

## On the Variance of Financial Statement Accounts and Earnings Management

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### *Abstract*

*This study examined the relationship between the variance of selected financial statement accounts (Accounts Receivable (AR); selling, General and Administrative expense (SG&A); and Net Change in Accruals (NCA)) and the frequency with which a firm meets, or beats analysts' earnings forecast. The study focused on the consumer goods sector. The objective was to examine if the selected financial statement of accounts are purposefully used by management to manipulate earnings in order to meet and/or beat analysts' earnings forecasts. All prior research on earnings management and management's earnings guidance used estimates of discretionary accruals as the predominant earnings management tool. The estimates of the discretionary accruals were based on Jones model, and/or modified Jones model. The validity of these studies is very much dependent on the relationship between the estimated discretionary variables and their actual levels. Researchers looked at the variance of those accounts that are suspect for earnings management. Researchers believed that these variables will exhibit markedly different variance if manipulated to meet forecast estimates than if they vary with the normal business operations. Researchers found that there is a significant difference between the variance of SG&A and NCA of the firms that meet and/or beat the analysts' forecast and those that do not. Researchers also found that accounts receivable was significant in explaining the frequency of meeting and/or beating the analysts' forecast. The other explanatory variables (NCA and SG&A), were not statistically significant, suggesting that real economic activity may not be a potent tool for earnings management*

**Key Words:** Jones Model, Sales, Accruals, Inventory, Accounts Receivable, GAAP.

### **Introduction**

The objective of this research is to investigate the relationship between the variability of selected financial statement accounts that are subject to manipulation such as accounts receivables (AR), selling, general, and administrative expenses (SG&A), and net change in accruals (NCA) that management may use as a vehicle for earnings management. The ability of firms to consistently meet and/or beat analysts' earnings forecast has always been a perplexing issue. The ability of analysts to forecast the earnings of the firm accurately without insider information is a task that may seem impossible. Yet, it is done on a regular basis. The

earnings of a firm is defined by the Financial Accounting Standards Boards (FASB) as the difference between revenues and expenses (Burkholder, 2009); of course these standards are subject to broad interpretation in the recognition of revenues and expenses. Thus, there exist many opportunities for management to manipulate its earnings to bring it in line with the analysts' forecast.

The corporate form of business organization is the most successful of all business forms. This is because of its ability to raise large sums of capital by issuing shares to the public and offering shareholders limited liability. To provide owners, potential owners, and other stakeholders with information about the condition of the firm, management has to file period financial statements with the Securities and Exchange Commission (SEC). These statements are the basis for estimating the riskiness and value of the firm. As a result, the validity and accuracy of these documents are essential for the efficient allocation of resources within the economy.

With all the financial scandals of the early 2000's such as WorldCom and Enron, the accuracy of these documents has come under serious challenge as some managers have resorted to distorting the picture of the firm in order to enhance their own goals. Habib and Hansen (2008) stated that earnings management is "purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain." Koh et al. (2008) and McNichols and Stubben (2008) provided evidence of the significance of earnings announcement and the effect it has on firm's stock price. This study provides both shareholders and other stakeholders another tool for detecting the practice of earnings management that may not be readily evident from current methods available in the literature. Auditors and regulators can use these new findings to determine if the financial statements are true representations of the firm's financial position and operations. Koh, Matsumoto, and Rajgopal (2008) have argued that earnings management presents a false picture of the firm and is illegal, as well as unethical, thus making it difficult to determine the future prospects of the firm. One thing common with most of the studies is that they all use estimation of discretionary accruals based on Jones model, and/or modified Jones model. The validity of these studies is very much dependent on the relationship between the estimated discretionary variables and their actual levels. This current study looked at the variance of those accounts that are suspect for earnings management. It is believed that these variables will exhibit markedly different variance if manipulated to meet forecast estimates than if they vary with the normal business operations without tampering.

This paper investigates the variability of real business activities in the form of discretionary expenditures (accounts receivable, selling, general and administrative expenses, and net change in accruals), as an earnings management tool. All prior research that looked at earnings management (Burgstahler & Eames, 2003; McNichols & Stubben, 2008; Chen, Elder, & Hung, 2010), and management's earnings guidance (Libby, Tan & Hutton, 2006), used estimates of discretionary accruals as the predominant avenue through which management tries to meet and/or beat analysts' earnings estimates.

The definition of earnings' management in the literature depends on the researcher's perspective that is consistent with the study hypothesis. Jara and López (2011) defined earnings management as a strategy used by the management of a company to modify the firm's earnings so that the figures match a predetermined target. "Earnings management involves the alteration, or manipulation, of firm reported economic performance by insiders, either to mislead certain stakeholders or to influence contractual outcomes," (Wang, Sheu, & Chung, 2011). Another most cited definition was that by Healy and Wahlen (1999):

*Earnings management occurs 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 (p.368).*

Generally Accepted Accounting Principles (GAAP) allows management to use judgment in the estimation of certain economic activities such as the depreciation of long lived assets, (straight line or accelerated method) and inventory valuation (LIFO, FIFO or weighted average) in the determination of the cost of goods sold (Matsuura, 2008). GAAP also allows management to exercise judgment in assessing working capital in association with cost allocation and revenue; in essence, accruals are used to create true/fair financial statements through the allocation of revenues and costs to their appropriate period (Hettihewa & Wright, 2010). As an earnings management tool, inventory valuation can be very instrumental in an inflationary environment. Under this condition, a firm with multiple or deep FIFO layer can switch from LIFO to FIFO to reduce the cost of goods sold and hence increase earnings going forward as the effect of inflation is reflected only in the price of goods sold and not in their cost. The firm only has to construct a pro forma on the effect of the new inventory valuation on previous financial statement. Working capital valuation can also affect earnings. Under this situation, allowance for bad debt loss can be manipulated to increase earnings. Secondly, the credit standard can be adjusted to encourage sales growth at the expense of receivables quality. Costs and revenues from goods with multiple deliverables in terms of time and performance can be adjusted in directions that can help a firm to meet its target earnings estimate.

## Background

During corporate's earnings announcement season, the financial news is filled with the effect of firms meeting, beating or missing the financial analysts' forecast of the reporting period's earnings report. The use of analysts' forecast as a metric for a firm's performance is of concern. How can the analysts who are external to the firm, be in a position to determine what a firm's future period earnings should be? The ability of analysts to accurately predict the firm's earnings seem to be preposterous.

The period earnings is a result of changes in many variables that affect the price of the firm's products, the mix of the firm's product, the costs of the firm's inputs, all of which can be as unpredictable as the firm's utility bill for the period. This uncertainty notwithstanding, several firms consistently meet and/or beat the analysts' consensus estimates. The key word here is consensus, meaning that the number is the average of the forecasts of the analysts that follow the firm. The use of the term average entails a variance. Intuitively, it is easier to forecast an average of observations than to forecast what the observation will be at a point in time, yet analysts and the financial markets react very strongly to small deviations from this estimate. This situation creates a very strong incentive for management to manipulate the numbers to mirror the analyst's forecast. These incentives according to Koh, Matsumoto, and Rajgopal (2008) have led to "some managers to continue to view meeting/beating analyst expectation as important"; and provide managers strong incentives to walk down analyst earnings forecast in order to increase their chances of hitting final forecast (Athanasakou et al., 2009).

A cursory look at the literature revealed that a significant amount of research has been devoted to studying this specific situation under the heading of earnings management (Chi, Lisie, & Pevzner, 2011; Healy & Wahlen, 1999; Fazeli & Rasouli, 2011; Lee & Swenson, 2011; Aflatooni & Nikbakht, 2010; Tahir, Sabir, & Shah, 2011; Dechow, Hutton, Kim, & Sloan, 2011). However, the literature also revealed that the studies relied on a statistical estimation of the independent variable used in testing for evidence of earnings management. This raised the issue of both construct validity and reliability. Are the estimated residual accruals (considered to be the portion of the firm's accrual that are subject to manipulation by management) the variables used by management to manipulate earnings? Are the expected accruals the true non-discretionary accruals as the models assume? These questions led us to consider an alternative measure of independent explanatory variables that are not subject to estimation errors or problems, the variance. This is the essence of the research, to investigate the role of variance in the detection of incidence of earnings management.

## Research Questions

1. Is there a difference in the means of the variance of the firm's selected financial statement accounts based on the frequency of meeting or beating analysts forecast?
2. Is there a relationship between the variance of the selected financial statement account variables and the probability of meeting or beating analysts forecast?

## Hypotheses

The ANOVA analysis was used to test the following hypotheses:

- H1<sub>0</sub>: There is no significant difference in the means of the variance of the firm's selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) based on the frequency of meeting or beating analysts forecast.

The following financial statement accounts are used in the studied:

- a. Accounts Receivable (AR)
- b. Selling, General, and Administrative expenses (SG&A)
- c. Net change in accruals, as measured by the difference in net income and cash flow from operating activities (NCA).

These accounts were selected to represent the possible use of earnings management in each of the three major financial statements. This approach minimizes the incidence of omitted variable bias in the findings that may result if only one account and one financial statement class is used. Accounts receivable variance captures frequent changes in credit policy, which can be a means of increasing sales to meet earnings estimate. Frequent changes in SG&A could be an attempt by management to alter its overhead and other non-direct product related expenses in response to analysts' earnings forecast. Finally, the NCA is expected to capture other attempts to use net working capital as an earnings management tool. These tests were performed for each of the financial statement accounts that are subject to manipulation.

The regression analysis tested the following hypothesis:

- H2<sub>0</sub>: There is no significant relationship between the variance of the selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) and the probability of meeting or beating analysts forecast.

Probability of meeting or beating analysts' forecast is defined as the percentage of times the firm meets or beats analysts' forecast over the study period. This variable is normalized using the average percentage of the entire sample of firms. The paper is organized as follows. Section II gives a brief review of literature dealing with earnings management as relevant to this study. Section III addresses the methodology used in the research along with research design, the population and sampling procedures, assumptions, limitations, and delimitations encountered with the study. Section IV presents data analysis and results. Section V concludes the study by presenting discussion, conclusions, and recommendations.

## Literature Review

There has been numerous research on earnings management that examines how managers manipulate certain financial statement accounts such as accruals and, or real economic activities for their own self-interest (Cohen & Zarowin, 2010; Ibrahim, Xu & Rogers, 2011; Roychowdhury, 2006). Wang, Sheu, and

Chung (2011) stated that earnings management involves the alteration, or manipulation, of firm reported economic performance by insiders, either to mislead certain stakeholders or to influence contractual outcomes. Given that under generally accepted accounting principles (GAAP), management is allowed a choice of accounting methods, this provides a possible avenue for earnings management. Earnings management is not an illegal activity when used within the confines of GAAP. There are different avenues for potentially managing earnings such as the use of accruals, changes in accounting methods, and changes in capital structure (Jones, 1991). In general, these avenues entail the management of operational real activities. According to Roychowdhury (2006), “real activities manipulation is management actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds.”

### **Earnings Management**

Earning is an item of the income statement that can be manipulated. Earnings is a product of cash flows and accruals so it can be managed through means such as accruals, changes in capital structure, and changing accounting methods as stated by Jones (1991). Jones uses total accruals in the study of earnings management by firms in the import business. These firms can benefit from import relief and thus will attempt to decrease earnings during import relief investigations by the United States International Trade Commission (ITC). One unique aspect of the study is that it used the discretionary component of total accrual instead of the discretionary aspect of single accrual. Jones focused more specifically on discretionary accruals, and noted “discretionary accruals are used as a measure of managers’ earnings manipulations” (Jones, 1991). This study gave birth to the standard Jones model by decomposing accrual into discretionary and non-discretionary components. The decomposition was based on what Jones described as normal total accruals based on the expectations of the levels of accruals that should be consistent with “changes in economic conditions” (p. 223). Based on this model, one concludes that firms in the import business have more “income-decreasing accruals on the year ITC completed its investigation than would otherwise be expected” (Jones, p. 223).

Dechow, Sloan and Sweeney (1995) study was based on five previous models (The Healy Model, The DeAngelo Model, The Jones Model, The Modified Jones Model, and The Industry Model) “of the process generating nondiscretionary accruals.” Dechow et al. extended the Jones model to what is now known as the modified Jones model by adjusting change in sales for the change in receivables.

“The only adjustment relative to the original Jones Model is that the change in revenues is adjusted for the change in receivables in the event period. The original Jones Model implicitly assumes that discretion is not exercised over revenue in either the estimation period or the event period. The modified version of the Jones Model implicitly assumes that all changes in credit sales in the event period results from earnings management” (Dechow et al., 1995, p. 9).

Dechow et al. (1995) reasoned that it is easier for managers to manage earnings by using discretion over the revenue recognition of credit sales than using discretion over recognition of revenue on cash sales. This is very true as in practice where there is multiple deliverables; it becomes even more difficult as to when and to what item the costs should be applied. Consequently, it is up to management discretion as to how to apportion the revenue, and depending on the situation, the associated cost. This creates an opportunity to manage the earnings.

### **Accrual Based Earnings Management**

Most literature has addressed the subject of earnings management by management through manipulation of accruals by decomposing it into discretionary and nondiscretionary components (Jones, 1991). Accrual is

the difference between earnings and cash flow from operations. Islam, Ali and Ahmad (2011) describe the problems associated with the use of accruals in identifying earnings management practices. Islam et al. noted that discretionary accruals represent managerial interventions into the financial reporting process. They note, "The trick for researchers is to identify the discretionary component of accruals (p. 120). Islam et al. summarize three widely used techniques for estimating discretionary accrual as follows:

- Use of total accruals as an estimate of discretionary accruals
- Use of differences in total accruals between periods
- Use of regression techniques to separate the discretionary and non-discretionary components of accruals

Islam et al. also noted that accruals are a sure way for managers to manage earnings because it does not normally require disclosure, and most often auditors do not question it. Islam et al. use the extended Jones model to study the incidence of earnings management among 142 listed firms drawn from the Dhaka Stock Exchange. The extended Jones model uses "current period expenses, trade accounts payable at year-end, depreciation expense, and retirement benefits expense" in addition to total assets, current period revenues, balance of trade accounts receivable at year-end, and gross property, plant and equipment at year-end employed by the modified Jones model, to determine existence of earnings management. The focus of the Islam et al. study seems to be the estimation of the discretionary accruals. They conclude that their model has a higher R-squared than the original modified Jones model (8.9 percent compared to 83.8 percent for their extended model). This result merely identifies the existence of discretionary accruals. It fails to identify the intended use of or role of these discretionary accruals by management to mislead or misrepresent the true financial position of the firm.

Accrual models, it is argued, creates bias when the primary focus of the model is estimating discretionary accruals (Stubben, 2010; Jones, 1991; Dechow et al., 1995; Lee & Swenson 2011). Stubben (2010) examined revenue and accrual models in their ability to detect both simulated and actual earnings management. He finds that revenue models are less biased than accrual models, and that revenue models are better specified and more powerful in comparison to the accrual model. He also found that the revenue model is more likely to detect a combination of revenue and expense manipulation. Stubben's methodology and findings though significant, are very dependent on the simulation of revenues and expenses. In the study, Stubben assumed a one percent of total asset manipulation of revenues, one percent of total assets manipulation of expenses and a combination of both one percent of total asset manipulation of revenues and expenses. The Stubben study has several limitations. The study does not specify the goal or objective of the manipulation. The ability of the model to detect manipulation could be the increase in error term associated with the artificial nature of the manipulation (simulation). In addition, the use of control firms assumes that these firms are exactly the same as the study group and hence the difference in the performance is solely due to the treatment. While this may be true or applicable in the study of living organisms, its validity to firms is questionable. Nevertheless, the study in its concluding remarks raises a valid research question "whether the significant results on revenue models were driven by misspecifications of accrual models or whether insignificant results were driven by the accrual models' lack of power" (p.713).

### **Real Activities Earnings Management**

Another means used by management to manage their earnings is by manipulating real activities (real earnings management) in order to meet certain earnings forecast. Real earnings management is not the same as accounting earnings management (accruals). According to Hashemi and Rabiee (2011a), "accounting earnings management involves pure accounting statement choices under GAAP, while real earnings management does not involve accounting statement choices but instead involves changes in the

timing or structuring of operations, investments, and/or financing transactions that have cash flow consequences” (p. 25). Hashemi and Rabiee, show that with firms listed in Tehran Stock Exchange, there is a relationship between the use of earnings management and the expectation of unexpected income. They show that firms employ real earnings management first and then later augment with accounting earnings management to achieve desired income. They caution that their findings may be dependent on the income smoothing and unexpected earnings model employed in the study.

Fazeli and Rasouli (2011) investigated real earnings management as relates to the emerging market using (Tehran Stock Exchange). Their study examined cash flow from operations, production costs, and discretionary expenses firms listed in Tehran Stock Exchange from 2002 – 2007, as the avenue to prevent negative earnings for the year. Based on the estimated expected values of the real earnings management variables, the error terms of the regression were treated as the abnormal and therefore the instrument of earnings manipulation. Given this construct, firms in the sample that had small positive earnings were shown to also have a higher level of the unexpected variables. Fazeli and Rasouli research was based on Roychowdhury (2006) who made strong case for real activities manipulation by management.

Roychowdhury developed an empirical method to detect real activities earnings management by examining cash flow from operations, production costs and discretionary expenses; noting that these variables will capture the actions of managers as regarding the effect of real operations better than accruals. Both studies show that firms try to avoid losses by engaging in overproduction as to lower the cost of goods sold, to improve profit margins firms will reduce their discretionary expenditures, and another means used by firms is offering price discounts to temporarily increase sales (Roychowdhury, 2006; Cohen & Zarowin, 2010; Fazeli & Rasouli, 2011). The results of Fazelli and Rasouli are plagued by the use of the error term from a regression model as a measure of earnings management. Moreover, classification into whether a firm managed earnings or not was based on whether or not the firm reported small positive earnings.

Pae and Quinn (2011) investigate whether firms that issue new bonds engage in earnings management, and if they do whether they use accrual-based or real activities. Following Roychowdhury’s model, they use abnormal cash flow from operation (CFO), abnormal discretionary expenses, and abnormal production cost to proxy for real activities management. With a sample of bonds issuing firms from 1992 through 2002, they find that these firms increase their accruals before issuing bonds, and then decrease the accruals after the issuance year. They also find that bond issuers also engage in real earnings management. As refreshing as it is to know that firms that issue bonds not only manage earnings via accruals but that they also use real operating activities to manage earnings, the study still relied on the estimation of normal and abnormal accruals.

Cohen, Mashruwala, and Zach (2010) examine whether managers engage in real earnings management to meet quarterly financial reporting benchmarks. Their study uses advertising expenditures as the instrument of real earnings management. Evidence of earnings management is the abnormal or residual of a firm’s monthly advertising time series regression.

To identify suspect firms, they use firms that “fall in the areas immediately to the right of zero, in the cross-sectional distribution of (1) earnings before extraordinary items, (2) changes in earnings relative to the same quarter in the previous year, and (3) analysts’ forecast error” (p. 817). They find that managers of the sample firms reduce advertising spending to avoid losses and earnings decrease. On the contrary, they also find that mature firms tend to increase advertising to meet earnings benchmarks. Their findings do not indicate actions aimed at distorting financial statement information. Rather it shows that managers respond to changing operating results by altering the levels of operating activities. In addition, the reliance on residuals as explanatory variables makes their findings hostage to the reliability and validity of the residuals as measures of earnings management.

### Corporate Governance and Earnings Management

Managers run corporations, and their primary obligation is to enhance the value of the firm to its owners (shareholders). Shareholders on the other hand elect directors (Corporate Governors) both internal and external to the firm. These members in turn form committees that are responsible for monitoring and controlling the actions of management to be in agreement with the owners. It is the duty of the committee to institute proper corporate governance; the set of rules and codes that govern the actions of the corporation (management) to operate ethically. It is even more so given the numerous scandals of the past decade. Arguably, one of the most important functions of corporate governance is to ensure the quality of financial reporting. Ali shah, Butt, and Hasan (2009) stated that “investment decisions are based on information and the quicker and more reliable the information, the less likely it is that decisions will be made on emotion and herd instinct”. Ali shah et al. studies the impact of corporate governance on earnings management, and whether the assertion that the credibility of financial statement information is related to features of corporate governance. The measure of the quality of corporate governance was measured by a weighted composite of board structure, ownership structure and audit committee independence. The modified Jones model was used to estimate discretionary accruals as a measure of the incidence of earnings management. The results indicated a strong positive relationship between quality of corporate governance and earnings management proxy variables. The findings from this study are counter-intuitive; firms with quality corporate governance set up have higher discretionary accruals. This could imply that firms with better corporate governance are more responsive to changes in their operating performance. This interpretation raises questions/concerns about the role of discretionary accrual as negative tool used to distort financial performance. It is also noteworthy that the bias in the estimation of the measures of corporate governance could have distorted the study findings.

Hashemi and Rabiee (2011b) examined the role of corporate governance in real earnings management. Their study used Board size and the number or percentage of independent directors as a measure of the role of corporate governance. Real earnings management was measured by the discretionary components of cash flow from operations, discretionary expenses, and production operating expenses. Discretionary expenses consist of research and development expenses, advertising expense and selling general and administrative expenses while production operating expense consists of cost of goods sold and changes in inventory. Their results indicate the following:

- Board size and board independences are both negatively correlated with abnormal cash flow from operation.
- Both Board size and board independence are negatively correlated with abnormal discretionary expenses.
- Board size is negatively correlated with production operating expenses, whereas Board independence is not significantly related to production operating expense.

Hashemi and Rabiee's (2011b) findings indicate that having a high number of independent directors and also large board size could help to limit earnings management practices as measured by the abnormal components of these discretionary financial statement measures.

Given that the board of directors charge is to monitor (over financial reporting process) and control the duties of management of a firm through committees such as the audit committee whose main objective is to detect and deter earnings management by the managers; compensation committee who is responsible for setting compensation scheme for the company's Chief Executive Officer (CEO). Popular opinion has been that executive's compensation leads to incentive to manage earnings upward or downward and therefore entice investors to thinking that the financial report is actually better than it really appears (Cornett, Marcus & Tehranian, 2008; Eckles, Halek, He, Sommer & Zhang, 2011).

Previous studies have examined executives' compensation and its effect on earnings management, composition of the board of directors, and the committee's actions to mitigate the actions leading to earnings manipulation resulting in earnings management (Cornett, Marcus, & Tehranian, 2008; Laux & Laux, 2009; Eckles, Halek, He, Sommer, & Zhang, 2011). Laux and Laux (2009) in their analysis of board of directors setting of CEOs' incentive pay and overseeing financial reporting and their effects on the level of earnings management noted that "increase in CEO equity incentives does not necessarily increase earnings management" due to the fact that directors redouble their oversight effort relating to the change in CEO incentives. The Directors' oversight increase with an increase in stock based CEO compensation to curb the level of earnings management. Cornett et al. (2008) examine the effect of "governance structure and incentive based compensation influence on firm performance when measured performance is adjusted for the impact of earnings management" using the sample firms in the Standard & Poor's index. Cornett et al. estimated discretionary accruals using regression to examine a set of earnings management and regress it against the absolute value of discretionary accruals normalized with total asset. Using discretionary accruals Cornett et al. find that "institutional ownership of shares, investor representation on the board of directors, and the presence of independent outside directors on the board, all combine to reduce the use of discretionary accruals" (p. 357). The findings showed that although option compensation and incentive-based compensation tend to encourage, governance variables decrease the impact of these measures on the level of earnings management. Eckles et al. (2011) in their study of the role of board structure and executive compensation on firms' earnings management in the property-liability insurance industry found that managers who get a large percentage of their compensation from bonus payments and restricted stocks are more likely to engage in earnings management. In their study, Eckels et al. stated that the earnings management vehicle is the insurer loss reserve errors. In contrast to the typical practice of estimating the earnings management vehicle as the error term in a regression of accounting variables, Eckles et al. use an observable measure of earnings management in the form of loan loss reserves. Excess loan loss reserve from actual is earnings decreasing and hence will result in lower stock prices due to the perception of expected high losses from underwriting. The converse is true. They also do not find any direct evidence of that board structure as measured by size, percentage of outside directors or CEO duality.

### **Theory of a Firm and Earnings Management**

There are two major theories used to explain human behavior within an organization. The first theory, theory X, posits that managers are self-interested actors that seek to maximize their personal economic gain (Donaldson & Davis, 1991). Donaldson and Davis noted that under this model, conflict of interest between owner and manager is built in. This has become known as Agency Theory. An agency relationship is defined as a contract under which one or more persons [the principal(s)] engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent (Jensen & Meckling, 1976).

The second theory originated from organizational psychology and sociology. This theory contends that human beings are motivated by a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby to gain recognition from peers and bosses (Donaldson & Davis, 1991, p.51). This is the Stewardship Theory. Under the stewardship theory, a manager is "a steward whose behavior is ordered such that pro-organizational, collectivistic behaviors have higher utility than individualistic, self-serving behaviors" (Davis, Schoorman, & Donaldson, 1997). Davis et al. noted that the steward values more cooperation than defection; and that the stewards believe their interests are aligned with that of the corporation and its owners. Therefore, under Stewardship Theory, the focus is on empowerment rather than on monitoring and control, thus there should be no need for managers to manage earnings. This is in sharp contrast to the Agency Theory.

According to Agency Theory, earnings management may occur when managers have the incentive to promote their own self-interest by compromising shareholders interest as a result of information asymmetry (Chen, Elder, & Hung, 2010). The agency problem related to the corporate form of business resulted from owners seeking ways to align the interest of managers with those of the firm's shareholders. Thus, management may be given stock options whereby executives obtain shares at a reduced price thus giving them incentives to enhance the value of the firm as evidenced in the stock price. As a result, management interest is aligned with the most widely accepted goal of the firm: the maximization of shareholder's wealth as reflected in the value of the firm. The stock price has become the primary objective measure of how successful management is in achieving this goal.

Business organizations are created to produce wealth for the owners and the financial statement is the visual depiction of how good or bad the corporation is performing. When a corporation announces its earnings, the financial press treats it as a major news event, focusing on the effect of firms meeting or beating or missing the analysts' forecast of the period reported on the firm's future prospects. Owners of the firms that meet the analysts' consensus estimates are rewarded with higher stock prices; and those that missed the estimates find themselves with a significant decline in the stock price. This standard of measurement, that is analysts' forecast as a yardstick for a firm's performance, has always perplexed me. Athanasakou, Strong, and Walker (2009), stated that meeting analyst expectations is a fundamental earnings target; and that stock market reacts to negative earnings surprises, and in the process the market rewards those managers with positive earnings surprise. A cursory look at the literature revealed that a significant amount of research has been devoted to studying this specific situation under the heading of earnings management (Aflatooni & Nikbakht, 2010; Chi, Dechow, Hutton, Kim, & Sloan, 2011; Fazeli & Rasouli, 2011; Healy & Wahlen, 1999; Lee & Swenson, 2011; Lisie & Pevzner, 2011; Tahir, Sabir, & Shah, 2011). However, the literature also revealed that the studies relied on a statistical estimation of the independent variable used in testing for evidence of earnings management. The question becomes:

- Are the estimated residual accruals (considered to be the portion of the firm's accrual that are subject to manipulation by management) the variables used by management to manipulate earnings?

Are the expected accruals the true non-discretionary accruals as the models assume?

These questions beg consideration of an alternative measure of independent explanatory variables that are not subject to estimation errors or problems, hence the variance. The basic assumption of the research is that if firms manipulate financial statement information, then the value of these accounts relative to either the sales of total assets, will exhibit a variance different from firms that do not.

The primary objective of earnings management is to meet or beat analysts' estimate or forecast of the firms expected period performance (Athanasakou et al. 2009). This permits the firms to raise additional capital either in the form of equity or debt at a lower cost. Lower cost of capital reduces the hurdle rate for capital projects, which leads to more profitable investment pool and high growth, and higher future earnings, and the cycle continues. This research is different from previous studies on earnings management because it relies on variance rather than differences (changes) in the level of financial statement accounts. The objective is to investigate the relationship between stock price performance and the variance of the selected financial statement accounts that can be used for manipulation by firms. A majority of the studies on earnings management have relied exclusively on the Jones model either the modified or the extended version. The common feature of these studies is that they estimate an expected level of accrual either in total or for specific accounts and from there extracts the error term as a measure of earnings management. Others have used real earnings management that focused on the production and expense side of the earnings equation. The present study differs from previous studies in several ways:

- It uses the variances of selected financial statement accounts that are subject to manipulation as the explanatory variable.
- It avoids the problem of both reliability and construct validity of the “abnormal” levels of the financial statement accounts as a measure of earnings management.
- It separates the sample into firms that consistently meet and/or beat analysts’ earnings estimates into ones that did not and attempts to determine if there is a significant difference between the values of the independent variable between the two groups.
- It attempts to estimate a model that can discriminate between firms that manage earnings and firms that do not.
- It attempts to estimate a model that looks at the effect of the variance of these accounts on the firm’s average return.
- It looks at both the accrual based earnings management and the real earnings management simultaneously.
- Finally, it focuses on a single industry so that differences in industry practices do not contaminate the results.

In summary, this study investigates the use of financial statement accounts as measured by their variance as an earnings management tool. It also avoids the estimation error that is inherent in the various forms of the Jones model.

## Data and Methodology

Previous studies on earnings management practices focus on identifying and constructing the explanatory variables that predict and/or correlate with incidence of earnings management. Estimation of the magnitude of the discretionary accruals (that serve as the explanatory variable) has relied almost exclusively on the Jones model (1991) or its modification. For example (Athanasakou, Strong & Walker, 2009; Islam, Ali & Ahmad, 2011; Koh, Matsumoto & Rajgopa, 2008; Lee, Li & Yue, 2006) use the modified Jones model in their study of earnings management to estimate the discretionary accruals. Others have focused on the use of real activities earnings management (Cohen & Zarowin, 2010; Fazeli & Rasouli, 2011; Francis, Hasan & Li, 2011; Li, 2010; Roychowdhury, 2006) while Matsuura (2008) used both real and accounting (discretionary accruals) earnings management in the investigation of the relationship between these two variables in earnings smoothing. Lastly, the most recent method for detecting earnings management is by Dechow, Hutton, Kim, and Sloan (2011), noting that there is an inherent property of accrual accounting in which any accrual based earnings management in one period must reverse in another period. How can researchers identify periods of accruals based earnings management, and its reversal without guidance (Gerakos, 2012)? Of course to use this method one also has to know the specific period in which the earnings management occurs and when it reverses (has a priori concern about the timing of the reversal) in order to improve the power and specification for earnings management test.

This study employs a different approach by using directly measurable variables to investigate earnings management. McNnis (2010) used the variance (standard deviation) of cash flow from operations and net income in his study of the effect of earnings smoothness, average returns, and implied cost of capital. Instead of the levels of the accounting data that are suspect for earnings management, our research focuses on the variance of these variables normalized with either revenue or total assets depending on whether the variable is an income statement or balance sheet account.

The analysis of data for this study was a two-step process corresponding to the two quantitative research methods; analysis of variance (ANOVA), and regression analysis. ANOVA is “A statistical measure of the association between a categorical independent variable and a continuous, numerical, dependent variable

from an interval or ratio scale, used to assess the significance of differences among means for different groups” (Alreck & Settle, 2004, p. 437). Alreck and Settle also stated that a regression analysis is:

“A statistical measure of the effect of one interval or ratio level variable on another, used both to indicate the statistical significance of the relationship and to generate an equation to predict or estimate the value of the dependent variable for a new case, based only on the known value of the independent variable” (p. 447).

Thus, the following hypothesis was written in the null form and the ANOVA analysis, and regression analysis was used to test these hypotheses.

### Hypotheses

The ANOVA analysis was used to test the following hypotheses:

H1<sub>0</sub>: There is no significant difference in the means of the variance of the firm’s selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) based on the frequency of meeting or beating analysts forecast.

This test was performed for each of the selected financial statement accounts that are identified as possible suspects for manipulation and hence earnings management.

The regression analysis tested the following hypothesis:

H2<sub>0</sub>: There is no significant relationship between the variance of the selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) and the probability of meeting or beating analysts forecast.

### Research Design

The data was analyzed as follows:

1. Analysis of Variance was used in the first phase. The firms were ranked based on the frequency in which they meet and/or beat analysts’ forecasts. The sample was divided into quartiles and an analysis of variance (ANOVA) between the characteristics of the top and bottom quartiles is performed to investigate the difference, if any, in the means of the variables.
2. Regression Analysis was used in the second phase. A cross-sectional regression analysis was used to estimate the effect of these variables on the frequency of meeting or beating analysts’ forecasts.

The data was analyzed using SPSS statistical software for a multivariate regression analysis:

$$y_2 = \alpha_{02} + \beta_{21}x_1 + \beta_{22}x_2 + \beta_{23}x_3 + \varepsilon_2 \quad (2)$$

Where:

$y_2$  is frequency of meeting or beating analysts forecast

$x_1$  is variance of the accounts receivable (AR)

$x_2$  is variance of the selling, general and administrative expense (SG&A)

$x_3$  is variance of the net change in accruals (NCA)

$\alpha$  = intercept term

$\beta$  = estimation coefficients

$\varepsilon$  = estimation error term

The analysis of variance research method was to examine if there are differences in the means of two samples, whereas regression analysis examined the explanatory power of the independent variables on the dependent variable. Regression analysis is used when the data is continuous and numeric, while analysis of variance is used when the dependent variable is a nominal or ordinal data and the independent variables are continuous.

### **Data Collection**

This study utilized secondary data and instead of the levels of the accounting data that are suspect for earnings management, this study focused on the variance of these variables normalized with either revenue or total assets depending on whether the variable is an income statement or balance sheet account. Following the example of McInnis (2010); Burgstahler and Eames (2003); Callen, Robb and Segal (2008); and McNichols and Stubben (2008), the study used quarterly data from the COMPUSTAT Industrial database from 2000 to 2011.

To obtain data on analysts' earnings forecast and the matching quarterly data, Zacks' Investment Research database was used consistent with Burgstahler and Eames (2003) and Matsumoto (2002). This database was employed by Koh, Matsumoto and Rajgopal (2008).

The sample for this study was firms that are in the consumer goods sector, cyclical and non-cyclical, listed on the NYSE, NASDAQ and AMEX stock exchanges. The final sample size of 169 firms consisted of firms with market capitalization between \$6.99 million and \$460.06 billion.

Restricting the study to the consumer sector does not affect the structure of the study; rather it reduces the number of categorical variables needed to represent each sector. The major advantage is a reduction of noise that could be introduced by differences in industry practices, structure and norms that may not be fully addressed by the classification variable

### **Procedures**

The study focused on the variance of the following variables: accounts receivables (AR), selling, general, and administrative expenses (SG&A), and net change in accruals (NCA). AR and NCA were normalized with total assets while SG&A is normalized with net sales.

The study used quarterly data from the COMPUSTAT Industrial database from 2000 to 2011. To obtain data on analysts' earnings forecast and the matching quarterly data, Zacks' Investment Research database was used.

## **Results**

### **Results of the Analysis of Variance**

To test hypotheses ( $H_{10}$  and  $H_{20}$ ), we used ANOVA to test whether there is a significant difference in the means of the variance of the firm's three selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) based on the frequency of meeting or beating analysts' forecast. The variables were divided into quartiles based on the frequency of meeting or beating analysts' consensus estimates. The analysis of variance (ANOVA) was used to test for the difference in the means of the top and the bottom quartile of all the three variables.

### Hypothesis One Findings

Hypothesis (H1<sub>0</sub>): There is no significant difference in the means of the variance of the firm's selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) based on the frequency of meeting or beating analysts forecast. Tables 1a through 1d present the results for H1<sub>0</sub> analysis

Table 1a Comparison of Accounts Receivable with the Frequency of meeting/or beating Analysts forecast

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
ARtq	42	1.4821	0.0353	0.0005		
ARbt	42	1.1098	0.0264	0.0002		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.0017	1	0.0017	4.8377	0.0307	3.9574
Within Groups	0.0280	82	0.0003			
Total	0.0296	83				

Table 1a represents the interaction between AR and the frequency of meeting or beating analysts' forecast. The F-value = 4.8377 is greater than the critical statistic at a P-value = .0307. This indicates that there is a significant difference at p-value = 0.0307 between the variance of the accounts receivable based on the frequency of meeting or beating analysts' forecast. Thus the null hypothesis of no significant difference in the variance of the accounts receivable based on the frequency of meeting or beating the analysts' earnings forecast is rejected.

Table 1b Comparison of Selling, General and Administrative expenses with the Frequency of meeting/or beating Analysts' forecast.

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
SGAtq	42	1.6449	0.039164	0.001669		
SGAbq	42	1.876	0.044667	0.003767		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.0006	1	0.0006	0.2339	0.6299	3.9574
Within Groups	0.2229	82	0.0027			
Total	0.2235	83				

The results of the ANOVA test, presented in Table 1b, on the difference between the variance Selling General and Administrative expenses based on the frequency of meeting or beating the analysts' earnings forecast, has an F-value of 0.2339 against a critical F-value of 3.9574 with a p-value of 0.6299. Thus, it is not possible to reject the null hypothesis that there is no significant difference in the variance of the SG&A expenses based on the frequency of meeting or beating analysts' earnings forecast.

Table 1c Comparison of Net Changes in Accrual with the Frequency of meeting/or beating Analysts forecast

Groups	Count	Sum	Average	Variance		
NCA <sub>tq</sub>	42	9.0177	0.2147	0.0184		
NCA <sub>bq</sub>	42	9.5165	0.2266	0.0147		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0030	1	0.0030	0.1788	0.6735	3.9574
Within Groups	1.3582	82	0.0166			
Total	1.3612	83				

Again, ANOVA was used to test whether there is a significant difference in the means of the variance of the NCA a financial statement account and the frequency of beating or meeting analysts forecast. An F-value of 0.1788 versus a critical F-value of 3.9574 with a P-value = .6735 indicates that there is no significant difference in the means of the variance of the firm's NCA based on the frequency of meeting or beating analysts forecast. Hence we fail to reject the null hypothesis.

A major requirement of the ANOVA methodology is that the variable under consideration is normally distributed. To investigate the validity of the normality assumption, the descriptive statistics for each of the variables was obtained. The results are presented in Table 3.

The relevant measures of normality used are the skewness and kurtosis statistic. A value of these statistics significantly different from zero is evidence that the variable is not normally distributed. From Table 3, the frequency of meeting or beating analysts' estimate and the growth rate in the stock price, with a skewness of 0.201 and -0.148 respectively and a kurtosis of -0.476 and 0.566, respectively suggest that these variables are normally distributed. However, the variances of AR, SG&A and NCA have very high values of both the Skewness and Kurtosis statistic, a clear indication of the non-normality of the distribution of these variables.

Table 3 Descriptive Statistics of Variables

	Accounts Receivable	Selling General & Administrative Expenses	Net Changes in Accrual	Frequency of M/B Analysts forecast	Growth Rate
N	Valid	169	169	169	169
	Missing	57	57	57	57
Mean	.033296	.042485	.215496	.551785	.021240
Median	.027800	.030300	.186900	.562500	.017700
Mode	.0167 <sup>a</sup>	.0086 <sup>a</sup>	.1746 <sup>a</sup>	.3125	.0078 <sup>a</sup>
Std. Deviation	.0215684	.0572199	.1242422	.2044111	.0795729
Variance	.000	.003	.015	.042	.006
Skewness	2.067	5.846	1.568	.201	-.148
Std. Error of Skewness	.187	.187	.187	.187	.187
Kurtosis	7.781	44.704	3.133	-.476	.566
Std. Error of Kurtosis	.371	.371	.371	.371	.371

a. Multiple modes exist. The smallest value is shown

Figures 1-5 provide a graphical display of the distribution of these variables.

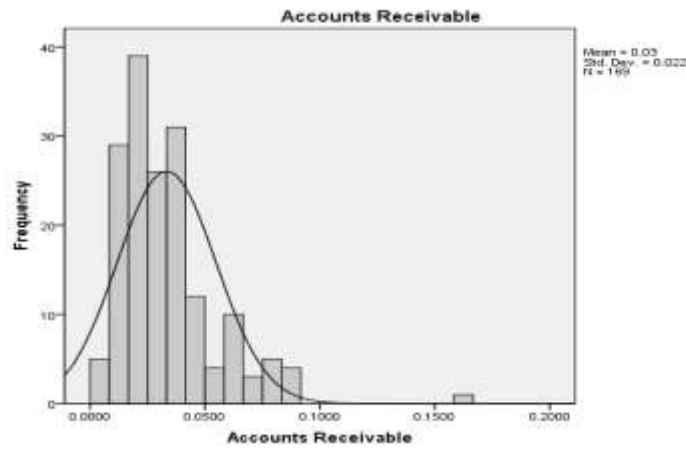


Figure 1.

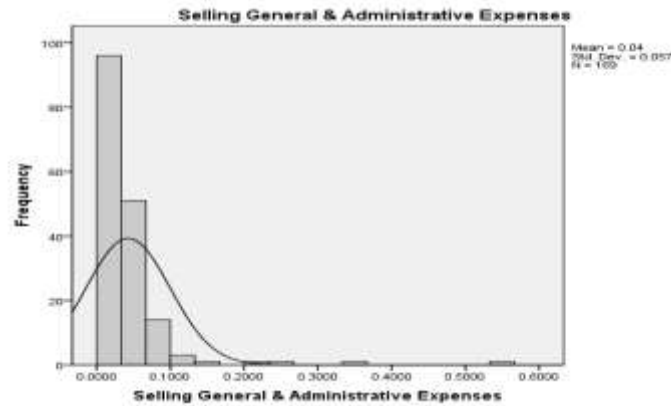


Figure 2.

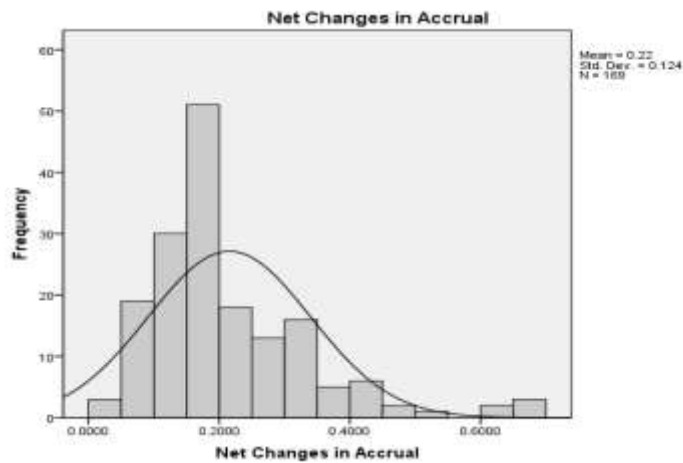


Figure 3.

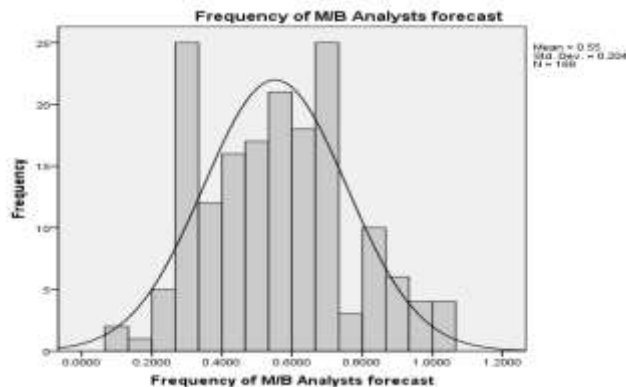


Figure 4.

The non-normality of the AR, SG&A and NCA variables raises questions about the validity of the ANOVA results. Consequently, we employed the non-parametric test, the “Mann-Whitney U-Test, to test whether there is a difference in the means of these variables based on the frequency of meeting or beating the analysts’ forecast. The Mann-Whitney U-test is appropriate for comparing means when the variables are not normally distributed (Smith, M, 2009, p.66). The results of the analysis are presented in Table 4.

The null hypothesis states that there is no significant difference in the means of the variables based on the grouping criteria. The null is rejected if the critical Z-score is less than the absolute value of the test Z-score. The results reject the null for the AR (Z-score -2.155) variable at the 5% level of significance (Z-score -1.96). Thus, there is a significant difference in the variance of the accounts receivable based on the frequency of meeting and or beating analysts/ earnings forecast. However, the test failed to reject the null for the SG&A and NCA variables with Z-scores of 0.0217 and 0.5398, respectively.

The Mann-Whitney U-tests shows that whereas the AR variance varies with the frequency of meeting or beating the analysts’ earnings forecast, the SG&A and NCA variables do not exhibit such tendency. In addition, the Mann-Whitney U-test seemed to agree with the ANOVA results with regards to the AR while it produced mixed results for SG&A and NCA in comparison.

Table 4 Results of the Mann-Whitney U-Test  
Panel A: Frequency to Meet/Beat Analyst Forecast

	$W_1$	$\mu$	$\sigma$	$U_1$	Z
AR	2120	924.5	115.78	675	-2.1549**
SG&A	1868	924.5	115.78	927	0.0217
NCA	1808	924.5	115.78	987	0.5398

Critical Z-score at  $\alpha = .01$  is 2.576; @  $\alpha = .05$  is 1.96 and @  $\alpha = .10$  is 1.645

### Results of the Regression Analysis

The second phase of our research used ordinary least squares (OLS) regression analysis to estimate the effect of the selected variables on the stock price performance as well as the frequency of meeting or beating analysts’ forecasts; this addresses H3<sub>0</sub> and H4<sub>0</sub> below.

H3<sub>0</sub>: There is no significant relationship between the variance of the selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) and the probability of meeting or beating analysts forecast.

The equations to be estimates are as follows:

$$A. \quad y_1 = \alpha_{01} + \beta_{11}x_1 + \beta_{21}x_2 + \beta_{31}x_3 + \varepsilon_1 \quad (1)$$

Where:

- A.  $y_1$  is the frequency of meeting and beating analysts' earnings forecast
- B.  $x_1$  is the variance of the accounts receivable (ARV)
- C.  $x_2$  is the variance of the SG&A (SGAV)
- D.  $x_3$  is the variance of NCA (NCAV)

Excel statistical tools were used to perform the regression analysis to evaluate the level of relationship between the variance AR, SGA and NCA variable and the frequency of meeting or beating analysts' consensus forecast. The descriptive statistics of the regression analysis is presented in the appendix.

$$H_{30}: \beta_{11} = \beta_{21} = \beta_{31} = 0$$

### Hypothesis Three Findings

*Table 5 Comparison of significant relationship between the variance of the selected financial statement accounts (Accounts Receivable, Selling, General and Administrative expenses, Net change in accruals) and the frequency of meeting or beating analysts forecast.*

Regression Statistics	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard Error	Observations			
	0.1506	0.0227	0.0049	0.2039	169			
	Df	SS	MS	F	Significance F			
Regression	3	0.1591	0.0530	1.2757	0.2845			
Residual	165	6.8606	0.0416					
Total	168	7.0197						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.5367	0.0352	15.2454	0.0000	0.4672	0.6062	0.4672	0.6062
ARV	1.4312	0.7884	1.8153	0.0713	-0.1255	2.9878	-0.1255	2.9878
SGAV	0.0720	0.3038	0.2371	0.8129	-0.5279	0.6719	-0.5279	0.6719
NCAV	-0.1655	0.1438	-1.1506	0.2516	-0.4495	0.1185	-0.4495	0.1185

The results of the OLS analysis is presented in table 5 which show an  $R = 0.1506$ ;  $R^2 = 0.0226$ ; Adjusted  $R^2 = 0.0049$ ; and Standard Error = 0.2039 with an F-statistic of 1.2757. The results indicate that the model explained 0.49% of the cross-sectional variability of the frequency of meeting or beating analysts' earnings forecast. The AR variable has a positive significant coefficient of 1.4312 with a p-value of 0.0713. SG&A and NCA did not seem to have any significant effect on the frequency of meeting or beating analysts' earnings forecast, although NCA seemed to have a negative impact on the frequency.

### Discussion, Conclusions, and Recommendations

#### Discussion

Previous studies on earnings management have relied on the extraction of the discretionary components of the independent variable based on a form of the Jones model (Dechow et al. 1995; Lee & Swenson, 201;

Stubben, 2010). In this study, the variance of the independent variable was used to avoid the estimation error inherent in estimating the discretionary components.

The result of the analysis is in agreement with previous studies that identified accounts receivable as a possible tool for earnings management (Cohen, Mashruwala, & Zach 2010; Cohen & Zarowin, 2010; Fazeli & Rasouli 2011; Roychowdhury 2006). Although there was a significant difference in the variance of the firms based on the frequency of meeting or beating the analysts' forecast, Although the variance of selling, general and administrative expenses, and the variance of net change in accruals did not differ significantly based on the frequency of meeting or beating analysts' earnings estimates. The validity of the results of the analysis of variance (ANOVA) tests depends on distribution of the variables. It requires that the variables be normally distributed. Since some of the variables were non-normal, the Mann-Whitely U test was used to validate the findings of the ANOVA. This non-parametric test confirmed the results of the analysis of variance.

This result might indicate that the findings of previous studies in which real economic activity as measured by SG&A and NCA (defined as cash flow from operations minus net income) were shown to be possible earnings management tool may be due to omitted variable bias. The other aspect of the study is the ordinary least squares regression analysis. As with the ANOVA results, only the accounts receivable variable was significant in explaining the variation in the frequency of meeting and/or beating analysts' forecast. The weak explanatory power of the model indicates that although accounts receivable could be used to manage earnings, its impact is not very pronounced. Because this study is based on limited number of variables, there is also the possibility that the significance of the accounts receivable may be spurious. Accounts receivable could be serving as a proxy for some other variable that is correlated with the frequency of meeting and/or beating the analyst' earnings forecast. Moreover, the other explanatory variables (NCA; SG&A), by not being statistically significant suggests that real economic activity may not be a potent tool for earnings management.

## **Conclusions**

This study lends support to the positive market response to incidence of the firm beating analysts forecast. However, although the market responds favorably to better than expected earnings, the long-term impact in explaining the difference in returns is just slightly more than two percent of the difference in returns. In other words, the mere fact of meeting and/or beating analysts' forecast does not explain the long-term market valuation of the firm's prospects.

## **Limitations**

As with all empirical studies, the validity of this study rests on the sample of firms and the time period. The availability of significant variability difference in the chosen or selected financial statement accounts will greatly affect the results of this study. The findings of this study are limited to the consumer goods industry. There may be considerable difference in firm's financial data that are a result of both economies of scale and scope. By normalizing the variables and using the variance, it is assumed that these effects were minimized. Earnings management is considered both unethical and a violation of securities law. As a result, firms who engage in earnings management will go to considerable length to cover their tracks. Thus, this study attempted to uncover earnings management tools if and where they exist.

## **Recommendations on Future Research**

This study focused exclusively on the consumer goods industry; therefore, the results may not be applicable to other industries. Further study is needed to explore the role of variance of financial statement accounts as

indicators of incidence of earnings management. The study was restricted to only three financial statement accounts, other accounts need to be studied as well in order to fully understand the practice of earnings management. For example, cost of goods sold as a percentage of revenue could be a candidate for earnings management as firms adjust their margins to meet earnings target. Although this is a perfectly normal business practice, it could serve this purpose without sending a flag to the market. This tool has a negative impact on future sales as meeting the earnings target is achieved at the expense of future sales.

Future research may also investigate the long-run impact of earnings management on shareholder wealth. This study shows that there is no significant difference in stock market performance over a ten year period. The research question is whether this is unique to the ten years return as well as whether it is unique to the consumer goods industry.

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