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Business Ethics and Financial Reporting: Earnings Management During Periods of Economic Recessions

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Introduction

The issue of earnings management has reemerged for deeper investigation among the academic community over the last couple of decades (Cohen et al., 2008). Healy et al., (1999) define earnings management as "...when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." Major accounting scandals (corporate financial shenanigans) in the United States—such as those of Enron, Tyco, and WorldCom—erupted in the early 2000s (around the years of the dot-com bubble), in turn leading to in-depth inquiry by regulators, financial analysts, and academicians, among other constituents for answers.

In practice, managing earnings takes on two forms: (1) managing earnings using discretionary accruals; and (2) managing using real operational activities. Whereas discretionary accruals pertain to the management's discretion to opportunistically time the recognition of revenues, expenses, write-offs, reserves, etc., without violating generally accepted accounting principles (GAAP), the real operational activities to manage earnings is tied to manager's timing of actual business activities, such as the selection of specific periods for spending on research and development, advertising, training, etc.

The focus of this paper is on discretionary accruals. While discretionary accruals may not violate GAAP, their manipulation that takes on various forms, calls into question the ethical judgments of financial managers (see Table 1). These financial manipulations, documented in the book *Financial Shenanigans* (Schilit and Perler, 2010), are generally in line with both GAAP and International Financial Reporting Standards (IFRS), but "misrepresent the firms' financial status" (Dugan et al., 2016).

Managers resort to various ways to misrepresent the financial status of their firms. These include using accruals to positively or negatively altering the perception of the firm's performance, timing (opportunistically) the presentation of firm's poor performance, pushing positive earnings to future years, and introducing noise into the presentation of earnings (Guay et al., 1996). Possible reasons for such financial manipulations include the individual's ethical and decision-making orientation, level of professional commitment, intention to avoid violation of debt covenants, desire to seek higher level of executive compensation, and avoidance or minimization of political cost of potential regulation and its link to the company's risk level (Labelle et al., 2010; Greenfield et al., 2008).

Researchers have developed several models, such as the McNichols and Wilson (1988) model and the modified Jones model (Jones, 1991), in an attempt to more precisely measure how managers manipulate earnings. In addition, other models have been proposed that focus on the quality of accruals and the detection of fraud (Dechow and Dichev, 2002; Beneish, 1999; Dechow et al., 1995; Jones, 1991).

This study investigates managements' efforts to manage earnings during periods of economic stress since "managers' economic incentives likely influence the magnitude and direction of discretionary accruals" (Guay et al., 1996). Our research expectations are based on the premise that companies that are susceptible to financial shenanigans are more inclined to indulge in earnings manipulations and fudging of accounting numbers during recessionary periods than they would during non-recessionary periods. This position is based on the expectation that managerial incentives may be more susceptible to adverse impact during stressful economic times.

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According to the National Bureau of Economic Research (NBER), a drop in gross domestic product (GDP) for two consecutive quarters indicates that the economy is in recession. Hence, as per the NBER, the last three economic recessions occurred during 1990–1991, 2001, and 2008–2009 periods. Christiano et al., (2015) have done a comparative analysis of the post-World War II economic recessions and find the 2008–2009 recession to be the most damaging since then. He calls it the "Great Recession" (a view, widely held by economists) on the basis that the "output, consumption, investment, employment, and total hours worked dropped far more during the recent recession than the comparable average figures for all other recessions since 1945."

We examine three distinct economic recessionary periods (1990–1991; 2001; 2008–2009) based on a sample period of 1990–2009 to investigate our proposition. We do expect, based on Christiano et al., (2015), that the magnitude of earnings management would be more significant during 2008–2009 recession than it would during the other two test periods.

We employ the modified Jones model (1991) to detect discretionary earnings management for a select sample of U.S. firms that were prone to or had a higher likelihood of indulging in earnings manipulation. We examine changes in accrual-based earnings by calculating the absolute value of discretionary accruals to capture overall earnings management trends among the sample firms. Next, we compare discretionary accruals (both positive accruals and negative accruals) during non-recessionary periods with those of the recessionary periods.

Our results show that our suspect firms employed far higher levels of accruals in absolute terms during 2008–2009 recessionary (test) periods than they did during 2002–2007, non-recessionary (control) periods. This difference was statistically highly significant. We did not observe the same results for the other two test periods (1990–1991; 2001). Our reclassified results based on positive and negative discretionary accruals show a much higher magnitude during the 2007–2008 test periods, as compared to the magnitude of positive and negative DA, respectively, during the 2002–2007 control periods; these differences are statistically highly significant. Furthermore, we provide graphic illustrations of firm-specific evidence of earning management behavior of some selective sample firms during the study period (1990–2008). The results suggest that management's temptation to indulge in financial shenanigans is much higher during more stressful economic times.

The remainder of this article is organized as follows. The next two sections provide a literature review and discussion of our methodology. The following section describes the results of our study. The final section discusses implications and areas for future research.

Literature Review

Earlier research (e.g., Watts and Zimmerman, 1978) explores earnings management incentives that would drive managers' accounting choices. Results of their study suggest that managers who benefit from income increasing accounting rules are more likely to lobby in their favor, whereas managers who would be adversely impacted by it would oppose the proposed ruling. Healy (1985) finds a strong relationship between accounting accruals and managers' incentives to increase and/or to decrease earnings in order to maximize their bonuses. Jones' (1991) research focused on the earnings management behavior of a sample of twenty-three firms that had a clear incentive to benefit from import relief and/or increase the value of relief granted (e.g., tariff increases and quota reductions) during United States International Trade Commission (USITC) import relief investigations. Results of her refined cross-sectional and time-series models' tests show that managers do select income decreasing accruals during import relief investigations by the USITC.

Cohen et al., (2008) employ cross-sectional discretionary accrual models based on 1987–2005 timeframe. They investigate the pre-Sarbanes-Oxley Act (SOX) and post-SOX time periods to determine firms' preferences for accrual-based earnings management and real earnings management in terms of using one method of manipulation more than the other. They find higher discretionary accruals and lower real earnings management in the pre-SOX period but a significant switch to real earnings management techniques in the post-SOX time period. Zang (2012) also investigated management's choice of accrual versus real earnings management and find evidence consistent with that of Cohen, et al., (2008). Badertscher (2011) employ a residual income valuation model to measure overvaluation of a sample of nonfinancial U.S. firms and find that managers indulge in discretionary earnings management in early periods of firms' overvaluation but later switch to real earnings management activities in an effort to maintain firms' overvaluation levels. In addition, he finds that overvalued firms are more likely to resort to non-GAAP earnings management techniques.

Another stream of research has focused on improving the methodology of earnings management models. Dechow, Hutton, Kim, and Sloan (2012) incorporated accrual reversals, among other modifications, to the earnings management model, and find that the power of the test increases forty percent by incorporating such modifications. This incorporation, according to them, "provides a robust solution to mitigating misspecification across a variety of economic characteristics."

Researchers also are interested in finding how to predict accounting fraud and earnings manipulations (Beneish, 1999; Dechow et al., 2012; Beneish et al., 2013; Young and Peng, 2013; Grove et al., 2016;). In an earlier article, Beneish (1999) developed an empirical model that "suggests a systematic relationship between the probability of manipulation and some financial statement variables." His model successfully predicts the manipulators seventy-six percent of the time. Dechow et al., (2012) conduct a detailed investigation of Accounting and Auditing Enforcement Releases (AAERs) issued to firms by SEC between 1982 and 2005. Out of the total sample of 2,190 firms, authors concentrate on "676 unique firms that have misstated at least one of their quarterly or annual financial statements." Their study is based on two main objectives: (1) to build a database, containing financial misstatements of firms, available to other researchers; and (2) to examine key financial indicators of firms that misstate and then go on to formulate a misstatement prediction model.

The authors' key findings of misstating-firms are that: (1) their quality of accruals is low; (2) their financial and nonfinancial metrics of performance are weakening around the period of misstatements; and (3) their manipulation of earnings is an effort to conceal their deteriorating performance metrics in order to support their overvalued stock. Based on these findings, Dechow et al., develop an "F-score", a metric that calculates likelihood of financial misstatements. An F-score of 1.4 or higher predicts that the firm may be an earnings manipulator.

Beneish et al., (2013) studied the relationship between the likelihood of accounting manipulation and stock returns. Using the Beneish (1999) prediction model, Beneish et al., (2013) find that "companies with a higher probability of manipulation (M-score) earn lower returns on every docile portfolio sorted by size, book-to-market, momentum, accruals, and short interest." Young and Peng (2013) examine a sample of 126 companies who committed fraud as per the Securities and Exchange Commission (SEC) Accounting and Auditing Enforcement Releases (AAER) from 1995–2009. The focus of their study is to determine if sell-side equity analysts can predict fraud. They find that analysts did drop coverage of those firms, which they later found committing fraud. They suggest that analysts' decision to drop coverage of a firm could serve as a predictor of its serious accounting violations, later on. They also find that companies whom they caught committing fraud were reporting "fictitious and premature revenue recognition, overvalued assets, and omitted or improper disclosures."

More recently, Grove et al., (2016) measure the value relevance of the SEC comment letters that raise questions about the potential quality of firms' financial statements. Based on extant financial distress literature, the authors use five well known financial distress models to calculate the "red-flag" scores that capture the magnitude of financial reporting problems of publically traded firms. These red-flag models are: "(1) a Quality of Revenue model; (2) the Sloan Accrual model; (3) the Altman Z-Score model; (4) the Beneish Model; and (5) the F-Score model." The authors then "combine the scores into a single red-flag forensic metric [score] by adding the scores from each of the five models." The red-flag metric assumes values ranging from zero (firms in least financial distress) to a value of five (firms experiencing highest level of financial distress). They find that the "questioned" firms' red-flag metric score is significantly higher on distress scores, that these firms underperformed, and this underperformance stayed longer when compared with a sample of control firms.

Hypothesis

As mentioned above, the incentives for which current research finds support, include: avoiding costly debt covenant violations (debt-covenant hypothesis), maximizing bonuses, other perks and rewards (management compensation hypothesis), warding off or managing harmful regulations (political cost hypothesis), and managing Wall Street expectations about earnings and other targets (Healy et al., 1999). All these managerial incentives are likely to gain strength during economic stress, in turn motivating managers to increase the magnitude of discretionary accruals. These incentives increase in the magnitude of discretionary accruals and may be negative or positive. For example, Healy (1985), finds that firms may take a "big bath" by resorting to all income decreasing accruals (negative discretionary accruals) if the positive accrual manipulation of earnings fail to reach the upper bound (target) during a firm's year of poor performance.

Similarly, Beaudoin et al., (2015) carry out an experiment to study the role of two independent variables related to aggressive earnings manipulation and identify ways to mitigate it—the incentive conflict and the CFOs' earnings management ethics. The authors define "incentive conflict" as "the presence or absence of a personal financial incentive that conflicts with a corporate financial incentive" and CFOs' earnings management ethics (''EM-Ethics,'' high vs. low), measured as "the

assessment of ethicalness of key earnings management motivations." They study the existence of personal or corporate incentive. The personal is defined as the "incentive to increase current period expenses to maximize bonus potential over a two-year period" whereas, the corporate is the "incentive to minimize expenses to achieve corporate targets," respectively. Their summarized results indicate that CFOs with a low estimation of "EM-Ethics" would book higher expense accruals when an incentive conflict was present (thus indicating a personal incentive) or lower expense accruals when an incentive conflict was not present (therefore indicating a corporate incentive). Thus, the ethical judgment of the CFO, they conclude, directly influences their earnings management behavior, and hence the level of discretionary accruals they will book based on the presence/absence of an incentive conflict.

The objective of this study is to examine the behavior of discretionary accruals during stressful economic periods (1990–1991; 2001; 2008–2009) for a select sample of U.S. companies over the last twenty years (1990–2009). Our motivation is to investigate whether companies, the ones that are prone to managing or manipulating earnings using discretionary accruals (suspect firms), are more inclined to do so during recessionary economic times than they would during non-recessionary economic times. Firms, during economic recessions, generally experience a significant drop in the demand of their products or services—hurting their sales and earnings targets. Research also shows that lenders use GAAP numbers, for example sales or earnings, as benchmarks in formulating debt covenants to monitor default risk and to curb managers' tendency to favor shareholders at their expense. Therefore, if managers fear being close to violating these benchmarks, then they are more likely to manipulate these GAAP numbers in order to prevent violation of debt covenants (Watts and Zimmerman, 1978; Leftwich, 1983). Similarly, research shows that during challenging economic times, a significant drop in a firm's sales and earnings adversely affect its share price. Hence, the manager may resort to manipulation of earnings in order to meet already lowered market expectations of earnings per share number. Another motivation for a manager would be for her/his firm to appear healthier than that of the firm's closest competitor (Kasznik, 1999; Burgstahler and Eames, 1998; Abarbanell and Lehavy, 1988).

More recently, Lee et al., (2017) study whether the "ability of operating cash flows to measure firm performance improve during periods of financial distress". Their motivation is based on the premise that the quality of earnings during financial distress deteriorates and are more prone to manipulation. Consequently, market perceives that the operating cash flows are more predictive of firm's future cash flows than are accrual earnings. Their findings are consistent with their hypothesis.

Our study examines changes in accrual-based earnings by comparing discretionary accruals during non-recessionary (control) periods with discretionary accruals during recessionary (test) periods. We employ the modified Jones model (1991) and also the modifications suggested by Cohen et al., (2008) to detect discretionary accrual in managing earnings. We hypothesize that during trying economic conditions (or economic shocks), managers of "suspect" firms are more inclined to manipulate earnings than they would during non-recessionary economic times. Thus, our main hypothesis is that the magnitude of the absolute value of discretionary accruals (both positive and negative accruals) will be significantly greater during recessionary periods (test periods) than it would during non-recessionary periods (control periods). We select the absolute value of discretionary accruals as the main metric of interest because it takes in to account the accrual reversals that occur subsequent to earnings management (Cohen, et al., 2008, p. 769).

Methodology

Sample Selection

Beneish et., al, (2013) in their study on the relationship between "earnings manipulation and expected returns," cite Schilit and Perler's (2010) work as one stream of research that conducts an in-depth analysis of firms' corporate financial statements and footnotes to detect and identify earnings manipulators. Our initial test sample is based on ninety-seven companies that were publicly flagged as earnings manipulators or were suspected of earnings manipulations between the periods 1990–2009 and that their conduct was analyzed and discussed in the book titled *Financial Shenanigans* (Schilit and Perler, 2010).

In order to conform to accepted sample selection methodology, we followed the screening criteria similar to that employed in Cohen et al., (2008). From the original sample of ninety-seven firms, we first screened and retained only those companies that were traded on the U. S. stock exchanges, had followed U.S. measures of accounting (GAAP), and had currency stated in U.S. dollars, in order to have conformity in financial reporting standards across our sample firms. Next, we dropped those firms whose data were not available on the Compustat database for the entire sample period (i.e., fiscal year ends 1990–2009). We further required that all sample firms should have accounting numbers that are needed to compute metrics for the earnings management model such as total assets, discontinued operations, income before extraordinary items, etc. This

requirement reduced our sample down to a total of forty firms. We then identified industry membership for each firm based on two-digit SIC codes. We made sure to have at least two firms in each industry grouping, consistent with Cohen et al., (2008). This last screening criterion narrowed our sample to twenty-nine firms that we used to test our expectations.

Table 1 [see pg 74] reports the final list of sample companies along with industry affiliation, time (year or years) when manipulations were detected, and the elements of financial statements that were manipulated. As mentioned earlier, the manipulation information identified in Table 1 is based on the book *Financial Shenanigans* (Schilit and Perler, 2010). Even though most firms were involved in multiple manipulations of accounting information, we reported, in Table 1, at least one key transgression for each company.

As shown in Table 1, most of the shenanigans occurred in the revenues and expenses domain. For example, AIG, from 1998 to 2000, indulged in building bogus reserves; W.R. Grace, during 1991–1995 periods, timed the release of reserves in future periods; Cisco Systems Inc. in 2001 improperly wrote-off a huge part of its inventory. Similarly, Electronic Arts in 2005 timed its revenue recognition to achieve a certain earnings number, whereas Tellabs in 2006 changed its Days in Sales number to achieve its desired accounting target.

Accrual-Based Earnings Model

We use the modified cross-sectional Jones model (Jones, 1991) as described in Dechow et al., (1995) and Cohen et al., (2008) as our primary model. The modified cross-sectional Jones model, estimated for each firm and each year, is described as follows:

$$\frac{TA_{it}}{Assets_{i,t-1}} = k_{1t}\frac{1}{Assets_{i,t-1}} + k_2\frac{\Delta REV_{it}}{Assets_{i,t-1}} + k_3\frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \qquad (1)$$

where, for fiscal *t* and firm *i*, TA represents total accruals, measured as a function of:

TA_{it} = $EBXI_{it} - CFO_{it}$, where EBXI is net income before extraordinary items less discontinued operations (Compustat variables IB-DO), and CFO is net cash flow from operating activities, taken from the statement of cash flows

$Assets_{i,t-1}$ = total assets for the current year

ΔREV_{it} = change in revenues from the preceding year

PPE_{it} = gross property, plant, and equipment (total)

We then use the coefficients (generated by the above model) to estimate the firm-specific normal accruals (NA_{it}) for our sample firms, following Cohen (2008):

$$NA_{it} = \hat{k}_{1t}\frac{1}{Assets_{i,t-1}} + \hat{k}_2\frac{(\Delta REV_{it} - \Delta AR_{it})}{Assets_{i,t-1}} + \hat{k}_3\frac{PPE_{it}}{Assets_{i,t-1}} \qquad (2)$$

where, for fiscal year *t* and firm *i*, NA represents normal accruals, where ΔAR_{it} is the change in accounts receivable from the preceding year, and all other variables are consistent with the definitions above. The addition of factoring in the change in accounts receivable serves to adjust for any changes due to credit sales from one year to the next. Putting the models together gives us our value for discretionary accruals (DA), which is the difference between total accruals and normal accruals:

$$DA_{it} = \frac{TA_{it}}{Assets_{i,t-1}} - NA_{it} \qquad (3)$$

Results

Descriptive Statistics: Earnings Management

Table 2 [see pg 75] reports descriptive statistics for our final sample of twenty-nine companies for years 1990–2009, based on a total of 608 observations. We extracted total assets, market capitalization, sales, sales growth, operating cycle (OC) in days, leverage, and market-to-book ratio for all firms. We also report total accruals, discretionary accruals (DA), Positive DA, Negative DA, and the absolute value of DA. These earnings management variables are derived using the methodology employed in Jones (1991) and Cohen et al., (2008). Table 2 also identifies the mean, median, standard deviation, twenty-fifth percentile and seventy-fifth percentile of the variables of interest. Sample firms are large based on asset size, sales, and

market capitalization and can be classified as growth firms given their very high market-to-book ratio. They also appear to carry moderate leverage. Our sample firms' average operating cycle consists of roughly 414 days, calculated as $\frac{(AR_t+AR_{t-1})/2}{(\frac{Sales}{360})}+\frac{(INV_t+INV_{t-1})/2}{(\frac{COGS}{360})}$. This shows that the sample firms would be reversing their accruals toward the end of the next year's quarter. And for this very reason, we use absolute value of accruals as our main test metric (Cohen et al., 2008).

Absolute Discretionary Accruals Comparison: Test and Control Periods

Table 3, Panel A [see pg 76], reports the absolute discretionary accruals (ADA) metric for the control period (1992–1999) and the test period (1990–1991). It also reports the t-test statistics of difference between the two ADA means. The results show that means are not statistically different. Table 3, Panel B, reports the absolute DA metric for the control period (1992–1999) and the test period (2001). It also reports the t-test statistics of difference between the two ADA means. The results again show that the averages are not statistically different.

Table 3, Panel C, reports the absolute DA metric for the control period (2002–2007) and the test period (2008–2009). It also reports the t-test statistics of difference between the two absolute DA means. Panel C results show that the absolute DA means are different and this difference is statistically significant at the .01 level or better.

Our results based on absolute value of discretionary accruals suggest that firms who were known manipulators or were prone to manipulation employed higher levels of income increasing DAs and income decreasing accruals during the economic recession (2008–2009). These results are consistent with our hypothesis over the 2008–2009 financial meltdown test period.

Positive Discretionary Accruals Comparison: Test and Control Periods

Table 4 [see pg 77], Panel A, reports the mean values of positive discretionary accruals (PDA) for the control period (1992–1999) and the test period (2001). It also presents the t-test statistics of difference between the two PDA means. The results show that means are not statistically different. Table 4, Panel B, reports the PDA mean values for the control period (1992–1999) and the test period (2001). It also provides the t-test statistics based on the difference between the two PDA means. The results again show that means are not statistically different.

Table 4, Panel C, reports the PDA mean values for the control period (2002–2007) and the test period (2008–2009). It also reports the t-test statistics of difference between the two PDA means. Panel C results show that the PDA means are different and this difference is statistically significant at the .05 level or better.

Our results suggest that a sub-sample of firms who were known manipulators or were more prone to manipulation employed higher levels of income increasing accruals during the economic recession (2008–2009) than they did during non-recessionary period. These results are consistent with our hypothesis of the 2008–2009 financial meltdown test period.

Negative Discretionary Accruals Comparison: Test and Control Periods

Table 5, Panel A [see pg 78], presents the negative discretionary accruals (NDA) mean values for the control period (1992–1999) and the test period (1990–1991). It also shows the t-test statistics of difference between the two NDA means. The results show that means are not statistically different. Table 5, Panel B, reports the NDA metric for the control period (1992–1999) and the test period (2001). It also provides the t-test statistics of difference between the two NDA means. The results again show that the means are not statistically different.

Table 5, Panel C, provides the NDA mean values for the control period (2002–2007) and the test period (2008–2009). It also presents the t-test statistics of difference between the two NDA mean values. The results of Panel C show that the NDA means are different and this difference is statistically significant at the .01 level or better.

Our results indicate that a sub-set of sample firms who were known manipulators or were prone to manipulation employed higher levels of income decreasing DAs during the economic recession (2008–2009). Hence, the results are consistent with our hypothesis of the 2008–2009 financial meltdown test period.

Discretionary Accruals across Various Economic Times—A Graphic Illustration

We present in Figure 1 [see pg 79], a graphic illustrations of the changes in absolute value of discretionary accruals (ADA) across all sample years (1990–2009). As shown in Figure 1 the ADA is positive across all years. This means that sample firms have been using income increasing accruals more than they used income decreasing accruals over the sample period.

In terms of the first test period (1990–1991), firms used a higher level of income increasing accruals. Another interesting point to note is that income increasing accruals show a surge around the 1999–2000 period—a time just before the tech bubble busted and triggered a market crash. Also note that income increasing accruals sky rocketed during the 2008–2009 period, that is, right around the time when financial meltdown triggered a deep economic recession.

Firm-Specific Example: Positive and Negative Accruals Behavior

Figure 2, Panels A, B, C, and D [see pg 79–81], present graphic illustrations of discretionary accrual behavior of a select number of test firms belonging to various industries. We provide positive discretionary accrual behavior of American International Group (AIG) in Panel A, negative discretionary accrual behavior of Microsoft (MSFT) in Panel B, positive discretionary accrual behavior General Electric (GE) in Panel C, and positive discretionary accrual behavior of Eli Lilly (LLY) in Panel D in order to show their earnings management behavior during the control and test periods. These firms' industry affiliations are: Insurance Carriers (AIG); Business Services (MSFT); Electronic and Electric Equipment (GE); Chemical and Allied Products (LLY).

As shown in the graphical illustrations, we observe a huge surge in AIG's positive DAs around 2001 and around 2008 test periods.

Next, in Panel B, we also observe a huge downward swing in Microsoft's negative DAs during the 2008–2009 test periods. In addition, Panel B also shows significantly negative DAs during 1990–1991 years. Interestingly, and as a side note, Microsoft accelerated its recognition of negative DAs from 1993 onwards that lasted up till the dot.com era. A review of news releases around 1992–1993 showed that a Federal Trade Commission inquiry was initiated in order to determine if Microsoft was abusing its monopoly powers in the marketing for its PC operating system. Thus, it can be argued that during that time, Microsoft's behavior conformed with the notion of political cost hypothesis—a clear incentive to appear less profitable, by employing maximum negative discretionary accruals (Watts and Zimmerman, 1986).

As presented in the graphical illustration of Panel C, we observe a surge in GE's positive DAs around 1990–1991, and around 2001. We find a very significant drop in positive DAs in 2008 test period from their peak in 2007. According to SEC's investigation, GE's earnings were same or greater than the analysts' expectation of earnings per share for every quarter and for each annual report for the periods 1995 to 2004. The SEC charge was that during 2002 and 2003, "high-level GE accounting executives or other finance personnel approved accounting that did not comply with generally accepted accounting principles" in order to meet the EPS forecast target (CFO, August 4, 2009). At the time, General Electric agreed to settle with the SEC and payed a fifty million dollar fine without acknowledging any wrong doing. According to a recent Wall Street Journal article, GE has disclosed another SEC probe in to its accounting practices. This article goes on to label GE as "a serial tweaker of financial disclosure." (The WSJ, January 24, 2018).

Next, in Panel D, we show Eli Lilly's positive DAs behavior. We observe a huge upswing in Eli Lilly's positive DAs during 1990–1991, during 2001, and during the 2008–2009 test years.

Conclusions and Areas for Future Research

This study investigates managements' efforts to manage earnings during economic recessionary periods. We employ the modified Jones model to formulate the absolute value of discretionary accruals metric. Our purpose is to detect discretionary earnings management behavior for a sample of twenty-nine firms that were prone to or had a higher likelihood of earnings manipulation during stressful (recessionary) economic times. Our sample was based on the book titled *Financial Shenanigan* by Schilit and Perler (2010). We examined three distinct economic recessionary periods (1990–1991; 2001; 2008–2009) based on an overall 1990–2009 sample period. Our results suggest that firms who were known manipulators or were prone to manipulation employed a far higher level of absolute discretionary accruals during the economic recession (2008–2009) than they did during non-recessionary economic periods. Our results are consistent with our hypothesis for the 2008–2009 financial meltdown test period.

We also presented graphic illustrations of full sample based on the absolute value of discretionary accruals metric. More importantly, we present graphic illustrations of discretionary accrual behavior of a select number of test firms affiliated with various industries. We report the positive discretionary accrual behavior of American International Group (AIG), negative discretionary accrual behavior of Microsoft (MSFT), positive discretionary accrual behavior General Electric (GE), and positive discretionary accrual behavior of Eli Lilly (LLY) in order to show their earnings management behavior during the control and test periods.

Our research findings have implications for various stakeholders. Freeman and Reed (1983) define stakeholders as "those groups who have a stake in the actions of the corporation." Research has shown that adopting a practice of minor earnings management, over time, tend to adversely impact managers' business ethics and the ethical environment of their organizations. This, in turn, emboldens managers to indulge in more aggressive tweaking, eventually leading to incidence of fraud (Gino and Bazerman, 2009; Harris et al., 2010; Burgstahler and Chuk, 2011; Johnson et al., 2012). In an earlier section of this article, we document GE's financial manipulation case. According to the SEC, GE tweaked earnings, every quarter and every year, from 1995 onwards. For the years 2002 and 2003, they were charged for noncompliance with GAAP. As a consequence, GE shareholders suffered significant wealth loss due to stock price decline once the news went public. We argue that such earnings tweaking behavior if detected early by auditors, academic researchers, sell-side analysts, short-sellers, and corporate boards, could protect stakeholders from significant monetary and nonmonetary losses. In addition, extant literature shows an inverse relationship between the quality of financial disclosures and the cost of capital. That is, capital markets become less efficient in allocating capital. Thus, our findings have implications for research that links the quality of financial reporting and cost of capital.

According to Erickson (Audit Analytics, April 13, 2017), the top ten global auditing firms have "audited over sixty-one percent (3,985) of the 6,460 public registrants." Our evidence lends support to the notion that the audits conducted by ten global accounting firms warrants much higher level of oversight and vigilance during challenging economic times. The same heightened vigilance is expected from corporate boards, regulators, and other overseeing bodies, especially, by The Public Company Accounting Oversight Board (PCAOB).

Our findings have implications for the PCAOB's role in "standards setting, inspections, enforcement, and outreach programs," and its mission "...to oversee the auditors of public companies, protect the interests of investors, and further the public interest in the preparation of informative, accurate, and independent audit reports."

Caramanisa and Lennox (2008) argue that "Audit effort affects the probability that the auditor detects an existing problem, whereas auditor independence affects the probability that the auditor reports a detected problem." They find that "low audit effort increases the extent to which managers are able to report aggressively high earnings." Hence, our findings would support the notion that auditors have to increase their efforts in audit engagements during recessionary (challenging) economic periods.

Our future research efforts could examine the behavior of firms belonging to the financial industry (primarily banks) to determine how managers manage some of their discretionary accruals, such as loan loss reserves during tough economic times. In addition, we can investigate how banks managed their accounting numbers prior to and after financial crash of 2007–2008. This investigation can be extended to sample that incorporates the whole financial services industry.

Similarly, we could identify various firm specific incentives that could explain a manager's questionable ethical choice in terms of one particular discretionary accrual over others. We can further extend our research to include real discretionary operating actions that managers take such as deferring research and development, advertising, and skill development and training expenditures to manage earnings in such a way so as to reach a desired earnings target during trying economic periods.

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Table 1: Sample Firms (n=29)

Industry	Manipulator	Years	Financial Shenanigans
Insurance Carriers	AIG	1998–2000	Building bogus reserves
Electronic and Electric Equip.	Alcatel-Lucent	1990s	Recognizing restricting charges every period
Automotive Dealers and Service	AutoZone	2004	Recording Financing cash inflows as operating
Wholesale - Nondurable Goods	Cardinal Health	2004	Selling accounts receivable to embellish cash
Industrial Machines and Equip.	Caterpillar	2008	Manipulating discount rate to reduce pension expenses
Chemical and Allied Products	Cephalon	2004–2005	Classifying operating cash outflows as investing
Industrial Machines and Equip.	Cisco Systems	2001	Improperly writing off inventory
Industrial Machines and Equip.	Dell Computer	2003–2007	Manipulating reserves
Business Services	Electronic Arts	2005	Minimizing current expenses for software development costs
Chemical and Allied Products	Eli Lilly and Co	2008	Manipulating discount rate to reduce pension expenses
Electronic and Electric Equip.	General Electric	2002	Altering accounting for derivatives to avoid reduction in earnings
Transportation Equipment	General Motors	2006	Presenting one-time gains as recurring
Health Services	HealthSouth Co.	pre-1997	Recording bogus earnings
Business Services	IBM	1999	Increasing earnings with one time gain
Electronic and Electric Equip.	Intel Corp	2006	Mixing revenues with gains
Chemical and Allied Products	Johnson and Johnson	2008	Manipulating discount rate to reduce pension expenses
Chemical and Allied Products	Merck and Co	2003	Recording inventory as long term assets
Business Services	Microsoft	1998–1999	Timing revenue recognition and the release of reserves
Transportation Equipment	Navistar Intl. Corp	2003	Changing pension assumptions to reduce pension expense
Business Services	Oracle	1995–2001	Changing accounting treatment of subsidiary to avoid I.S. impact
Automotive Dealers and Service	Pep Boys	2004	Recognizing cash inflows as operating and outflows as financing
Instruments and Related Products	Raytheon	2004	Using aggressive assumptions to accelerate revenues
Industrial Machines and Equip.	Sun Microsystems	2004	Reporting one-time operating cash flows as if sustainable
Electronic and Electric Equip.	Tellabs	2006	Changing days sales outstanding metric to hide problems
Health Services	Tenet Healthcare	2004	Reporting investing cash flows as operating
Electronic and Electric Equip.	Tyco International	1999–2002	Manipulating revenues and expenses
Insurance Carriers	UnitedHealth Group	1994–2005	Backdating options
Chemical and Allied Products	W.R. Grace	1991–1995	Timing the release of reserves in future periods
Business Services	Xerox Corporation	1999	Underestimating discount rate to accelerate revenue recognition

Table 2: Descriptive Statistics

	25th Percentile	Mean	Median	75th Percentile	Standard Deviation
Panel A: Full Sample, 1990–2009 (n=608)					
Total Assets	3,502.07	58,182.30	14,248.60	43,147.00	139,835.62
Market Capitalization	3,437.41	50,963.49	16,349.17	64,567.18	80,272.28
Sales	3,454.10	27,842.01	13,673.00	31,519.00	38,869.69
Growth of Sales	0.0127	0.2555	0.0953	0.2048	2.3588
OC (Days)	225.28	414.13	294.34	417.55	1,136.36
Leverage	0.4404	0.6049	0.5897	0.8018	0.2546
Market-to-Book	1.74	17.99	3.07	5.28	108.27
Total Accruals	-0.0851	-0.0528	-0.0512	-0.0197	0.0987
DA	-0.0352	0.0000	0.0057	0.0377	0.0879
Positive_DA	0.0169	0.0513	0.0339	0.0612	0.0705
Negative_DA	-0.0793	-0.0612	-0.0384	-0.0168	0.0644
ABS_DA	0.0169	0.0558	0.0353	0.0708	0.0679

Variable Definitions:

Total Assets = Compustat variable AT

Market Capitalization = price per share (Compustat variable PRCC_F) times the number of shares outstanding (Compustat variable CSHO)

Sales = Compustat variable SALE

Growth of Sales = change in sales divided by lagged sales

OC (Days) = the operating cycle in days calculated as $\frac{(AR_t+AR_{t-1})/2}{(\frac{Sales}{360})}+\frac{(INV_t+INV_{t-1})/2}{(\frac{COGS}{360})}$

Leverage = total liabilities (Compustat variable LT) divided by total assets (Compustat variable AT)

Market-to-Book = the market capitalization divided by the book value of common equity (Compustat variable CEQ)

Total Accruals = the difference between operating cash flows (Compustat variable OANCF), adjusted for extraordinary items and discontinued operations (Compustat variable DO) and income before extraordinary items (Compustat variable IB), divided by lagged total assets

DA = discretionary accruals computed using the Modified Jones Model

Positive_DA = the value of positive discretionary accruals computed using the Modified Jones Model

Negative_DA = the value of negative discretionary accruals computed using the Modified Jones Model

ADA = the absolute value of discretionary accruals computed using the Modified Jones Model

Table 3: Absolute Discretionary Accruals for Control vs. Test Periods

Panel A:	***Absolute DA 1990–1991 (Recessionary Period)***	***Absolute DA 1992–1999 (non-recessionary period)***
Mean	0.06	0.06
Variance	0.00	0.00
Observations	58	232
t Stat	0.75	
P(T<=t) two-tail	0.46	
Panel B:	***Absolute DA 2001 (Recessionary Period)***	***Absolute DA 1992–1999 (non-recessionary period)***
Mean	0.05	0.06
Variance	0.00	0.00
Observations	29	232
t Stat	-0.66	
P(T<=t) two-tail	0.51	
Panel C:	***Absolute DA 2008–2009 (Recessionary Period)***	***Absolute DA 2002–2007 (non-recessionary period)***
Mean	0.11	0.04
Variance	0.02	0.00
Observations	54	174
t Stat	**3.58**	
P(T<=t) two-tail	**0.00**	

Total Accruals = the difference between operating cash flows (Compustat variable OANCF), adjusted for extraordinary items and discontinued operations (Compustat variable DO) and income before extraordinary items (Compustat variable IB), divided by lagged total assets

DA = discretionary accruals computed using the Modified Jones Model

Positive_DA = the value of positive discretionary accruals computed using the Modified Jones Model

Negative_DA = the value of negative discretionary accruals computed using the Modified Jones Model

ADA = the absolute value of discretionary accruals computed using the Modified Jones Model

Table 4: Positive Discretionary Accruals for Test vs. Control Periods

Panel A:	***Positive DA 1990–1991 (recessionary period)***	***Positive DA 1992–1999 (non-recessionary period)***
Mean	0.06	0.05
Variance	0.00	0.00
Observations	31	125
t Stat	0.54	
P(T<=t) two-tail	0.59	
	Positive DA 2001 (recessionary period)	***Positive DA 1992–1999 (non-recessionary period)***
Mean	0.04	0.05
Variance	0.00	0.00
Observations	17	125
t Stat	-0.89	
P(T<=t) two-tail	0.38	
	Positive DA 2008-2009 (recessionary period)	***Positive DA 2002-2007 (non-recessionary period)***
Mean	0.10	0.04
Variance	0.03	0.00
Observations	28	97
t Stat	**2.17**	
P(T<=t) two-tail	**0.04**	

Total Accruals = the difference between operating cash flows (Compustat variable OANCF), adjusted for extraordinary items and discontinued operations (Compustat variable DO) and income before extraordinary items (Compustat variable IB), divided by lagged total assets

DA = discretionary accruals computed using the Modified Jones Model

Positive_DA = the value of positive discretionary accruals computed using the Modified Jones Model

Negative_DA = the value of negative discretionary accruals computed using the Modified Jones Model

ADA = the absolute value of discretionary accruals computed using the Modified Jones Model

Table 5: Negative Discretionary Accruals for Control vs. Test Periods

Panel A:	***Negative DA 1992–1999 (non-recessionary period)***	***Negative DA 1990–1991 (recessionary period)***
Mean	-0.06	-0.07
Variance	0.00	0.00
Observations	107	27
t Stat	0.51	
P(T<=t) two-tail	0.62	
Panel B:	***Negative DA 1992–1999 (non-recessionary period)***	***Negative DA 2001 (recessionary period)***
Mean	-0.06	-0.06
Variance	0.00	0.00
Observations	107	12
t Stat	0.005	
P(T<=t) two-tail	0.996	
Panel C:	***Negative DA 2002–2007 (non-recessionary period)***	***Negative DA 2008–2009 (recessionary period)***
Mean	-0.05	-0.11
Variance	0.00	0.01
Observations	77	26
t Stat	**3.20**	
P(T<=t) two-tail	**0.00**	

Total Accruals = the difference between operating cash flows (Compustat variable OANCF), adjusted for extraordinary items and discontinued operations (Compustat variable DO) and income before extraordinary items (Compustat variable IB), divided by lagged total assets

DA = discretionary accruals computed using the Modified Jones Model

Positive_DA = the value of positive discretionary accruals computed using the Modified Jones Model

Negative_DA = the value of negative discretionary accruals computed using the Modified Jones Model

ADA = the absolute value of discretionary accruals computed using the Modified Jones Model

Figure 1: Absolute Discretionary Accruals—Full Sample Period (1990–2009)

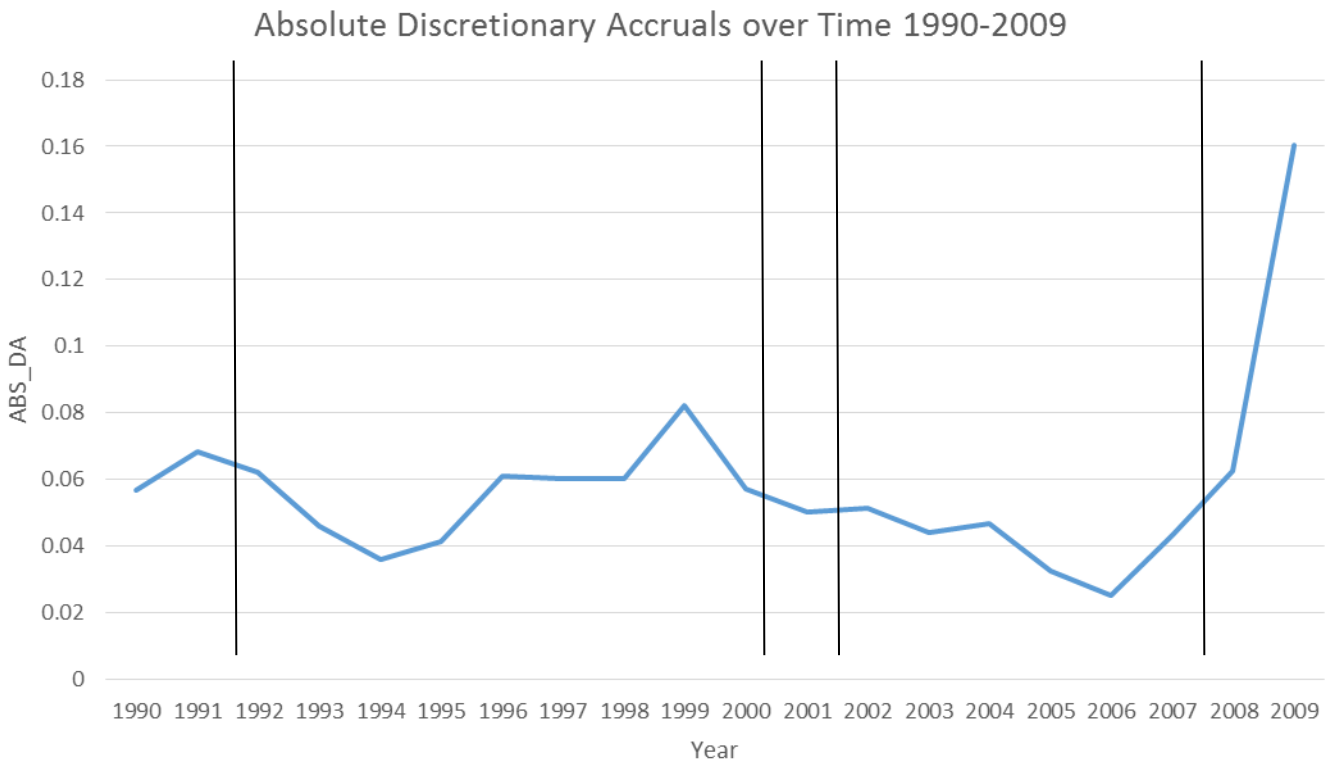

Figure 2: Panel A: Positive Discretionary Accruals over the Control and test Periods—American International Group

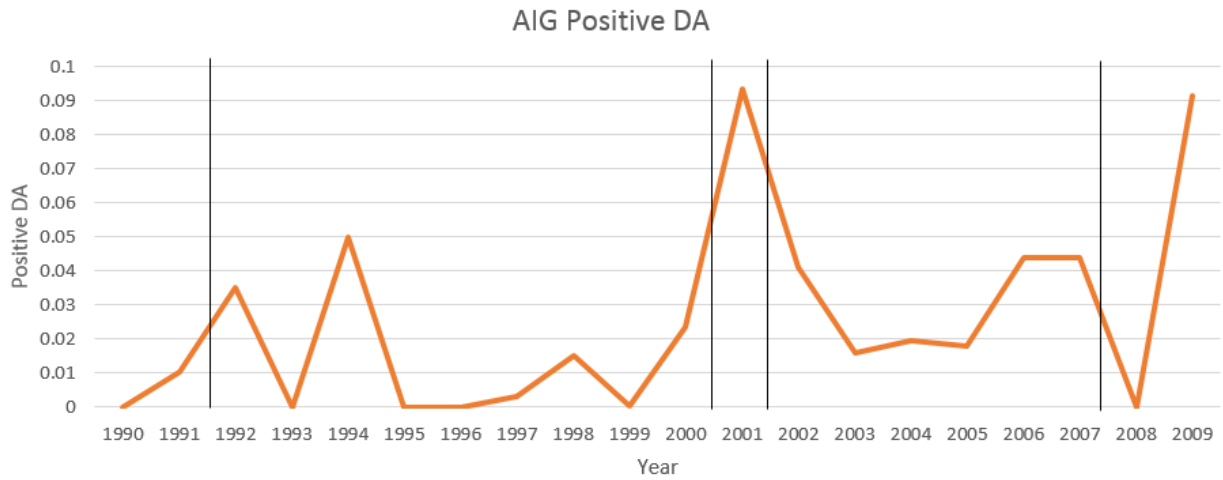

Figure 2: Panel B: Negative Discretionary Accruals over the Control and test Periods—Microsoft

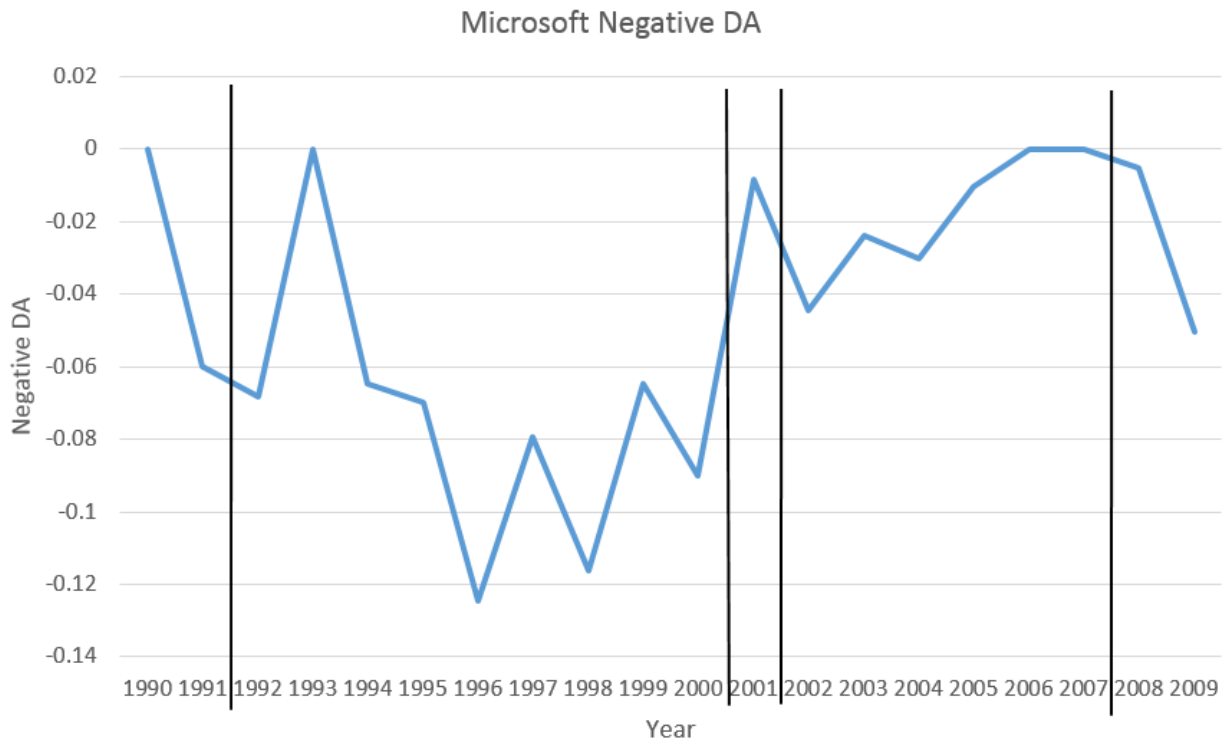

Figure 2: Panel C: Negative Discretionary Accruals over the Control and test Period—General Electric

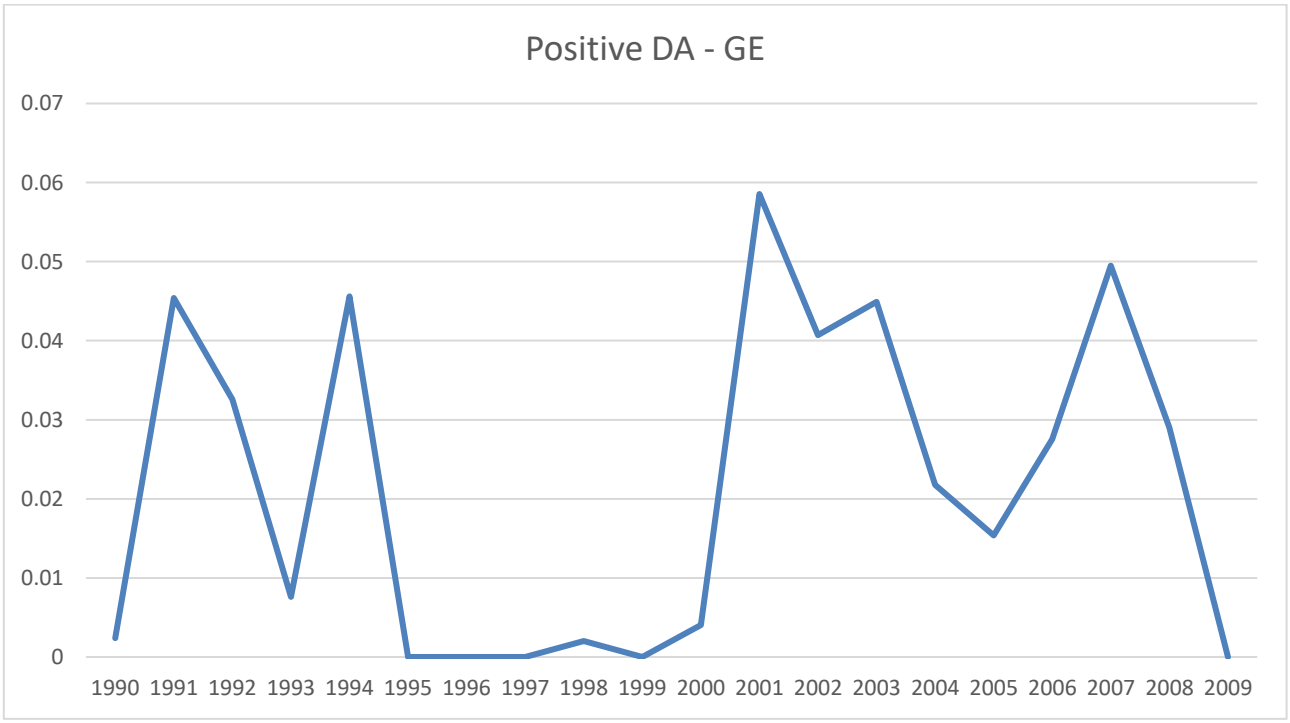

Figure 2: Panel D: Negative Discretionary Accruals over the Control and test Periods—Eli Lilly