

# Nonprofessional Investors' Framework for Understanding Earnings Quality

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*The central goal of this article is to provide nonprofessional investors with an understanding of the impact of accrual accounting on earnings quality. Improving nonprofessional investors' understanding of earnings quality is essential to the capital market, as they have been found to own nearly one-third of all outstanding stock (Bogle, 2005), a number which anecdotally has increased with the advent of employer-directed compensation plans and online stock trading platforms. Following a presentation of the importance of accruals in the earnings process, the framework discusses various earnings management practices that nonprofessional investors should consider when evaluating earnings quality.*

## INTRODUCTION

Investors are routinely faced with complex decisions concerning the quality of a company's reported earnings. While the concept of earnings quality is elusive (Givoly et al., 2010, p. 201), earnings quality has been defined as the ability of reported earnings (e.g. income) to predict a company's future earnings (Spiceland et al. 2015). It is assumed that "high" earnings quality exists when there is a close correspondence between net income and cash flows from operations, especially when this relationship persists over several years (Spiceland et al., 2015). One threat to high earnings quality which nonprofessional investors may be unaware of is earnings management. Earnings management is a practice by which managers attempt to time the recognition of revenues and expenses in the financial statements (Kimmel et al., 2013, p. 185). This term has also been associated with the use of judgment in financial reporting with the intent of misleading investors about the underlying economic performance of a company (Healy et al., 1999, p. 368). Frank and Rego (2006) note that companies are motivated to manage their earnings for several reasons, including the need to meet earnings targets, to smooth earnings, and to demonstrate that the company has positive profits.

A company's earnings consists of two components: cash flows and accruals (Dechow and Dichev 2002, p. 37). Among several attributes associated with earnings quality, accruals quality has been researched extensively.<sup>1</sup> The purpose of accrual accounting is to provide investors with a more comprehensive understanding of a company's financial health by recording all cash and credit transactions *prior to* the actual receipt or disbursement of cash. Accrual basis accounting is an improvement over cash basis accounting, due to the fact that accrual basis accounting matches a firm's revenues and expenses in the same period in which they occur. Accounting standard-setters advocate the superiority of accrual basis accounting over cash basis accounting for the purpose of informing investors of a company's "present and continuing ability to generate favorable cash flows" (FASB, 1978, para. 44). Academic research also supports these assertions (Subramanyam and Venkatachalam, 2007; Barth et al., 2001; Dechow, 1994).

When analyzing companies' financial statements, nonprofessional investors should account for the presence of *subjectivity* in management's selection of reporting estimates (Healy et al., 1999, p. 366). On one hand, subjectivity in reporting estimates is necessary to improve the value of the accounting information communicated to investors (Healy et al., 1999, p. 366). On the other hand, managerial discretion in the selection of accounting estimates provides the opportunity for earnings management. Managers have been found to manage earnings for a number of reasons, including the need to meet market expectations, the desire to achieve incentives associated with their compensation plans, contractual motives, and regulatory motives (Clikeman, 2003). The goal of earnings management is to misrepresent an organization's financial performance, which is the same goal that managers seek to accomplish when committing fraud (Clikeman, 2003, p. 76). However, the detection of earnings management is complex, due to the subtlety with which it presents itself. While fraud is an outright lie that involves obvious violations of accounting principles, earnings management is considered a "shading of the truth", and is discreetly accomplished *within* the flexibility of a company's generally accepted accounting principles (Clikeman, 2003, p. 76). This makes earnings management more difficult to detect.

Prior research has generally identified three categories of earnings management: accrual management, manipulation of real economic activities, and earnings management through classification shifting of expenses. The overarching objective of this paper is to develop a framework whereby nonprofessional investors may understand how management employs these earnings management tools to deliberately manipulate a company's earnings.

The remainder of the paper is organized as follows. The next section provides an overview of the accounting cycle and the components of earnings in order to establish the opportunity for management to manage earnings. This section is followed by a discussion of the costs of earnings management, which discusses five specific forms of earnings management: accruals management, revenue management, classification shifting, management of specific accruals, and the rounding phenomenon. The paper concludes with a discussion and avenues for future research.

## THE ACCOUNTING CYCLE AND THE COMPONENTS OF EARNINGS

In order to appreciate accrual accounting, nonprofessional investors must understand the composition of earnings, the impact of earnings on the balance sheet, and the accounting cycle. The accounting cycle is presented in Figure 1. The balance sheet provides a summary measure of companies' assets, liabilities, and equity. The equity section of the balance sheet consists of two categories: contributed capital and retained earnings. At the end of the accounting reporting period, companies' current period earnings are transferred to retained earnings, which consist of the sum of companies' accrual basis income (i.e. earnings) since the company's inception, net of dividends paid to the investors. Finally, retained earnings is closed to the balance sheet.

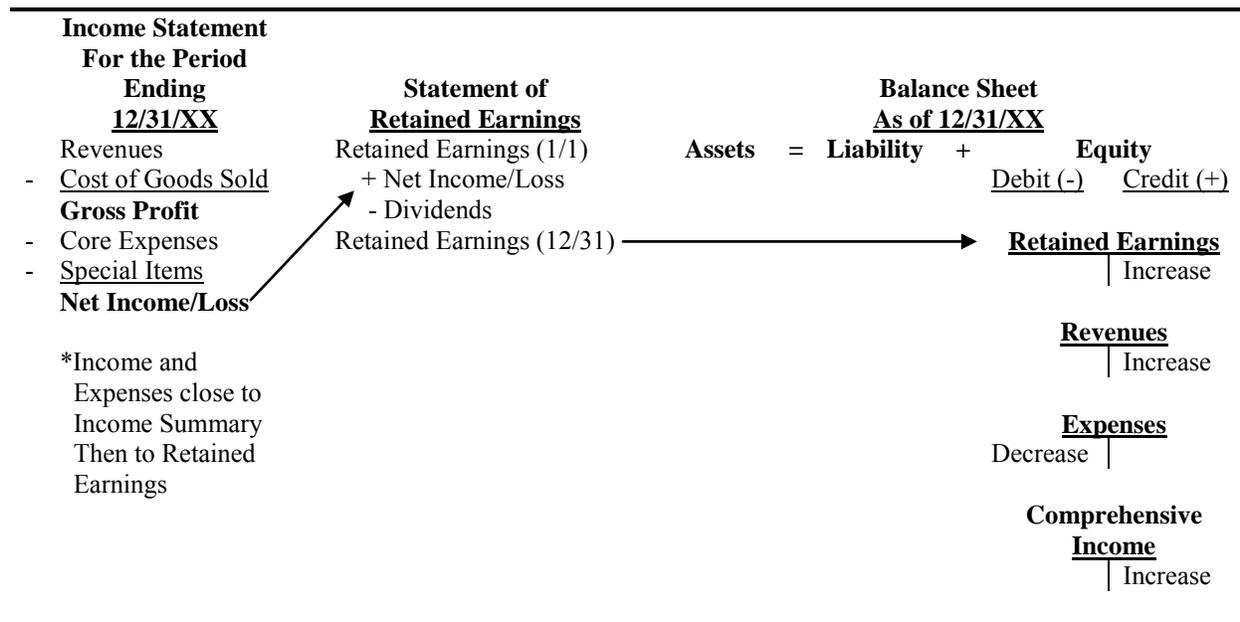
A company's current period earnings are recorded in the income statement. Earnings consists of two components: cash flow and accruals. The cash flow component represents cash which has been collected from customers during the accounting period (e.g. cash flow), whereas, the accrual component of earnings represents cash that is expected to be collected in the future. This relationship between the cash flow component of income and the accruals component of income is presented in Equation 1:

$$\text{Earnings} = \text{Cash Flow}_{(CF_p, CF_c, CF_f)} + \text{Accruals}_{(\text{Opening, Closing})} \quad (1)$$

Dechow and Dichev (2002, p. 38) state that the cash flow component of earnings consists of three elements: cash collected from prior period transactions ( $CF_p$ ), cash collected from transactions in the current period ( $CF_c$ ), and cash collected in advance for transactions in the future ( $CF_f$ ). Accruals are created as a result of temporary adjustments to earnings that shift the recognition of cash flows in the income statement over time. Since accruals match companies' revenues and expenses to the period in which companies actually perform the services, investors are provided with a better understanding of the flow of business activities, not a summary of when cash exchanges hands.

The accrual component of earnings is comprised of opening accruals and closing accruals (DeChow and Dichev, 2002). The origin of opening and closing accruals is as follows. Prior to an accrual adjustment, companies' revenue and expense accounts, along with their related balance sheet accounts, are understated (Kimmel et al., 2013, p. 175). This understatement is due to the fact that the "cash flow" component of earnings does not capture the full complement of business activities which may occur separately from cash receipts and disbursements. For example, an apartment manager may collect cash for one year's worth of rent from a tenant at the beginning of the lease, which creates a liability for the apartment manager. As a result, the manager is not allowed to recognize revenue in the financial statements until the business activity has taken place (e.g. the business activity would be the tenant actually living in the apartment each month). As a result of these type of transactions, Dechow and Dichev (2002, p. 38) indicate that two types of accruals are necessary to completely capture business flow and cash flow. They classify these accruals as "opening accruals" which are generated when cash is received or paid before it is recognized in earnings (or vice versa), and "closing accruals", which occur when a portion (or all) of the original accrual is reversed.

**FIGURE 1**  
**ACCOUNTING CYCLE OVERVIEW**



**Characteristics of Firms with Low Accrual Quality**

A logical first step for investors to begin understanding earnings quality and accrual quality is to understand the impact of firms' internal controls on accrual quality. Ashbaugh-Skaife et al. (2008) indicate that firms reporting internal control deficiencies tend to have lower quality accruals. Their research also finds that the following firm characteristics are associated with poor accrual quality: high levels of inventory, volatile cash flow operations, volatile sales reports, firms that report losses, firms with merger and acquisition activity, and firms with relatively smaller book-to-market ratios. In addition, the degree of conservatism exerted in the presentation of financial information is associated with an increase in the volatility of a firm's accruals (Ball and Shivakumar, 2006), and has been debated as to whether it actually improves financial reporting quality (Givoly et al., 2010, p. 205). Other research indicates that distressed firms are likely to have lower accrual quality (Kothari et al., 2005; McNichols, 2000).

Regarding the life cycle of firms, high growth firms have been found to exhibit low accrual quality (Chichernea et al., 2012).

The literature also provides investors with firm characteristics associated with high accrual quality. Ashbaugh-Skaife et al. (2008) indicate that higher accrual quality has been observed in firms with relatively higher investment in property, plant and equipment, firms with substantial off-balance sheet intangible assets, and firms with restructuring activities. Hutchinson et al.'s (2008) findings indicate that the independence of the board of directors and the audit committee are associated with accrual quality.

## THE COSTS OF EARNINGS MANAGEMENT

The costs of earnings management differ for varying financial statement items (Marquardt and Wiedman, 2004). Frank and Rego (2006) indicate that earnings management continues to exist within generally accepted accounting principles, even in the post-Sarbanes-Oxley era. Their research notes that even within the scope of Statement of Financial Accounting Standard No. 109 (FASB, 1992), valuation asset accounts are lightning rods for earnings management. Investors should be aware that valuation asset accounts are used to manage earnings upward to meet earnings management forecasts. They also find that firms use valuation allowance accounts to beat analysts' forecasts when firms' previously *premanaged* earnings are below an earnings target ("premanaged earnings" are a company's reported earnings plus the company's *discretionary* changes in valuation allowance accounts).

Marquardt and Wiedman (2014) categorize the costs of earnings management as those that are detected and those that are undetected, with higher costs being associated with detected earnings management than nondetected earnings management. The Securities and Exchange Commission's detection of earnings management has reportedly led to average stock price declines in the neighborhood of 7.5 percent (Feroz et al., 1991) and nine percent (Dechow et al., 1996). Palmrose and Scholz (2004) discover that firms that restate their earnings are more likely to result in litigation, especially when revenue is restated. Finally, firms whose accounting policies are criticized in the press are also associated with earnings management.

Undetected earnings management in the current period impacts future period earnings when detected (Marquardt and Wiedman, 2014), and are associated with negative stock prices (Teoh et al., 1998). The future reversal of undetected managed accruals in the current period decreases companies' potential to manage earnings in the future (Barton and Simko, 2002). The audit costs of firms that manage earnings have been found to be directly associated with firms' level of accruals (Antle et al., 2006), and indirectly associated with the threat of litigation resulting from an audit failure (Lys and Watts, 1994).

Consequences that investors experience resulting from managers' manipulation of firms' earnings may vary based on the earnings management strategy employed by a company. The remainder of this section discusses various earnings management approaches and specific accounts used by management to manage earnings.

### Earnings Management and Accrual Quality

Prior research asserts that accruals which measure economic performance inherently include both intentional, management-directed errors and unintentional errors (Richardson et al., 2005, p. 442; Dechow and Dichev, 2002, p. 53). Equation 2 extends Equation 1 to capture this error.

$$\text{Earnings} = \text{Cash Flow}_{(CF_p, CF_c, CF_f)} + \text{Accruals} + \text{Accrual Error}_{(\text{intentional, nonintentional})} \quad (2)$$

In the absence of accrual accounting, "cash" would be the only asset or liability account on the balance sheet (Richardson et al., 2005, p. 445). Without the use of accruals, the true economic performance of companies' financial statements will be understated. Managers exercise subjectivity regarding the quantification of future economic events, the selection of acceptable accounting methods for reporting (e.g. depreciation; inventory methods), working capital management (e.g. inventory decisions), and the use of discretionary expenses (Healy et al., 1999, p. 369). This subjectivity threatens both the verifiability

and the reliability of accounting estimates (Richardson et al., 2005, p. 440), and may be associated with error in the estimation of accruals.

Poor accrual quality is associated with a number of negative consequences. Dey and Lim (2015) find that lower reliable accrual components lead to lower earnings persistence. Wasan et al. (2013) suggest that poor accrual quality influences the costs of borrowing capital in the syndicated loan market, which may be of interest to institutional investors, as well as those who invest in large banks that heavily participate in the syndicated loan market. The use of discretionary accruals is also associated with the long-run underperformance of convertible bond issuers (Chou et al., 2009).

Dechow and Dichev (2002, p. 47) provide several factors which investors should consider as being highly associated with *poor* accrual quality, including the amount of unpredictability in estimating accruals, the amount of unpredictability in a company's earnings, and the frequency which a company reports negative earnings. Richardson et al. (2005) indicate that in addition to managerial subjectivity, noncurrent operating asset accruals and noncurrent liability accruals may be associated with poor accrual quality. Prior research has also found that specific accounts are more susceptible to earnings management (i.e. poor accrual quality) resulting from managerial subjectivity, including bad debt provision (McNichols and Wilson, 1988), depreciation (Teoh et al., 1998), loan loss reserves (Healy et al., 1999), loan loss provisions for banks (Beatty et al., 1995), deferred tax valuation allowances (Visvanathan 1998), and timing the realization of investment gains and losses (Collins et al., 1995). It is incumbent upon investors to petition accounting regulators for more transparency in the disclosures regarding the assumptions used to develop firms' accruals.

### **Earnings Management via Revenues Management**

Revenue is the largest earnings component of most companies. It is highly subject to discretion (Stuben, 2010, p. 696) and is the most common type of misstatement (Turner et al., 2001). Approximately seventy-percent of the Securities and Exchange Commission's enforcement actions in the mid-1980s resulted from overstatements of accounts receivables resulting from premature revenue recognition (Feroz et al., 1991). Marquardt and Wiedman (2004, p. 467) indicate that the Securities and Exchange Commission is most likely to detect earnings management when revenues are overstated. Plummer and Mest (2001) find that one primary reason which managers overstate their revenues (and understate operating expenses) is to meet their earnings forecasts. However, their research does not consider the use of discretionary revenues as an earnings management tool.

Discretionary revenue, which is defined as the difference between the change in a company's actual accounts receivables and the amount of receivables, has been operationalized to detect earnings management, especially for growth firms (Stuben, 2010). Discretionary revenues are identified by analyzing a company's accounts receivables. If the accounts receivables balance reported in the balance sheet differs from the forecasted accounts receivables, then it is possible that the company's revenue has not been properly accrued.

Limited research suggests that discretionary revenues are used to manage revenue. Marquardt and Wiedman (2004) find that managers use discretionary revenues to increase a company's earnings prior to the firm issuing equity. Caylor (2009) observes managers' discretionary use of accounts receivables in reporting earnings surprises (accounts receivable is the balance sheet-related revenue account). His model considers the use of deferred revenues in revenue management. Finally, Stuben (2010) indicates that managers utilize a number of tactics when engaging in discretionary revenue management, including the manipulation of business activities that impact sales revenues (e.g. sales discounts, bill and hold sales, subjective customer credit policies), the misapplication of accounting principles, the reporting of non-factual revenues, or by the deferral of revenue that should be recognized in the current period.

Investors should account for a variety of circumstances which may influence managers' discretion in the presentation of revenues when interpreting the financial statements for investment purposes. Of interest to investors is that managers tend to use the sales revenue account to improve earnings by "managing" their sales upward (Plummer and Mest, 2001, p. 302). Their research also finds that firms with high operating margin percentages and firms whose current assets are high at the beginning of the

year are likely to engage in this type of behavior. Investors should also be aware that managers are likely to manage their earnings to meet analysts' forecasts when the firm itself has strong investment potential (Plummer and Mest, 2001; Abarbanell and Lehavy, 2003). In addition, Plummer and Mest (2001) find that firms are likely to manage their earnings upward when analysts assign a "buy" rating to the firm. Thus, investors may consider that the "buy" rating may motivate managers to manage their sales upward to solidify their firms' strong investment potential. Finally, investors should understand the implications of sales and accounts receivables on financial ratios that include sales in the calculations.

### Earnings Management via Classification Shifting

Classification shifting is a form of earnings management that distorts a company's economic performance by shifting "favorable" line items closer to the 'Revenue' accounts, which is indicative of their permanence in nature (e.g. they are more likely to recur). Classification shifting may also occur by shifting negative expenses further away from sales to indicate that they may not occur frequently (McVay, 2006). Research suggests that managers who classify core items as special items will use positive special items (such as gains on the sale of assets) to smooth earnings (Bartov, 1993) and to avoid earnings declines (Marquardt and Wiedman, 2004). The use of classification shifting as an earnings management tool allows managers to inflate the core profitability of a company while not changing GAAP earnings (Lail et al., 2014). Bradshaw and Sloan (2002) indicate that investors and analysts rely on core performance, which may motivate managers to manipulate core profitability (Lail et al., 2014, p. 458).

McVay (2006, p. 506) classifies "core expenses" as being more permanent in nature. These expenses include cost of goods sold and selling, general, and administrative expenses. His research finds that managerial discretion exists in the assignment of income statement accounts to core expenses (relatively stable) versus special item expenses (unusual and/or infrequent in nature). Examples of these transitory expenses include expenses related to restructurings and mergers. Marquardt and Wiedman (2004, p. 465) suggest that earnings management is relatively easier to accomplish and less costly using special items compared to managing earnings using recurring items. McVay's (2006) core earnings model was adjusted by Causholli et al. (2014, p. 689) to define core earnings in Equation 3:

$$\begin{aligned}
 \text{Core earnings} = & \text{Core Earnings} && (\text{Sales} - \text{COG} - \text{SG\&A}) / \text{Sales} \\
 & + \text{Asset Turnover} && \\
 & + \text{Working Capital Accruals} && \text{Change in total current assets (net of change} \\
 & && \text{in cash) minus the change in current} \\
 & && \text{liabilities (net of change in current portion} \\
 & && \text{of long-term debt)} \\
 & + \text{Percent Change in Sales} && \\
 & + \text{Percent Change in Negative Sales} && \\
 & + \text{The company's current and prior} && \\
 & \text{year returns} && \text{To measure performance} && (3)
 \end{aligned}$$

Classification shifting occurs under a number of different conditions. Lail et al. (2014, p. 458) suggest that an ideal environment for discreetly reclassifying expenses is one in which (1) the information is important to investors, (2) disclosure requirements are vague, and (3) auditors' materiality constraints do not warrant an extensive verification of the disclosure requirements. They find that managers shift expenses from their core operations to a "corporate/other" segment when agency problems exist in the organization, especially since segment reporting rules are not highly monitored, which is consistent with Fan et al. (2010). Abernathy et al. (2014) observe classification shifting when (1) when real earnings management is constrained by poor financial conditions (2) when high levels of institutional ownership and low industry market share is prevalent, and (3) when accruals earnings management is constrained by the use of an accounting system with low flexibility and a cash flow forecast. Classification shifting is

also likely to exist when a firm is pressured to meet or beat analysts' earnings forecasts, but this likelihood may be reduced when a quality auditor is appointed or when the firm has a well-functioning legal structure (Haw et al., 2011, p. 550). However, classification shifting may also be reduced when a high level of financial analyst following exists (Behn et al., 2013), even in an environment with relatively weak investor protection. Finally, investors should be aware that managers may shift core expenses into special items that are valued differently than other core items (e.g. research and development; Aboody and Lev, 2000) or non-operating items that are not included in analysts' forecasts (Abarbanell and Lehavy, 2002).

The most sinister aspect of classification shifting is that neither the earnings number nor the balance sheet changes as a result of classification shifting. Although the "bottom line" of these financial statements does not change, investors should be aware that their financial statement ratio analyses will be imparted as the composition of core earnings and special item earnings changes. One method which investors may use to detect this form of earnings management is the use of analytical analysis. Any significant findings that are not explained in management's discussion and analysis may raise suspicions that classification shifting is present. Investors may also lobby for more rigorous accounting disclosures in order to ensure transparency in this area. Finally, investors may wish to gain a general understanding of the compensation structure of key executives who manage the firms in which they invest, to draw conclusions as the pressures which may lead the executives to engage in classification shifting.

### **Earnings Management via Pension Expense**

Managers have been found to manage pension expense. Reasons for earnings management via pension expense mirror those for other accounts, including the necessity to meet analysts' forecasts, to demonstrate earnings persistence, and to window dress earnings (Perols and Lougee, 2011; Bartov and Cohen, 2009; Moehrl, 2002; Burgstahler and Dichev, 1997). Parker et al. (2013, p. 24) find that managers continue to manage pension expense even after the passage of Sarbanes-Oxley Act.

### **The Rounding Phenomenon**

When evaluating financial statements, investors must consider "the rounding phenomenon", a method used by managers to enhance the presentation of income in order to achieve key metrics during the reporting period (Thomas, 1989; Carslaw, 1988). Their research suggests that investors should consider whether the numbers presented in the financial statements have been rounded to meet earnings expectations when more "zeroes" and fewer "nines" exist in the second digit of the reported earnings. Investors should also be aware that firms improve their reported earnings per share numbers in order to meet analysts' forecasts, report positive results and sustain recent performance by managing their working capital accruals (Das et al., 2003, p. 32). Investors must also consider the rounding phenomenon when examining financial statements prepared internationally (Skousen et al., 2004; Kinnunen and Koskela, 2003). In addition, investors should be aware of the prevalence of rounding in high-tech firms' reported earnings (Guan et al., 2008).

The literature is scarce regarding specific accounts and accruals that are rounded to meet expectations. He et al. (2012) find that revenues are more likely to be rounded when firms experience a loss, whereas earnings are revenues are not rounded as severely when the firm reports a profit. Regarding the rounding of expenses, He and Tian (2014) indicate that both profit and loss firms are likely to round up research and development expenses in order to positively impact investors' perceptions of the firm's future profitability, albeit this behavior is more prevalent for profit firms than for loss firms.

## **DISCUSSION AND AVENUES FOR FUTURE RESEARCH**

Thoughtful investors who assume responsibility for ensuring that their capital and retirement investments earn a desired return should understand the impact of earnings management on the financial statements. Although the statement of cash flows provides both investors with a reconciliation of the firm's beginning and ending balances, it does not inform investors of the potential drawbacks associated

with manager's subjectivity in the selection of accrual estimates, which may impact a firm's current and future cash flows. The purpose of this paper is to provide nonprofessional investors with a framework to identify the potential for earnings management when analyzing financial statements prepared on an accrual-basis. This paper may also be valuable to accounting professors who seek to expand accounting students' understanding of the impact of manager's subjectivity on earnings quality.

It is nearly improbable to eradicate earnings management. Marquardt and Wiedman (2004) indicate that the release of Securities and Exchange enforcement actions, earnings restatements, shareholder litigations, qualified audit opinions, and negative press coverage about a firm may provide investors with sources to investigate whether their investees have engaged in earnings management. However, they note that undetected earnings management is usually not obvious to investors.

Clikeman (2003) offers several tools that may be used to detect earnings management. Monthly profit margin reviews, trend analysis and ratio analysis may identify unexpected revenue and profit margins that point to accelerated revenue recognition. Investors should also exercise a healthy level of skepticism when reviewing a company's significant financial statement estimates and accounting assumptions to ensure that they reflect the organization's financial performance in a manner consistent with the current macroeconomic conditions. Finally, Beatrice and Dacian (2011) suggest that in order to detect earnings management, one must first identify a company's most managed accruals, then identify the incentives for managing the accruals, and finally recognize the context in which accruals are managed in order to understand the impact of these management criteria on the firm's resource allocations. Future research may apply this framework to each of the three major earnings management opportunities discussed in this paper to develop a comprehensive framework to assist investors in their understanding of earnings quality. Future research may also examine the impact that compensation clawback provisions may have on the reduction of different earnings management schemes as well as the reduction of earnings management for specific accruals.

## ENDNOTE

1. Francis et al. (2004) observes seven attributes of earnings: accruals quality, persistence, predictability, smoothness, value relevance, timeliness, and conservatism.

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