substantive shift in the information transmitted to the market. This reaction could have been provoked by a combination of the impending expansion to Form 8-K, the promise of the SEC's increased regulatory power, and investor demands post-Enron.[52] However, the question remained: did the increased frequency of 8-K filings and substantive shift in the type of 8-K disclosure have an ensuing financial impact on the disclosing companies?[53]

52. *See, e.g.*, Paredes, *supra* note 4, at 427-30.

53. For an interesting study of both price reaction and trading volume activity in response to news releases in the United Kingdom, see Paul Ryan &

Before turning to this inquiry, our data also reveal that the transportation industry had a higher rate of disclosure than any other. The industry breakdown is illustrated in Chart 5:

Chart 5:
Industry Breakdown

TYPE OF INDUSTRY	AVERAGE # OF 8-K FILINGS (PER FIRM)
Financial	1.49
Money Market	1.67
Retail	4.23
Services	5.30
Utilities	7.18
Communications	11.08
Transportation	**13.88**

Although there were only thirty-three firms in the transportation industry within our sample, representing roughly five percent of the sample size, this industry accounts for over twenty percent of the total average annual 8-K filings for the whole sample. This disproportionate ratio is further demonstrated by the transportation industry's annual average of nearly fourteen 8-K filings per company, which is the highest average in our sample. The disproportionate rate at which companies in the transportation sector, including airlines, file 8-Ks is likely due to the financial setbacks that plagued the industry after September 11, 2001.

Moreover, the high cost structures that plague the large incumbent airlines, such as Delta and US Airways, have hindered any sustained competitive response to Southwest's profitable low-cost, low-fare business model.[54] This inability to competitively react to a changing industry has led to large financial hardships as well as bankruptcy for many incumbents.[55] Thus, it comes as no large surprise that the transportation industry has been the leader in 8-K filing frequency in the new millennium.

Richard J. Taffler, *What Firm-Specific News Releases Drive Economically Significant Stock Returns and Trading Volumes?*, EFMA 2002 London Meetings (March 2002), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=314880.

54. *See, e.g.*, Marilyn Adams & Dan Reed, *Why Isn't Restructured US Airways Taking Off?*, USA TODAY, Jan. 26, 2004, at 1B.

55. *See id.*

B. Market Reactions

Although Sarbanes-Oxley clearly influenced the type and frequency of 8-K filings in the first half of this decade,[56] the same impact cannot be said for the market reactions to 8-K disclosures. Here, our null hypothesis was that there would not be abnormal market reactions to particular 8-K filings. In the alternative, our research hypothesis was that there are significant adjusted market returns caused by individual 8-K filings.

After analyzing the adjusted market returns based on day-of financials as well as one- and two-day lagged stock prices, it became apparent that, in general, the market did not have significant reactions. In fact, there were no statistically significant market reactions to 8-K filings on the day of particular filings. Put differently, no item type caused a significant change in the filing company's stock price on the day in which the particular 8-K was filed with the SEC.[57] Chart 6 illustrates the day-of adjusted market reactions:

Chart 6:
Adjusted Market Reactions (Day-of)[58]
Day of 8-K Filing (t)

8-K Item Type	Adj. Market. Return (Mean)	Market. Reaction T-stat	Market. Reaction P-value
1	0.0083	1.1030	0.2763
2	0.0008	2.9610	0.7676
3	(0.0081)	(0.7997)	0.4544
4	0.0001	0.0249	0.9802
5	0.0003	0.3159	0.7520
6	0.0034	1.3146	0.2590
8	(0.0014)	(0.2187)	0.8286
9	0.0002	0.1393	0.8893
11	(0.0035)	(1.2200)	0.2784
12	0.0016	1.2725	0.2036

56. For filing frequencies after the 2004 Form 8-K expansion, see *supra* Chart 3.

57. Because no item type had an average stock price change with a p-value meeting the ten percent significance level, we concluded that 8-K filings have no effect on the stock price on the day of the filing. Statistically speaking, each item's p-value on the day of filing had conventionally high errors of rejecting the null hypothesis that is really true.

58. The authors are particularly indebted to Professor Stephen Bryan, Wake Forest University Babcock Graduate School of Management, for his help in compiling these data sets.

As the Chart above indicates, all market reaction p-values on the day of the 8-K filing are well above the conventionally recognized ten percent significance level. Because all of the p-values are considerably high, we do not reject the null hypothesis of no market reaction for day-of-filing market reactions.

However, this result is not surprising because the financial stock markets have information efficiencies and usually anticipate actions such as 8-K filings.[59] Therefore, we examined both one- and two-day lag periods to see if the market did in fact react to particular types of 8-K filings.

Interestingly, our one-day lag of adjusted market returns demonstrated that there were abnormal market reactions of Item 4 (Change in Accountant) and Item 12 (Financial and Operational Results) filings. In fact, not only were the p-values for Item 4 and Item 12 adjusted market returns significant at the 10% level, but also Item 12 was significant at the 5% level and Item 4 was nearly significant at the 5% level (significant at the 5.68% level). Thus, our research hypothesis that 8-K filings would result in abnormal market reactions is true for Item 4 and Item 12 filings because the average market return (lagged one day) is significantly different from the reference value mean for those two items. However, aside from those abnormal market reactions, there was no market reaction to any other 8-K filing. Chart 7 illustrates those market reactions:

Chart 7:
Adjusted Market Reactions (*t*-1)
1 Day Lag of Filing (t-1)

8K ITEM TYPE	ADJ. MKT. RETURN (MEAN)	MKT. REACTION T-STAT	MKT. REACTION P-VALUE
1	0.0035	0.7037	0.4856
2	0.0005	0.2703	0.7873
3	(0.0181)	(1.2956)	0.2427
4	0.0055	1.9360	0.0568
5	(0.0001)	(0.1658)	0.8683
6	0.0223	1.4585	0.2185
8	(0.0056)	(0.6992)	0.4909
9	(0.0001)	(0.1295)	0.8970
11	0.0055	0.7799	0.4469
12	0.0020	1.9923	0.0467

59. *See* Paredes, *supra* note 4, at 424, 480-84.

There are two possible alternative explanations of why the market has failed to react to individual 8-K filings. First, Form 8-K is frequently filed as an official, documented confirmation of disclosure information that has already been transmitted to the market through corporate press releases.[60] Given the five- to fifteen-day window (prior to the 2004 Amendments) in which firms could file a Form 8-K after the triggering event, it is possible that the market had already absorbed the information later confirmed through Form 8-K. Second, our random sample included smaller firms, not subject to the attention and scrutiny of information traders. Therefore, it is possible that the market would only react to the filing of a Form 8-K several days after its filing. If that scenario is the case, then it is possible that any abnormal market reactions would not become evident until several days after an 8-K filing. Nonetheless, our results have shown that two information items—change in accountants and results of financial condition and operations—produced a significant market reaction within the relative time frame surrounding an actual 8-K posting.

C. Item 4 Change in Accountant: Arthur Andersen Shockwaves

The statistically-significant market reactions to the Item 4 (Change in accountant) filings can be explained by several factors. First, our Study covers the time period during which the Big Five accounting firms were reduced to four with the demise of Arthur Andersen.[61] The scandal that flowed from the revelation of the impropriety engaged in during Andersen's tenure as Enron's auditor would naturally force investors to pay great attention to a change in auditors. Moreover, a change in auditors may be a premonition of financial trouble to come:

> The reported reasons for changes in auditors sometimes provide insight into a company's financial statements, as well as an indication of the quality of the audit. Under SEC rules . . . companies are required to disclose certain information when they change auditors. These disclosures can provide the first glimpse into potential problems in a company's financial statements. . . . Investors should always be cautious when a company announces an auditor change, as it may be related to underlying but undisclosed problems in the company's

60. *See* SEC Form 8-K, at 3, *available at* http://www.sec.gov/about/forms/form8-k.pdf.

61. In fact, one study which examined the frequency with which companies change accountants excluded those changes resulting from the collapse of Arthur Anderson. Lynn E. Turner et al., *An Inside Look at Auditor Changes*, CPA J. ONLINE, November 2005, http://www.nysscpa.org/cpajournal/2005/1105/special_issue/essentials/p12.htm.

financial reporting and accounting practices.[62]

Thus, our results support the conclusion that either (1) investors reacted with increased volatility, relative to other substantive 8-K events, to changes in accountants in response to the demise of Arthur Andersen,[63] or (2) investors continually react to changes in accountant because of the potential financial difficulty such a change is likely to precipitate.[64]

D. Reaction to Results of Earnings and Operations

Our results also revealed statistically significant market reaction to Item 12 (Results of Financial Condition and Operations) filings. Under the former requirements, companies were required to disclose earnings and results of operations. Given the fundamental importance of this information to investors, the reaction to Item 12 filings is not surprising. Over a three-year period, Item 12 filings represented between 0.054% (2002) and 5.30% (2000) of all 8-K filings. Only in 2003 did companies begin to significantly disclose earnings and results of operations. However, over the event period, we observed significant market reaction to these filings. This supports our assertion that Sarbanes-Oxley impacted both the frequency and type of disclosure; moreover, companies began to disclose the information needed by investors as evidenced by market reaction.

E. Market Reaction Analysis: Limits on Effective Disclosure

Though the Securities Act of 1933 and the Securities Exchange Act of 1934[65] purport to protect investors from corporate

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62. *Id.*

63. *See* Larry D. Thompson, Deputy Attorney General, News Conference—Arthur Andersen Indictment (Mar. 14, 2002), *available at* http://www.usdoj.gov/dag/speech/2002/031402newsconferncearthurandersen.htm. The Supreme Court eventually overturned Andersen's resulting conviction for obstruction of justice in May 2005. *See* Arthur Andersen LLP v. United States, 544 U.S. 696, 708 (2005).

64. Turner et al., *supra* note 61.

> When an auditor is informed by a company that it has been terminated, or informs the company that it will no longer serve as the independent auditor, the auditor is required to send a form letter directly to the Office of the Chief Accountant of the SEC. This letter must be sent within four business days, and is matched with the Form 8-K filings.

Id.

65. *See* S. REP. NO. 73-792, at 1 (1934) (quoting the message of President Roosevelt: "In my message to you last March proposing legislation for Federal supervision of national traffic in investment securities I said, 'This is but one step in our broad purpose of protecting investors and depositors. It should be

improprieties, "scholarly analysis of securities regulation must proceed on the assumption that the ultimate goal of securities regulation is to attain efficient financial markets and thereby improve the allocation of resources in the economy."[66] With this view, the requirements imposed under a mandatory disclosure regime are designed to protect those who most effectively use the information disclosed. In our capital market system, those who use the information most effectively include securities analysts and sophisticated professional investors, collectively known as "information traders."[67] These information traders are most positively affected by the mandatory disclosure regime because it reduces their coordination cost.[68] Thus, our analysis proceeds upon the assumption that securities regulation aims to enhance efficiency and liquidity in financial markets and, to achieve this goal, implements mandatory disclosure to protect information traders.[69]

Seemingly, the debate over the merits or demerits of a mandatory disclosure regime has ended, the champions of an expansive disclosure regime claiming victory. Moreover, no literature we have found proposes completely abandoning the transparency attendant disclosure. However, furious debate rages about whether, at a certain threshold, disclosure becomes too much. Investors and analysts need to process the disclosed information effectively to support market efficiency, thus begging the question when the mandatory disclosure regime has provoked information overload.[70]

The SEC received the input of various law firms and law professors specializing in corporate matters during the notice and

followed by legislation relating to the better supervision of the purchase and sale of all property dealt with on exchanges.'").

66. Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Regulation* 4 (Columbia Law and Econ. Working Paper No. 259, 2004), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=600709 (citing Jeffrey N. Gordon & Lewis A. Kornhauser, *Efficient Markets, Costly Information, and Securities Research*, 60 N.Y.U. L. REV. 761, 802 (1985)).

67. We use the term "information traders," as used by Goshen and Parchomovsky, *supra* note 66. This nomenclature is meant to distinguish these processors of information from irrational investors ("noise traders") or those who trade based on consumption/savings considerations, irrespective of general market or firm-specific information ("liquidity traders"). Goshen & Parchomovsky, *supra* note 66, at 5.

68. *Id.*

69. These assumptions underlie most analyses, though sometimes phrased in terms of the Efficient Capital Market Hypothesis ("ECMH"). For a discussion of the importance of securities laws to the maintenance of the ECMH, see Paredes, *supra* note 4, at 480-84.

70. *See* Paredes, *supra* note 4, at 417-18; Suphap, *supra* note 7, at 695-96.

comment period preceding the issuance of its final rule.[71] Several commentators suggested that the expansion of filing requirements would trigger a significant increase in the number of filings with a concomitant flood of information to investors. As one law firm observed:

> The significant expansion in the type and number of Form 8-K triggering events will significantly increase the volume of Form 8-K filings. This increase in the number of filings could lead investors to view these filings as more routine, thereby creating a risk that truly material information will escape notice. We believe that the SEC's estimate that the proposed Form 8-K revisions would only result in two more filings per company per year is far too low, especially for smaller companies, which, given their size, are parties to a greater number of transactions and business relationships that are considered material.[72]

The proposition that the market has a finite amount of information it can process effectively is rooted in behavioral economics and has enjoyed increasing popularity among legal scholars.[73]

Under a theory of bounded rationality, people have limited decision-making capacity; once faced with too many possibilities, they become overloaded and make worse decisions than if faced with fewer.[74] Thus, as companies increased the frequency with which they filed 8-Ks and the variety of items filed, the market reaction indicates that the information traders were only responsive to Items 4 and 12; thereby suggesting that investors have become desensitized to most disclosure due to the onslaught of 8-K filings.

While our Study did not set out to prove a theory of bounded

71. *See* Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date, 69 Fed. Reg. 15,594, 15,595 (Mar. 25, 2004) (to be codified at 17 C.F.R. pts. 228, 229, 230, 239, 240, 249).

72. Comment Letter from Joseph Grundfest et al. to Jonathan G. Katz, Secretary of the SEC (Oct. 3, 2002), *available at* http://www.sec.gov/rules/proposed/s72202/mjhalloran1.htm; *see also* Comment Letter from Sullivan & Cromwell to Jonathan G. Katz, Secretary of the SEC (Aug. 26, 2002), *available at* http://www.sec.gov/rules/proposed/s72202/sullivan1.htm ("In the short term, the substantially greater number of filings may very well contribute to market volatility. In the long term, the increased volume of filings may be counterproductive as investors will begin to discount the value of an individual filing on Form 8-K.").

73. *See, e.g.*, Paredes, *supra* note 4, at 419 ("Borrowing Brandeis' terminology, in addition to being a disinfectant, sunlight can also be blinding.").

74. *Id.* (citing HERBERT A. SIMON, 1 MODELS OF BOUNDED RATIONALITY: ECONOMIC ANALYSIS AND PUBLIC POLICY (1982)).

76. *See* SIEGEL, *supra* note 42, at 393.

rationality in the analysis of Form 8-K filings, the lack of market reaction to the disclosure prior to the enactment of the expansion in 2004 suggests that the theory is at least one possible explanation. At the very least, the results indicate that there is an emergent disjoint between the procedure mandated under the current disclosure regime and the substance of the information that companies transmit to investors. Thus, our results leave open the question of whether the expansion of 8-K filing requirements has increased the quality of financial disclosures or diluted an already saturated labyrinth of investor information.

F. Other Market Attributes—Correlation Between Firm Profitability and Filing Frequency

Considering that the accounting scandals surrounding Enron and WorldCom arose to cover those corporations' poor performance and waning profitability, we wanted to examine whether a company's profitability has a correlation to the frequency of its 8-K disclosures. Here, our null hypothesis was that there is no relationship between the ROI of a company—as a measure of profitability—and the frequency with which it files 8-Ks. Alternatively, our research hypothesis was that an inverse relationship existed between a firm's profitability and the frequency with which it filed 8-Ks. In other words, the lower a firm's ROI (i.e., the worse the firm was performing in terms of profitability) the higher the frequency of 8-K filings of that firm.

After performing our t-tests, an inverse relationship between firm profitability and the frequency of 8-K filings became apparent. Our research shows that there is a highly significant correlation between profitability and the amount of 8-K disclosure. Here, the correlation coefficient is -0.1529 and is significant at the 0.1% level, which is very highly significant.[76] In other words, the negative, and highly significant, correlation coefficient suggests that more 8-K filings indicate worse firm performance, as measured by ROI.[77]

Many financial and legal scholars would argue that this correlation is a predictable outcome of Sarbanes-Oxley and investor sensitivity to corporate shortcomings.[78] Our profitability correlation

77. The correlation coefficient represents a pure number between -1 and 1 summarizing the strength of the linear relationship. If a correlation coefficient is negative it is interpreted as bearing a negative relationship between the two or more comparison variables. Typically, intermediate correlations, like the one here, indicate the strength of the relationship, and the size (e.g., absolute value of the coefficient) indicates the direction of the slope (positive or negative). *See id.* at 437-39.

78. *See, e.g.*, Suphap, *supra* note 7, at 695 (stating that companies may report every arguably material event to avoid liability).

suggests that high frequencies of 8-K disclosures surround bad news and poor economic performance of corporations.[79] If disclosure is the primary regulatory tool through which the SEC can protect investors,[80] then the disclosures should reveal those companies who pose the most investment risk. Although our Study does not isolate a particular firm's 8-K filing behavior as correlated to its ROI, this general inverse relationship does not bode well for the sustainability of an expansive mandatory disclosure regime.[81] If the market perceives this correlation and penalizes firms that comply with the disclosure requirements, firms will lose their incentive to comply. Moreover, if firms determine that increased 8-K filing frequency foreshadows to investors that economic hardships are imminent, then the new disclosure regime may falter.

V. CONCLUSION

Our results lend some support to those who critique the SEC's new and expansive disclosure regime for its potential dilution of investor information. Future studies should determine if the trend towards more frequent disclosure has continued and address the extent to which the new items' disclosures produce significant market reactions. Additionally, future studies should further explore the correlation between a firm's economic performance and 8-K filing frequency. In particular, they should address whether frequency increases in 8-Ks filed forecasts impending economic hardships for that firm.

Our Study has revealed that the Sarbanes-Oxley Act, before the implementation of the amended disclosure requirements, provoked an increase in the frequency with which companies filed current reports. Moreover, this increase has continued through the present

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79. *See* 148 CONG. REC. E1451 (daily ed. July 29, 2002) (statement of Rep. Sununu).

> By establishing for the first time a requirement for real-time corporate disclosure, [Sarbanes-Oxley] will better protect investors. Companies will now have to disclose any information that would materially affect the company's financial health. That is the kind of information that can never be—and should never be—withheld from the public. Accurate and clear financial disclosure will enable better investment decisions to be made based on a company's true financial performance.

Id.

80. Paredes, *supra* note 4, at 427.

81. For a discussion of the factors to consider in evaluating the sustainability of disclosure regimes and the marginal benefits and costs of increased disclosure, see David Weil, *The Benefits and Costs of Transparency: A Model of Disclosure Based Regulation,* Transparency Policy Project: Taubman Ctr., John F. Kennedy Sch. of Gov't, (June 2002), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=316145.

as firms adjust to the more exacting requirements of the disclosure regime under Form 8-K. This reaction could have been provoked by a combination of the impending expansion to Form 8-K, the promise of the SEC's increased regulatory power, and investor concerns in the post-Enron era. Despite the corporate disclosure shifts in frequency and type of filing, the market has reacted to very few disclosures. Accordingly, our results suggest that there is a disjoint between the procedures required under the SEC's disclosure requirements and the substance of those disclosures and their value to investors. This disjoint certainly played a hand in the corporate scandals that opened the decade, and it remains to be seen if increasing corporate disclosure will provide the securities remedy by this decade's close.

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* The authors would like to thank Professors Stephen Bryan and Alan Palmiter. Professor Bryan—With your help, advice, and guidance, this Study provides value-added insights on securities regulation in the post-Enron world. Thank you for all your assistance with the statistical analysis. Professor Palmiter—Thank you for your encouragement and commentary throughout our work on this Empirical Study. Your insights with respect to our statistical results were critical to the final version of this work product.

APPENDIX A

Table 1:
Form 8-K Categorical Filings

YEAR 2000

8K ITEM TYPE	8K FILING FREQUENCY	% OF TOTAL 8K FILINGS	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	33	8.33%	33	8.33%
2	26	6.57%	59	14.90%
3	5	1.26%	64	16.16%
4	5	1.26%	69	17.42%
5	**261**	**65.91%**	**330**	**83.33%**
6	2	0.51%	332	83.84%
8	2	0.51%	334	84.34%
9	41	10.35%	375	94.70%
12	21	5.30%	396	100.00%

TOTAL NUMBER OF 8-K FILINGS (ANNUAL) = 396

YEAR 2001

8K ITEM TYPE	8K FILING FREQUENCY	% OF TOTAL 8K FILINGS	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	7	1.06%	7	1.06%
2	40	6.06%	47	7.12%
3	1	0.15%	48	7.27%
4	9	1.36%	57	8.64%
5	**476**	**72.12%**	**533**	**80.76%**
6	1	0.15%	534	80.91%
8	4	0.61%	538	81.52%
9	117	17.73%	655	99.24%
12	5	0.76%	660	100.00%

TOTAL NUMBER OF 8-K FILINGS (ANNUAL) = 660

YEAR 2002

8K ITEM TYPE	8K FILING FREQUENCY	% OF TOTAL 8K FILINGS	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	4	0.43%	4	0.43%
2	37	3.99%	41	4.42%
4	51	5.50%	92	9.92%
5	**569**	**61.38%**	**661**	**71.31%**
6	1	0.11%	662	71.41%
8	8	0.86%	670	72.28%
9	252	27.18%	922	99.46%
12	5	0.54%	927	100.00%

TOTAL NUMBER OF 8K FILINGS (ANNUAL) = 927

YEAR 2003

8K ITEM TYPE	8K FILING FREQUENCY	% OF TOTAL 8K FILINGS	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	3	0.19%	3	0.19%
2	32	2.07%	35	2.26%
4	5	0.32%	40	2.58%
5	603	38.95%	643	41.54%
6	1	0.06%	644	41.60%
8	10	0.65%	654	42.25%
9	**624**	**40.31%**	**1278**	**82.56%**
11	8	0.52%	1286	83.07%
12	262	16.93%	1548	100.00%

TOTAL NUMBER OF 8-K FILINGS (ANNUAL) = 1548

YEAR 2004

8K ITEM TYPE	8K FILING FREQUENCY	% OF TOTAL 8K FILINGS	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
1	1	0.07%	1	0.07%
2	26	1.86%	27	1.93%
4	10	0.71%	37	2.64%
5	482	34.40%	519	37.04%
6	2	0.14%	521	37.19%
8	7	0.50%	528	37.69%
9	329	23.48%	857	61.17%
11	8	0.64%	866	61.96%
12	**533**	**38.04%**	**1400**	**100.00%**

TOTAL NUMBER OF 8-K FILINGS (Through 8/23/2004) = 1400

Table 2a:
Data Collection Sample (Items 1-5)

Company	Item 1	Item 2	Item 3	Item 4	Item 5
Covance		2001-06-15 2001-02-23		2001-03-06	
Cox					2004-06-06 2003-12-05 2002-12-20 2001-12-21 2001-02-16 2000-04-21
Crane	2003-05-08	2003-06-06			2004-07-22 2004-04-22 2004-03-03 2004-01-22 2003-09-08 2003-08-09 2003-04-16 2002-08-13

Table 2b:
Data Collection Sample (Items 6-12)

Company	Item 6	Item 8	Item 9	Item 10	Item 11	Item 12
Covance			2003-07-23			2004-07-21 2004-04-22 2004-01-29 2003-10-22
Cox			2003-05-01			2004-08-04 2004-04-28 2004-02-26 2003-11-05 2000-09-11
Crane			2003-07-24 2003-04-16			2003-10-23