

Corporate Accruals Practices of Listed Companies in Bangladesh**

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ABSTRACT

Corporate accounting scandal is not a new phenomenon and it is the outcome of corporate accruals i.e., accruals by management choice. This study investigated the use of corporate accruals in the financial statements of the listed companies in Dhaka Stock Exchange (DSE) through segregating total accruals into corporate (discretionary) and accounting (non-discretionary) accruals. The average rate of corporate accruals was 35 percent and in many cases, cash flow from operation exceeded the net income, the growth in accounts receivable was faster than sales growth, and inventory growth was not consistent with sales growth. In this context, this study may create awareness of the risk factors of corporate accruals among external users' of accounting information especially analysts, regulator, policy makers, existing and potential shareholders, lenders, trade creditors, external auditors, researchers, financial advisors, and stock brokers. Consequently, it may reduce the use of management discretion in preparing the financial statements.

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1. INTRODUCTION

Corporate swindle has subjugated the financial news in recent years. The scandal at Waste Management (1998), Enron Corporation (2001), Tyco International (2002), WorldCom (2002), Health-South (2003), Freddil Mac (2003), American International Group (2005), Lehman Brothers (2008), Bernie Madoff (2008), and Satyam (2009) to name but a few, emphasizing the will and ability of unscrupulous managers to defraud investors and other stakeholders. These scandals call into the question of reliability of reported earnings. The recent wave of corporate governance failures has raised concerns about the integrity of the accounting information provided to investors and resulted in a drop in investor confidence (Jain et al, 2003; Rezaee 2004; Jain & Rezaee 2006). These failures were highly exposed and ultimately led to the drop of investors' confidence on accounting information. In Bangladesh, investors' do not have strong confidence on information provided in annual report (Razzaque 2004).

The recent wave of corporate scandals in the United States and elsewhere has dramatized, once again, the severity of the agency problems that may arise between managers and shareholders (Joseph et al, 2004). A principal concern of many users of financial statements has been whether or not earnings are overstated. Companies may be motivated to increase earnings in a particular period to meet analysts' earnings expectations, to meet debt covenants, or to improve incentive compensation. Importantly, management also may have incentives to lower reported earnings in a particular period.

In the United States, the SEC study (2002), *Report Pursuant in Section 704 of Sarbanes-Oxley Act of 2002*, reviews 515 enforcement actions between July 31, 1997 and July 30, 2002. The study classified improper accounting practices into four categories: (i) Improper revenue recognition (126 cases) including reporting revenue in advance through techniques, such as holding the accounting period open, billing without shipping (bill and hold), fictitious revenue, and improper valuation of revenue; (ii) Improper expenses recognition (101 cases) including improper capitalization, overstating inventory, understating bad debts/loan losses, improper use of restructuring reserves, and failure to record asset impairments; (iii) Improper accounting in connection with business combination (23 cases); and, (iv) Other accounting and reporting issues (130 cases) including inadequate disclosures, failure to disclose related party transactions, inappropriate accounting for non-monetary and round-trip transactions, improper accounting for foreign payments in violation of the Foreign Corrupt Practice Act, improper use of off-balance sheet arrangements, and improper use of non-GAAP financial measures (CFA:2011). In Bangladesh, the stock market had been crashed twice- one in 1996 and the other in 2010-2011. In 1996, the cause of crash was speculative bubble and in 2010-2011 the cause was asset pricing bubble. In DSE it is observed that, the stock price moves up if the earning per share is higher than that of the same quarter of the previous year. It is an indication of earnings manipulation in order to move up the price or better performance of their stock in the capital market. A probe committee was formed by the government to find out the real causes behind the crash of the capital market in 2010-2011. The probe committee digs out various ways to manipulate the capital market. Among those ways, accounting manipulation was important one which is somewhat responsible for creating asset pricing bubble in the capital market (Probe Committee Report: 2011).

The Institute of Chartered Accountants of Bangladesh (ICAB) provided their opinion and recommendations to the probe committee in 2011. Quality of financial statements of the issuers was one of the concerned issues. Major areas of concern were as follows:

- Quality of earnings
- Non-compliance of accounting standards
- Revaluation of fixed assets
- Poor quality of work of some audit firms that are in the SEC panel of auditors

During investigation, Probe Committee (2011) observed that companies were overstating their assets in the name of revaluation as there was a weakness of the revaluation process in Bangladesh and deferred tax implications were not properly accounted in the financial statement. Even, many companies had

issued bonus shares against such unrealized gains which were not legal. The probe committee provides the following information to observe the scenario of the revaluation of assets.

Table 1: Test Case of Overvaluation of Assets

Name	NAV per share in Taka		
	Before revaluation	After revaluation	% change
Libra Infusions	438	15667	3472
Sonali Aansh Industries	297	2156	626
Rahim Textile	127	785	518
BD Thai Aluminum	142	566	298
Orion Infusion Ltd	20	101	413
Ocean Containers Ltd.	13	50	296
Shine Pukur Ceramic	12	26	120
Eastern Insurance	151	309	104

Source: Probe Committee Report, 2011; NAV = Net Assets Value

Earnings per share (EPS) is an important indicator to justify the share price of a company. In Bangladesh, earnings per share of companies are manipulated in order to hike the offer price in the stock market. Institute of Chartered Accountants of Bangladesh (ICAB) mentioned the manipulating strategies as follows:

1. Annualizing EPS computation – There were instances where issuers annualized the latest quarterly or semi-annual EPS without using latest available full year EPS. Such quarterly/semi annually EPS figures were significantly higher than historical EPS which is most likely to be “managed”
2. Manipulation related to weighted average number of shares in computing EPS- There were instances where issuers had issued a large number of shares closer to the balance sheet date so that such new shares would have lesser impact in computing weighted average number of shares.
3. Issue of shares subsequent to the balance sheet date – There were instances where new shares issued subsequent to the balance sheet date and impact of such new shares were not taken into account in computing EPS in pricing the IPO.
4. Inclusion of exceptional non-recurring income into the EPS computation (example: capital gains).

(Source: Probe Committee Report, 2011)

Management has a unique ability to commit fraud because it often is in a position to directly or indirectly manipulate accounting records and present deceitful financial information. Fraudulent financial reporting often involves management override of controls that otherwise may appear to be operating effectively. Management can either direct employees to perpetrate fraud or solicit help in carrying it out. In addition, management personnel as a component of the entity may be in a position to manipulate the

accounting records of the component in a manner that causes a material misstatement in the consolidated financial statements of the entity. Management override of controls can occur in unpredictable ways (CFA: 2011).

In view of the above facts, it is clear that agency issues is a severe problem in the corporate world of Bangladesh and there is a great possibility of using discretionary accruals (choice by management) in the financial statements to achieve desired goals. Discretionary accrual is an important economic variable to assess the quality of earnings. The quality of earnings is directly related with the quality of accruals. Higher discretionary accruals indicate lower quality of earnings and lower discretionary accruals indicate higher quality of earnings. In this context, the main objective of this study is to examine whether there is an existence of discretionary accruals in the corporate financial statements in Bangladesh and if so, assess the level of discretionary accruals. The secondary objectives are to find out some evidences that could lead to accounting irregularities and to refer the risk factors associated with the fraud triangle and common accounting warning signs.

The remainder of the paper is organized as follows. Section 2: presents literature review, section 3: describes various accruals models, section 4: empirical methodology, section 5: discussion of results and section 6: conclusion.

2. LITERATURE REVIEW

Accrual manipulation is an important way to managers to produce a desired earnings number. The company does not change its activities but, rather, opportunistically reports income for an existing activity. Accruals create the opportunity for earnings management because they require managers to make forecasts, estimates, and judgments. The greater the degree of discretion in an accrual, the greater the opportunity for earnings management (Dechow & Schrand, 2004). Generally, managers prefer the manipulation of accruals over the manipulation of real activities. Consequently, managers are likely to resort to the manipulation of real activities only when there is limited scope left for accrual manipulation. The manipulation of both accruals and real activities has severe consequences on the reliability of earnings for decision making. Managerial manipulation reduces the reliability of accounting numbers, leading to reduced conditional conservatism (Juan et al. 2009). The articulation between the income statement and the balance sheet ensures that accruals reflected in earnings also are reflected in net assets. Therefore, an optimistic bias in earnings implies net assets measured and recorded temporarily at values exceeding those based on a neutral application of GAAP. Generous assumptions of managers' about recognition and measurement in one period reduce their ability to make equally generous assumptions in later periods, if managers want to stay within the guidance provided by accounting regulators and professional groups. Therefore, managers' ability to optimistically bias earnings decreases with the

extent to which net assets are already overstated (Barton & Simko, 2002). Discretionary accruals are accounting adjustments to cash flows that managers can choose within the flexibility of GAAP. Since GAAP allows certain discretion over financial reporting, there is a possibility that accruals contain management's intention to manipulate information (Beneish 1997; Dechow & Skinner 2000). Previous studies detected earnings management behavior through various methods including the changing of accounting policies (Balsam et al., 1998), discretionary accruals (Jones 1991), real transactions (Barber et al. 1991; Bushee 1998; Cheng 2005), and earnings distribution (Burgstahler and Dichev 1997). Since the middle of 1980s, discretionary accruals have become the primary focus on detecting earnings management. There are two main reasons. Firstly, accrual is a generally accepted accounting principle. Accruals are used to reduce inconsistencies encountered as a result of difference in timing of the recognition (Dechow & Skinner 2000). Secondly, the accrual technique is less visible and hard to detect compare to the changing of accounting policies or real transactions. As such, accruals open a door for opportunistic earnings management within the requirement of GAAP. Managers believe that accrual technique is a desirable vehicle to achieve their objectives (Dechow 1994; Beneish 2001).

The accrual method began with Healy (1985) and DeAngelo (1986), who used total accruals and changes in total accruals as a proxy for discretionary accruals respectively. These models capture either income-increasing or income-reducing techniques that managers have incentives to employ, however, they misclassified all accruals as discretionary which lead to biased test if earnings management stimulus is correlated to non-discretionary accruals to overcome this limitation. Jones (1991) introduced a linear regression approach to control non-discretionary determinants of accruals. She used change in sales control for non-discretionary accruals of current assets and liabilities; property, plant and equipment control for the non-discretionary component of depreciation expense. The rationale is that a firm's working capital requirements depend on sales, while its depreciation accruals depend on the level of property, plant and equipment. Then, she uses the residual for regression of total accruals on non-discretionary determinants of accruals as discretionary accrual proxy. However, this model misclassified all revenue as non-discretionary accruals. Dechow et al. (1995) introduced a Modified Jones Model, they adjusted the Jones model by removing credit sales from revenues. However, the modified Jones Model could still yield biased results if no earnings management occurs in credit sales. In the literature, both Jones Model and Modified Jones Model have been widely used in estimating discretionary accruals the proxy for earnings management. Since earnings management is not observable, the validity and reliability of Jones and Modified Jones empirical models have been often criticized (Bernard & Skinner 1996; Wilson 1996; Guay et al. 1996; Beneish 1997; Healy & Wahlen 1999; Thomas & Zhang 2000; Peasnell et al. 2000; Xie 2001; Leuz et al. 2003). Researchers argued that model misspecification problem at least reduces the power of detecting earnings management, and at worst causes researchers to conclude that there is earnings management when none actually exist (e.g., McNichols & Wilson 1988; Dechow et al. 1995). Moreover, it is more likely to detect income increasing earnings management for higher profitable firms and income –decreasing earnings management for lower profitable firms.

Likewise, researchers are more likely to detect income-increasing earnings management for lower cash flow firms and income –decreasing earnings management for higher cash flow firms. Accruals are correlated with a firm’s contemporaneous and past performance. Jones and Modified Jones models attempt to control for contemporaneous performance but ignore the past performance. Empirical assessments suggest that estimated discretionary accruals are significantly influenced by a firm’s contemporaneous and past performance. If a firm experiences an unusual performance, for example, has one-time extreme high or low sales; or a fast growth stock exhibit momentum for a period of time, then there is a danger of a false detection of earnings management unless discretionary accruals models can adequately filter out the component that affected by firm performance (Kothari et al. 2005).

So far a few studies on discretionary accruals might have yet been conducted in Bangladesh. The researcher found only one study entitled ‘Earnings Management: An Analysis on Textile Sector of Bangladesh’ (Razzaque *et al.*, 2006). The study was conducted long back (period 1992-2002) using the Modified Jones Model (1995) and confined to the textile industry only. The study did not provide any information about the level of discretionary accruals. Besides, the study did not use separate models for non-discretionary and discretionary accruals. They define discretionary accruals as residuals of total accruals model.

In light of the above, the researchers feel that an in-depth study is urgently needed to measure the level of discretionary accruals in the corporate financial statements in Bangladesh so as to find out the clues that could lead to accounting irregularities. The researchers also feel that the external stakeholders should be acquainted with the risk factors for each condition of the fraud triangle and common accounting warning signs that may lead to reduce the use of management discretion in preparing financial statement.

3. MODELS OF NON-DISCRETIONARY ACCRUALS (ACCOUNTING ACCRUALS)

A wide variety of non-discretionary accrual models have been employed by previous researchers. Estimating the non-discretionary component of accruals typically involves a regression model. We termed non-discretionary accruals as accounting accruals and discretionary accruals as corporate accruals in the study. The common variants of the most popular models are discussed below:

3.1 The Jones Model (1991)

Jones offers a new and potentially more effective way to estimate non-discretionary accruals in her model. She uses a property, plant and equipment variable (PPE) to control for any changes in non-

discretionary accruals arising from the depreciation charge and hence resulting from changes in business activities of the firm. Using the same idea, a sales revenue variable is used to control changes in non-discretionary accruals related to working capital accounts arising from changes in the economic environment of the firm. However, revenues, according to Jones, are not completely exogenous; for example, shipments for merchandise could be postponed in order to postpone recognition of revenue until the next year. The regression is estimated for each sample firm as follows:

$$\frac{TA}{LTA} = \beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] + \varepsilon$$

Where:

- TA = Total Accruals
- ΔREV = Change in Revenues from the preceding year
- PPE = Gross Value of Property, Plant & Equipment
- LTA = Lagged Total Assets

All variables in her model are scaled by lagged assets to reduce heteroscedasticity. Discretionary accruals (DA), as shown below are computed as the difference between total accruals and non-discretionary components of accruals.

$$DA = \frac{TA}{LTA} - \left[\beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] \right]$$

Looking at the Jones model, it is clear that the idea of using two variables (ΔREV and ΔPPE) to control for changes in non-discretionary accruals makes this model potentially more accurate for an analysis of earnings manipulations. However, the assumption that coefficient estimates are stationary over time would create survivorship bias. As well, sales manipulation that can be managed by managers is completely ignored since this model assumes that all revenues in the period are non-discretionary.

3.2 The Modified Jones Model (1995)

Dechow et al. (1995) modify the original Jones model to eliminate the conjectured tendency to measure discretionary accruals with error when discretion is exercised over revenues. The change in revenues is adjusted for the change in receivables in the event period. They assume that all changes in credit sales in the event period proceed from earnings management. They conclude that managing earnings by exercising discretion over the recognition of revenue on credit sales is easier than managing earnings by exercising discretion over the recognition of revenue on cash sales. The regression for the sample is estimated as follows:

$$\frac{TA}{LTA} = \beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV - \Delta AR}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] + \varepsilon$$

Where:

- TA = Total Accruals

- ΔREV = Change in Revenues from the preceding year
- ΔAR = Change in Accounts Receivable from the preceding year
- PPE = Gross Value of Property , Plant & Equipment
- LTA = Lagged Total Assets

Discretionary accruals (DA), as shown below, are computed as the difference between total accruals and the non-discretionary components of accruals.

$$DA = \left[\frac{TA}{LTA} \right] - \left[\beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta \text{REV} - \Delta \text{AR}}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] \right]$$

3.3. The Extended Jones Cash Flow Model (1999)

Kasznik (1999) adds to modified Jones model changes in operating cash flow as an explanatory variable to explain the negative correlation between cash flow from operations and total accruals. He finds that managers use income-increasing discretionary accruals to manage reported earnings toward their forecast numbers when they have overestimated earnings. In contrast, he finds no evidence that managers use income-decreasing discretionary accruals to manage reported earnings downward when they have underestimated earnings in their forecasts. The regression for the sample is estimated as follows:

$$\left[\frac{NDA}{LTA} \right] = \alpha_0 + \alpha_1 \left[\frac{1}{LTA} \right] + \alpha_2 \left[\frac{\Delta \text{REV} - \Delta \text{AR}}{LTA} \right] + \alpha_3 \left[\frac{PPE}{LTA} \right] + \alpha_4 \left[\frac{\Delta \text{CFO}}{LTA} \right] + \varepsilon$$

Where:

- NDA = Non-Discretionary Accruals
- ΔREV = Change in Revenues from the preceding year
- ΔAR = Change in Accounts Receivable from the preceding year
- PPE = Gross Value of Property , Plant & Equipment
- ΔCFO = Change in cash flows from operation
- LTA = Lagged Total Assets

3.4 Modified Jones Model with Book-to-Market Ratio and Cash Flows (2004)

Larcker and Richardson (2004) add the book-to-market ratio (*BM*) and operating cash flows (*CFO*) to modified Jones model to mitigate measurement error associated with the discretionary accruals. *BM* controls for expected growth in operations and if left uncontrolled, growth will be picked up as discretionary accruals. *CFO* controls for current operating performance. Controlling for performance is important because Dechow et al. (1995) find that discretionary accruals are likely to be misspecified for firms with extreme levels of performance. Larcker and Richardson (2004) note that their model is

superior to the modified Jones model in several ways: it has far greater explanatory power, identifies unexpected accruals that are less persistent than other components of earnings, the estimated discretionary accruals detect earnings management identified in SEC enforcement actions, and identifies discretionary accruals that are associated with lower future earnings and lower future stock returns. The regression for the sample is estimated as follows:

$$\left[\frac{TA}{LTA} \right] = \beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV - \Delta AR}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] + \beta_4 \left[\frac{BM}{LTA} \right] + \beta_5 \left[\frac{CFO}{LTA} \right] + \varepsilon$$

Where:

TA = Total Accruals

ΔREV = Change in Revenues from the preceding year

ΔAR = Change in Accounts Receivable from the preceding year

PPE = Gross Value of Property, Plant & Equipment

BM = Book-to-Market Ratio

CFO = Cash Flows from Operations

LTA = Lagged Total Assets

3.5 The Performance Matching Model (2005)

Kothari, Leone, and Wasley (2005), develop a performance-matching model. They offer two different approaches. The first involves matching similar firms, which alleviates the need to use an ordinary least square estimate of DA. They detect earnings management by comparing the accruals of firms that are otherwise almost identical. The second, the linear-performance matching model, embodies two modifications of the Jones and modified Jones models: an intercept, and an additional control for lagged rate of return on assets, ROA_{t-1} .

Because the first term in the Jones model is the reciprocal of lagged assets, econometrically, the Jones model does not have an intercept. Deflating by lagged assets is meant to mitigate heteroscedasticity. Finding that heteroscedasticity is still an issue, Kothari, Leone, and Wasley also include an intercept to mitigate it. They find that an intercept yields higher symmetry around zero discretionary accruals, which enhances the power of test for type 1 error.

Roodposhti, Rezaei and Salehi (2012) named this model as Kothari-Jones and Modified Kothari-Jones models and the regression for the sample is estimated as follows:

3.5.1 Kothari-Jones Model

$$\left[\frac{NDA}{LTA} \right] = \alpha_0 + \alpha_i \left[\frac{1}{LTA} \right] + \alpha_1 \left[\frac{\Delta REV}{LTA} \right] + \alpha_2 \left[\frac{PPE}{LTA} \right] + \alpha_3 [ROA_{t-1}] + \varepsilon$$

Where:

NDA = Non-Discretionary Accruals

ΔREV = Change in Revenues from the preceding year

PPE = Gross Value of Property , Plant & Equipment

ROA_{t-1} = Lagged Rate of Return on Assets

LTA = Lagged Total Assets

3.5.2 Modified Kothari-Jones Model

$$\left[\frac{NDA}{LTA} \right] = \alpha_0 + \alpha_1 \left[\frac{1}{LTA} \right] + \alpha_2 \left[\frac{\Delta \text{REV} - \Delta \text{AR}}{LTA} \right] + \alpha_3 \left[\frac{PPE}{LTA} \right] + \alpha_4 [\text{ROA}_{t-1}] + \varepsilon$$

Where:

NDA = Non-Discretionary Accruals

ΔREV = Change in Revenues from the preceding year

ΔAR = Change in Accounts Receivable from the preceding year

PPE = Gross Value of Property , Plant & Equipment

ROA_{t-1} = Lagged Rate of Return on Assets

LTA = Lagged Total Assets

3.6 Performance Matched Free Cash Flow Model

Cash flow is an important basis for accrual measurement (Ingram & Lee 2007). There is considerable body of literature that defines total accruals as the difference between net income and cash flow from operating activities (Dechow, Solan & Sweeny 1995; Xie Davidson & DaDalt 2003). This traditional approach has been extended by Dechow and Ge (2006) who define total accruals as the difference between earnings and free cash flow. Recent research studies have used the free cash flow approach to accruals measurement (Bukit & Iskandar 2009). Free cash flow (FCF) is the combination of cash flow from operating activities and investing activities, which reflects the impact of cash spending on fixed assets and investments. Companies operating with high FCF provide greater opportunities for opportunistic behavior by management. Therefore, it is appropriate to suggest that FCF better reflects accruals for individual firms (Bhuiyan et al. 2013).

$$DA = \left[\frac{TA}{LTA} \right] - \left[\alpha_0 + \alpha_1 \left[\frac{1}{LTA} \right] + \alpha_2 \left[\frac{\Delta REV - \Delta AR}{LTA} \right] + \alpha_3 \left[\frac{PPE}{LTA} \right] + \alpha_4 [ROA_{t-1}] + \varepsilon \right]$$

Where:

TA = Total Accruals (Net Income before extraordinary items less free cash flow from operating activities and cash flow from investing activities)

ΔREV = Change in Revenues from the preceding year

ΔAR = Change in Accounts Receivable from the preceding year

PPE = Gross Value of Property , Plant & Equipment

ROA_{t-1} = Lagged Rate of Return on Assets

LTA = Lagged Total Assets

4. METHODOLOGY

4.1 Data and sample description

As on June 30, 2012 total listed securities of Dhaka Stock Exchange (DSE) were 511, of which 273 were securities (3 corporate bonds, 8 debentures, 41 mutual funds, & 221 treasury bonds) and 238 were companies. Again, 30 companies were banks, 22 were financial institutions and 45 were insurance companies out of 238 listed companies. Annual reports of 68 listed companies of 2010-2011 out of 141 listed non financial companies were taken as sample in the current study. The relevant data were collected through the survey of financial statements of annual report for the year 2010-2011 of each firm of the sample companies. The relevant pages of the annual report were statement of income (for revenue, net income), statement of cash flow (cash flow from operation), statement of financial position (for accounts receivable, total assets), and schedule of fixed assets (for gross value of fixed assets).

4.2 Measurement of accounting accruals manipulation

Earnings management is predominantly a function of manipulating accruals, so it is intuitive to use the magnitude of accruals as a proxy for earnings quality: the higher the total accruals as a percentage of assets, the greater the likelihood that earnings quality is low. The size of accruals can be used as a rough measure for earnings manipulation, especially in high-accrual firms (Tim Keefe: 2013). Three steps are involved in deriving discretionary accruals i.e., Step-1: *Total accruals*, Step-2: *Accounting accruals (Non-discretionary accruals)* and Step-3: *Corporate accruals (Discretionary accruals)*.

4.2.1 Measuring the Total Accruals

There are two ways to measure the total accruals created in a given period (Tim Keefe: 2013).

1. The Balance Sheet Approach
2. The Statement of Cash Flow Approach

4.2.1.1 The Balance Sheet Approach

Using the balance sheet, we can find the total net accruals by subtracting:

$$\text{Total Accruals} = \text{Accrual Earnings} - \text{Cash Earnings}$$

But the balance sheet doesn't directly tell us what accrual earnings or cash earnings were in the period, so we will have to perform further calculation to retrieve this information.

4.2.1.1.1 Accrual Earnings

Net income flows into the balance sheet as retained earnings, which can be found in the owners' equity section of the balance sheet. Owners' equity also reflects net distributions to equity holders, and we will need to make some adjustments for these items. So, owners' equity at the end of the period will be as under:

$$\begin{aligned} \text{End Equity} &= \text{Start Equity} + \text{Accrual Earnings} - \text{Cash Dividends} - \text{Stock Repurchases} \\ &\quad + \text{Equity Issuance} \end{aligned}$$

To calculate accrual earnings, we can rearrange the equation above and find that it is the difference between ending owners' equity and beginning owners' equity, adjusted for dividends, stock repurchases and stock issuances. This adjustment can be summarized as net cash distribution to equity.

$$\begin{aligned} \text{Accrual Earnings} &= \Delta \text{Owners' Equity} + \text{Cash Dividends} + \text{Stock Repurchases} - \text{Equity Issuance} \\ &= \Delta \text{Owners' Equity} + \text{Net Cash Distributions to Equity} \end{aligned}$$

Now, assuming that $\text{Assets} - \text{Liabilities} = \text{Owners' Equity}$, we can substitute to get the following equation for accrual earnings:

$$\begin{aligned} \text{Accrual Earnings} &= \Delta \text{Assets} - \Delta \text{Liabilities} + \text{Net Cash Distributions to Equity} * \\ * \text{Net Cash Distributions to Equity} &= \text{Cash Dividends} + \text{Stock Repurchases} - \text{Equity Issuance} \end{aligned}$$

4.2.1.1.2 Cash Earnings

To begin, cash earnings must be somehow related to the cash account and can be found by looking at the change in the cash account. The cash account is also affected by net cash distributions to equity holders, and we will need to make some adjustments for these items. So, cash earnings at the end of the period will be as under:

$$\begin{aligned} \text{Cash Earnings} &= \Delta \text{Cash} + \text{Cash Dividends} + \text{Stock Repurchases} - \text{Equity Issuance} \\ &= \Delta \text{Cash} + \text{Net Cash Distributions to Equity} \end{aligned}$$

Total Accruals

The section began with the basic total net accruals equation and then went to define accrual earnings and cash earnings. Now with these definitions in hand we can substitute them in.

$$\text{Total Accruals} = \text{Accrual Earnings} - \text{Cash Earnings}$$

$$= [\Delta \text{ Assets} - \Delta \text{ Liabilities} + \text{NCDE}^*] - [\Delta \text{ Cash} + \text{NCDE}^*]$$

$$\text{Total Accruals} = \Delta \text{ Assets} - \Delta \text{ Liabilities} - \Delta \text{ Cash}$$

* NCDE = Net Cash Distribution to Equity

4.2.1.2 The Statement of Cash Flow Approach

Using the statement of cash flow, we can find total accruals with the same basic equation as stated before:

$$\text{Total Accruals} = \text{Accrual Earnings} - \text{Cash Earnings}$$

4.2.1.2.1 Accrual Earnings

Calculating total accruals from the statement of cash flow is a bit more straightforward. This is because we don't need to pull out accrual earnings, because net income is stated right on the report.

$$\text{Accrual Earnings} = \text{Net Income (NI)}$$

4.2.1.2.2 Cash Earnings

Cash earnings can be found from statement of cash flow. Cash flow from operating activities is treated as cash earnings.

$$\text{Cash Earnings} = \text{Cash flow from Operating Activities (CFO)}$$

Total Accruals

$$\begin{aligned} \text{Total Accruals} &= \text{Accrual Earnings} - \text{Cash Earnings} \\ &= \text{NI} - \text{CFO} \end{aligned}$$

In this study, due to non-articulation issues, the cash flow approach has been used to measure total accruals for each of sample companies by following equation:

$$TA \left[\frac{1}{LTA} \right] = \left[\frac{1}{LTA} \right] [NI - CFO]$$

Where,

TA	=	Total Accruals
NI	=	Net Income for the current period
CFO	=	Cash Flow from Operations for the current period
LTA	=	Lagged Total Assets [Total assets of the last year]

*Both items in the equation are scaled by lagged total assets in order to reduce heteroscedasticity.

4.2.2 Measuring Accounting Accruals (Non-Discretionary Accruals)

Using the raw accrual amounts as a proxy for earnings management is a simple method to evaluate earnings quality because firms can have high accruals for legitimate business reasons, such as sales growth. A more complicated proxy can be created by attempting to categorize total accruals into accounting accruals and corporate accruals. The accounting accruals component reflects business conditions such as growth and the length of the operating cycle that naturally create and destroy accruals,

while the corporate accruals component identifies management choices. The following two steps are involved in measuring accounting accruals.

4.2.2.1 Measuring Co-efficient Estimates by using Regression Model

The following regression model for the sample has been developed in light of the modified Kothari-Jones Model (2005) as to eliminate possible mechanical relationship between performance metric and current period's corporate accrual estimate in order to measure the coefficient estimates (β value) that are used to segregate the accruals into accounting accruals and corporate accruals components. The regression model for total accruals for the sample firm is estimated as follows:

$$\left[\frac{TA}{LTA} \right] = \beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV - \Delta AR}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] + \beta_4 \left[\frac{NI}{LTA} \right] + \varepsilon$$

Where:

- TA = NI – CFO, where NI (net income) is taken from the statement of income and CFO (operating cash flows) is taken from the statement of cash flows.
- Δ REV = Change in Revenues from the preceding year
- Δ AR = Change in Accounts Receivable from the preceding year
- PPE = Gross Value of Property , Plant & Equipment
- NI = Net Income
- LTA = Lagged Total Assets

Each β is the estimated relationship of the independent variable to the dependent variable, and the error term represents the composite effect of all variables not explicitly stated as an independent variable.

4.2.2.2 Measuring firm's accounting accruals by using regression Equation

The above coefficient estimates (β value) are used in the following regression equation to estimate the firm-specific normal accruals (NA) or non-discretionary accruals for our sample firms:

$$\left[\frac{AA}{LTA} \right] = \beta_1 \left[\frac{1}{LTA} \right] + \beta_2 \left[\frac{\Delta REV - \Delta AR}{LTA} \right] + \beta_3 \left[\frac{PPE}{LTA} \right] + \beta_4 \left[\frac{NI}{LTA} \right]$$

Where:

- AA = Accounting (Non-Discretionary) Accruals
- Δ REV = Change in Revenues from the preceding year
- Δ AR = Change in Accounts Receivable from the preceding year
- PPE = Gross Value of Property , Plant & Equipment
- NI = Net Income
- LTA = Lagged Total Assets

4.2.3 Measuring Corporate Accruals (Discretionary Accruals)

The value of total accruals and accounting accruals are available at this stage and corporate accruals is the difference between total accruals and the fitted normal accruals, defined as

$$CA = \left[\frac{TA}{LTA} \right] - \left[\frac{AA}{LTA} \right]$$

Where,

CA	=	Corporate (Discretionary) Accruals
TA	=	Total Accruals
AA	=	Accounting (Non-discretionary) Accruals
LTA	=	Lagged Total Assets

5. RESULTS AND DISCUSSION

The statistical results of our analysis captured the existence of discretionary accruals in the financial statements of listed companies in Dhaka Stock Exchange (DSE) of Bangladesh. The practicing average rate of discretionary accruals of listed non-financial companies is 35 percent in Bangladesh (Annex-1). Table 1 shown below reveals that 12 percent of non-financial listed companies scored 0 to 10 percent (of either sign), 22 percent scored 11 to 20 percent, 16 percent companies scored 21 to 30 percent, 21 percent companies scored 31 to 40 percent, 15 percent companies scored 41 to 50 percent, 7 percent companies scored 51 to 60 percent and 7 percent scored more than 61 percent. Companies with large accruals tend to have large estimation errors. The diligence of earnings is lower when earnings consists mainly accruals. When accruals are large in magnitude, they are likely to contain significant estimation error, which reduces the diligence of earnings. Managers often want earnings to be highly persistent and predictable because these characteristics can improve their reputations with analysts and investors. If such earnings do not annuitize the intrinsic value of the firm, however, the earnings are low quality. Under accrual accounting, current experience is used to make accounting estimates for future periods and these estimates feed back into current- period earnings (Dechow & Schrand; 2004).

Table 2 :Distribution of Corporate Accruals

Class interval of discretionary accruals, (%)	Frequency (No of companies)	No of companies (%)
< 10	8	12%
11 – 20	15	22%
21 – 30	11	16%
31 – 40	14	21%
41 – 50	10	15%
51 – 60	5	7%
61 <	5	7%
	68	100%

The quality of accruals can vary among companies as a function of accruals even in the absence of intentional earnings manipulation. The determination of earnings requires estimations and judgments and some companies require more forecasts and estimates than others. For example, companies in growing industries will typically have high accruals, which raises a question about reliability because accruals are likely to contain estimation errors. Estimation errors reduce earnings persistence (because they must be corrected in future earnings) and are irrelevant for valuation. Therefore, large accruals (of either sign) can indicate great underlying volatility in the company's operations and low-quality earnings. Accrual accounting opens the door to opportunistic short-run income smoothing that can lead to future restatements and write-downs. In this method, the company does not change its activities but, rather, opportunistically reports income for an existing activity. Examples, increase in income is reducing the allowance for doubtful accounts, capitalizing rather than expensing costs, and avoiding write-offs of assets. Accruals create the opportunity for earnings management because they require managers to make forecasts, estimates, and judgments. Many studies found that high accruals, in absolute magnitude, are a potential "red flag" that indicates companies are engaged in earnings management. In absolute magnitude, the result shows that the average rate of practicing discretionary accruals of listed non-financial companies in Bangladesh is 37 percent (Annex-1). Table 2 reveals that 26 percent of sample companies scored 0 to 10 percent, 24 percent of sample companies scored 11 to 20 percent, 13 percent of sample companies scored 21 to 30 percent, 18 percent of sample companies scored 31 to 40 percent, 7 percent of sample companies scored 41 to 50 percent, 7 percent of sample companies scored 51 to 60 percent and 5 percent of sample companies scored more than 61 percent respectively. Thus, on the whole, 74 percent of the sample companies scored more than 10 percent, which is clearly a 'red flag' for all the stakeholders both internal and external. It is also evident that management is abusing their discretionary power through manipulating accounting accruals. As a result,

the level of confidence of the external stakeholders on corporate financial reporting is still too low like earlier studies.

Karim (1998) found that financial reporting in developing countries is generally characterized by lack of transparency, adequacy, reliability and timeliness. Ahmed (1982) found that the image and reliability of financial statements prepared by Bangladeshi companies are not up to international standard and in most cases those are dressed up and cosmetics. What they reveal is interesting but what they conceal is vital. That’s why nobody has confidence on those financial statements and hardly anybody uses them for making economic decisions. Rahman (1982) also found that there is no truth in accounting. Accounting is what one wants it to be. Rahman (1982) found that multinational enterprises understate profits through the manipulations of accounting policies. Razzaque (2004) and Hasan (2013) found the same poor level of confidence of the stakeholders on corporate financial reporting in Bangladesh.

Table 3: Distribution of Corporate Accruals*

Class interval of discretionary accruals, (%)	Frequency (No of companies)	No of companies (%)
< 10	18	26%
11 – 20	16	24%
21 – 30	9	13%
31 – 40	12	18%
41 – 50	5	7%
51 – 60	5	7%
61 <	3	5%
	68	100%

*Absolute Value

In many cases, it is observed that cash flow from operation exceeds net income (Annex -2) like Enron’s case, the growth rate of accounts receivable is faster than sales growth (Annex-3), the growth of inventory is not consistent with sales growth (Annex-4) and it could lead accounting irregularities. Therefore, it can be said that the external users including analysts of accounting information in Bangladesh are not aware about the risk factors of three conditions of fraud triangle and common accounting warning signs.

Statement of Auditing Standard (SAS) No.99 warns practitioners to be alert for the ‘fraud triangle’ or three conditions that are generally present when fraud occurs:

- Incentives or pressures exist that can lead to fraudulent financial reporting, such as pressure to meet debt covenants or analysts’ earnings expectations.
- Opportunities to commit fraud exist, such as poor internal control.

- The individuals themselves are able to rationalize their behavior, such as a desire to get the company through a difficult time, after which they plan to undo their accounting games.

SAS-99 provides examples of fraud risk factors for each of the conditions of the fraud triangle (Annexure-5). Based on the SEC, USA studies (2002) and a review of accounting scandals, several common accounting warning signs are apparent (Annex-6).

6. CONCLUSION

The study focuses on the existence of discretionary accruals in the corporate financial statements published in the annual report of non-financial companies listed in Dhaka Stock Exchange of Bangladesh. There are two different approaches to measure total accruals e.g., The Balance Sheet Approach and Statement of Cash Flow Approach. In this study, due to non-articulation issues, Statement of Cash Flow Approach is used to find out the total accruals for each of the sample companies. Total accruals are scaled by lagged total assets in order to reduce heteroscedasticity.

The division of total accruals into non-discretionary and discretionary accruals (accruals by management choice) is an important area in accounting research. A wide variety of models have been employed by researchers such as The Jones Model, The Modified Jones Model, The Extended Jones Cash Flow Model, The Performance Matching Model (The Kothari-Jones Model and The Modified Kothari-Jones Model), and The Performance Matched Free Cash Flow Model. The detailed discussions of these models have been presented earlier in the later part of literature review section of this study. The performance matched regression model is used for measuring the degree of influence of four independent variables (co-efficient estimates i.e., β value) over total accruals (dependent variable). Non-discretionary accruals are predicted by using a linear regression equation. The discretionary accrual is the difference between total accruals and non-discretionary accruals. The study found discretionary accruals (accruals by management choice) is practiced by all the sample companies. The average practicing rate of discretionary accruals is 35 percent. The external users of accounting information of public limited companies are not aware of the risk factors of three conditions of fraud triangle and common accounting warning signs as in some cases it is observed that cash flow from operation exceeded the net income like Enron's case, the growth rate of accounts receivable is faster than sales growth, and the growth of inventory is not consistent with sales growth.

The existence of these red flags (the risk factors) and accounting warning signs does not mean that the company is engaged in accounting fraud. The analysts should take care while performing the evaluation of corporate financial statements with multiple red flags. If too many red flags exist, it is undoubtedly right to tread with caution and it may be best to walk away. It is high time for all the stakeholders to be aware of the possible risk factors associated with each condition of fraud triangle and common accounting warning signs otherwise management may have the opportunity to exercise their discretionary power to achieve their desired goals.

Findings of this study warrant further investigation on decomposition of discretionary components of accruals for each of the listed companies in DSE.

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Accruals Data

Annex-1

SN	TA	AA/NDA	CA/DA	AVDA/AVCA
1	-0.08064	-0.43823	0.35759	0.35759
2	-0.06167	-0.63757	0.5759	0.5759
3	-0.08714	-0.54974	0.46261	0.46261
4	0.12136	-0.44044	0.5618	0.5618
5	-0.02729	-0.29067	0.26338	0.26338
6	-0.07211	-0.62908	0.55697	0.55697
7	-0.03805	-0.54223	0.50417	0.50417
8	-0.06092	-0.45033	0.38941	0.38941
9	-0.00518	-0.22245	0.21727	0.21727
10	0.05904	-0.09688	0.15592	0.15592
11	0.16143	0.11607	0.04537	0.04537
12	-0.17659	0.00203	-0.17862	0.17862
13	0.18291	-0.18828	0.37119	0.37119
14	-0.07475	-0.21653	0.14179	0.14179
15	0.0049	-0.2444	0.2493	0.2493
16	-0.16673	-0.30526	0.13853	0.13853
17	-0.00043	-0.37041	0.36998	0.36998
18	0.00496	-0.41305	0.41801	0.41801
19	0.0071	-0.57176	0.57887	0.57887
20	0.29875	-0.42375	0.7225	0.7225
21	0.45121	-0.01746	0.46866	0.46866
22	0.07178	-0.0875	0.15928	0.15928
23	0.07282	-0.22029	0.29311	0.29311
24	0.22967	-0.1882	0.41788	0.41788
25	0.12005	-0.30653	0.42658	0.42658
26	0.10662	-0.3451	0.45172	0.45172
27	0.02157	-0.16724	0.18881	0.18881
28	-0.00651	-0.17183	0.16532	0.16532
29	0.04671	-0.34473	0.39144	0.39144
30	-0.04777	-0.13801	0.09024	0.09024
31	-0.19318	-0.37667	0.18349	0.18349
32	-0.07499	-0.17008	0.09509	0.09509
33	0.18148	-0.0916	0.27309	0.27309
34	-0.01703	-0.24259	0.22556	0.22556
35	-0.06439	-0.17536	0.11097	0.11097
36	-0.25379	-0.00165	-0.25214	0.25214
37	-0.12077	-0.50041	0.37964	0.37964
38	-0.18739	-0.18977	0.00238	0.00238
39	-0.00256	0.00186	-0.00442	0.00442
40	-0.02766	-0.10096	0.0733	0.0733
41	0.0345	-0.42143	0.45593	0.45593

42	-0.04145	-0.30466	0.2632	0.2632
43	-0.0383	0.01452	-0.05282	0.05282
44	-0.07612	-0.26903	0.19291	0.19291
45	-0.01012	-0.73848	0.72836	0.72836
46	0.00841	-0.53088	0.53929	0.53929
47	0.06156	-0.13116	0.19272	0.19272
48	0.15144	-0.22206	0.3735	0.3735
49	0.12052	-0.13384	0.25437	0.25437
50	0.18174	0.04463	0.13711	0.13711
51	-0.12495	-0.16388	0.03894	0.03894
52	0.08328	-0.06109	0.14437	0.14437
53	0.01563	-0.15454	0.17017	0.17017
54	-0.00949	-1.03011	1.02062	1.02062
55	0.04107	-0.40622	0.44729	0.44729
56	-0.07635	-0.30497	0.22862	0.22862
57	-0.1331	-4.2679	4.13481	4.13481
58	-0.30365	-0.45877	0.15512	0.15512
59	0.15061	-0.20053	0.35114	0.35114
60	0.01731	-0.43674	0.45405	0.45405
61	0.05287	0.4179	-0.36503	0.36503
62	0.14023	-0.68649	0.82672	0.82672
63	0.04621	-0.19307	0.23928	0.23928
64	-0.01182	-0.3927	0.38088	0.38088
65	-0.08275	-0.48604	0.40329	0.40329
66	-0.00017	-0.31841	0.31823	0.31823
67	0.02171	-0.32888	0.35059	0.35059
68	0.08459	-0.23341	0.318	0.318
Avaerage			35%	37%

*TA = Total Accruals, NDA= Non-Discretionary Accruals, DA= Discretionary Accruals, ABDA= Absolute Value of Discretionary Accruals

Negative Accruals Data

SN	Negative Total Accruals	SN	Positive Total Accruals
1	-0.08064	1	0.121359
2	-0.06167	2	0.059037
3	-0.08714	3	0.161435
4	-0.02729	4	0.18291
5	-0.07211	5	0.004904
6	-0.03805	6	0.004963
7	-0.06092	7	0.007101
8	-0.00518	8	0.298749
9	-0.17659	9	0.451208
10	-0.07475	10	0.071779
11	-0.16673	11	0.072824
12	-0.00043	12	0.229672
13	-0.00651	13	0.120054
14	-0.04777	14	0.106615
15	-0.19318	15	0.021572
16	-0.07499	16	0.046713
17	-0.01703	17	0.181483
18	-0.06439	18	0.034497
19	-0.25379	19	0.008413
20	-0.12077	20	0.061562
21	-0.18739	21	0.151444
22	-0.00256	22	0.120523
23	-0.02766	23	0.181742
24	-0.04145	24	0.083278
25	-0.0383	25	0.015629
26	-0.07612	26	0.041067
27	-0.01012	27	0.150608
28	-0.12495	28	0.017309
29	-0.00949	29	0.052873
30	-0.07635	30	0.140232
31	-0.1331	31	0.046212
32	-0.30365	32	0.021709
33	-0.01182	33	0.084585
34	-0.08275		
35	-0.00017		

Faster Growth in Accounts Receivables

SL No	Sales CY	Sales LY	Δ Revenue	Growth	A/R CY	A/R LY	Δ A/R	Growth
1	409222369	378791393	30430976	8%	86154875	117310024	-31155149	-27%
2	208899878	193256165	15643713	8%	5318815	4004301	1314514	33%
3	59470831	30239404	29231427	97%	2624589	2952108	-327519	-11%
4	158314383	180527578	-22213195	-12%	148501911	81573209	66928702	82%
5	974979892	888159807	86820085	10%	302293636	332055981	-29762345	-9%
6	93104303	98711998	-5607695	-6%	8644720	16665270	-8020550	-48%
7	346865382	192845764	154019618	80%	1317531	5147410	-3829879	-74%
8	238862215	221571751	17290464	8%	45190258	69521673	-24331415	-35%
9	64692631	66194674	-1502043	-2%	3324122	3017470	306652	10%
10	1427769789	620956330	806813459	130%	487570913	120948692	366622221	303%
11	5805912325	5020795305	785117020	16%	18104898	86453752	-68348854	-79%
12	1014599816	773598085	241001731	31%	9221258488	9806477599	-585219111	-6%
13	9499256667	6931516622	2567740045	37%	953496096	881553360	71942736	8%
14	220466600	273719984	-53253384	-19%	9549893	32492525	-22942632	-71%
15	59315592	63061238	-3745646	-6%	6272400	4962700	1309700	26%
16	9714017016	7945762818	1768254198	22%	893573574	1185346485	-291772911	-25%
17	457763769	434418786	23344983	5%	158280622	107276877	51003745	48%
18	351429516	379294228	-27864712	-7%	35968890	32540145	3428745	11%
19	865921216	824257200	41664016	5%	382657712	312639332	70018380	22%
20	2880611405	2085432500	795178905	38%	857055084	470824787	386230297	82%
21	31234710327	22007682247	9227028080	42%	3438356670	846869584	2591487086	306%
22	450135177	369254488	80880689	22%	457164376	327785317	129379059	39%
23	2409785749	1028992604	1380793145	134%	380378450	160094731	220283719	138%
24	4022271063	3127352627	894918436	29%	343047480	316068872	26978608	9%
25	709168568	539554916	169613652	31%	100067414	59343138	40724276	69%
26	97588294	68738716	28849578	42%	37793156	26897045	10896111	41%
27	1850615137	1491770828	358844309	24%	5980378	5773092	207286	4%
28	27065415	20467307	6598108	32%	24713114	22790996	1922118	8%
29	792299845	706331972	85967873	12%	193153145	176829323	16323822	9%
30	1391712665	1368041514	23671151	2%	21635567	15283483	6352084	42%
31	89006700775	74724497824	14282202951	19%	5350043235	5237659409	112383826	2%
32	12475609225	10989191414	1486417811	14%	2703257156	2375140475	328116681	14%
33	68551233852	64557072881	3994160971	6%	15253503781	14110569127	1142934654	8%
34	13471424469	11462578410	2008846059	18%	772421345	508249174	264172171	52%
35	271506761	268488269	3018492	1%	46380934	44592065	1788869	4%
36	1525430000	1347312000	178118000	13%	1560461000	979377000	581084000	59%
37	98002412	84587474	13414938	16%	40939924	41092839	-152915	0%
38	23268861000	20946040000	2322821000	11%	926842000	488053000	438789000	90%
39	2234047200	1595086400	638960800	40%	0	13109600	-13109600	-100%
40	6647846013	5663090394	984755619	17%	190610122	132014023	58596099	44%
41	573719257	767892320	-194173063	-25%	19109686	27388344	-8278658	-30%

42	402855276	419612074	-16756798	-4%	104693679	119115984	-14422305	-12%
43	1139423635	720827428	418596207	58%	429163986	436201003	-7037017	-2%
44	881494445	729333960	152160485	21%	118081196	62165497	55915699	90%
45	1152265740	935094525	217171215	23%	28334623	25135080	3199543	13%
46	468240190	434207010	34033180	8%	7865104	26222248	-18357144	-70%
47	681573793	622571342	59002451	9%	290908139	236000082	54908057	23%
48	1088085260	633983507	454101753	72%	577029624	272546947	304482677	112%
49	6017281699	3898046048	2119235651	54%	442592334	177520128	265072206	149%
50	1768097695	1347603761	420493934	31%	1037198898	457541474	579657424	127%
51	5247748947	4445402112	802346835	18%	2008696513	1666731087	341965426	21%
52	5461234639	4829017641	632216998	13%	740479176	542510111	197969065	36%
53	2443657886	1924403783	519254103	27%	546036962	577768167	-31731205	-5%
54	1947342997	1506444690	440898307	29%	138484116	415221300	-276737184	-67%
55	570302654	383956707	186345947	49%	62568728	90176034	-27607306	-31%
56	1814459565	1241049945	573409620	46%	523184050	400180750	123003300	31%
57	1316345576	1205155338	111190238	9%	55696134	41282366	14413768	35%
58	2231013380	1586094474	644918906	41%	220273158	235362912	-15089754	-6%
59	1744462051	1522562141	221899910	15%	972482363	1027773365	-55291002	-5%
60	3509105802	1978824374	1530281428	77%	777543982	629187317	148356665	24%
61	876725792	656836533	219889259	33%	19594956	19585582	9374	0%
62	172717375	126138066	46579309	37%	53819343	34362074	19457269	57%
63	275209157	229875624	45333533	20%	24448300	10144604	14303696	141%
64	1780954287	1114948678	666005609	60%	76224568	65045991	11178577	17%
65	210283278	172586011	37697267	22%	0	0	0	0%
66	734972610	554265199	180707411	33%	110776095	68041157	42734938	63%
67	596355557	541672423	54683134	10%	60474635	58222456	2252179	4%
68	442640850	166412261	276228589	166%	54446444	33097645	21348799	65%

Inconsistent Growth in Inventory

Annex-4

SL No	Sales CY	Sales LY	Δ Revenue	Growth	Inventory CY	Inventory LY	Δ Inventory	Growth
1	409222369	378791393	30430976	8%	46923572	35845349	11078223	31%
2	208899878	193256165	15643713	8%	8426124	7089406	1336718	19%
3	59470831	30239404	29231427	97%	11952326	11826266	126060	1%
4	158314383	180527578	-22213195	-12%	4512329	3321090	1191239	36%
5	974979892	888159807	86820085	10%	317376043	313815439	3560604	1%
6	93104303	98711998	-5607695	-6%	23189309	12461762	10727547	86%
7	346865382	192845764	154019618	80%	143522819	131175686	12347133	9%
8	238862215	221571751	17290464	8%	72618415	62840545	9777870	16%
9	64692631	66194674	-1502043	-2%	9347000	10152000	-805000	-8%
10	1427769789	620956330	806813459	130%	263226755	193502758	69723997	36%
11	5805912325	5020795305	785117020	16%	646758251	534237582	112520669	21%
12	1014599816	773598085	241001731	31%	4746305762	5223057730	-476751968	-9%
13	9499256667	6931516622	2567740045	37%	2828333227	2239199979	589133248	26%
14	220466600	273719984	-53253384	-19%	134880791	118560778	16320013	14%
15	59315592	63061238	-3745646	-6%	40165720	36377090	3788630	10%
16	9714017016	7945762818	1768254198	22%	1040056908	814059612	225997296	28%
17	457763769	434418786	23344983	5%	34268049	20207289	14060760	70%
18	351429516	379294228	-27864712	-7%	75681214	74711893	969321	1%
19	865921216	824257200	41664016	5%	408931379	347461213	61470166	18%
20	2880611405	2085432500	795178905	38%	850885939	450055441	400830498	89%
21	31234710327	22007682247	9227028080	42%	6452929268	3649002576	2803926692	77%
22	450135177	369254488	80880689	22%	459900004	417199584	42700420	10%
23	2409785749	1028992604	1380793145	134%	807801205	240085542	567715663	236%
24	4022271063	3127352627	894918436	29%	587645695	352650104	234995591	67%
25	709168568	539554916	169613652	31%	100367939	63978805	36389134	57%
26	97588294	68738716	28849578	42%	7639356	6955268	684088	10%
27	1850615137	1491770828	358844309	24%	719482437	680748217	38734220	6%
28	27065415	20467307	6598108	32%	172806531	175495791	-2689260	-2%
29	792299845	706331972	85967873	12%	314515290	295080069	19435221	7%
30	1391712665	1368041514	23671151	2%	349148687	347471297	1677390	0%
31	89006700775	74724497824	14282202951	19%	331379759	834355326	-502975567	-60%
32	12475609225	10989191414	1486417811	14%	4026231885	4671791624	-645559739	-14%
33	68551233852	64557072881	3994160971	6%	1815003716	1819262670	-4258954	0%
34	13471424469	11462578410	2008846059	18%	2541688329	2207078082	334610247	15%
35	271506761	268488269	3018492	1%	120593022	117206304	3386718	3%
36	1525430000	1347312000	178118000	13%	8651382000	7360493000	1290889000	18%
37	98002412	84587474	13414938	16%	19181562	17103892	2077670	12%
38	23268861000	20946040000	2322821000	11%	5373033000	4366664000	1006369000	23%
39	2234047200	1595086400	638960800	40%	12283726500	12039800600	243925900	2%
40	6647846013	5663090394	984755619	17%	1756397259	1701382223	55015036	3%
41	573719257	767892320	-194173063	-25%	168634337	155881884	12752453	8%

42	402855276	419612074	-16756798	-4%	148820065	131731339	17088726	13%
43	1139423635	720827428	418596207	58%	5732912051	5763969084	-31057033	-1%
44	881494445	729333960	152160485	21%	319001200	268575640	50425560	19%
45	1152265740	935094525	217171215	23%	256192433	221552993	34639440	16%
46	468240190	434207010	34033180	8%	135692738	95299788	40392950	42%
47	681573793	622571342	59002451	9%	196460713	128611091	67849622	53%
48	1088085260	633983507	454101753	72%	437246882	460477009	-23230127	-5%
49	6017281699	3898046048	2119235651	54%	1932418996	1039932035	892486961	86%
50	1768097695	1347603761	420493934	31%	566800853	551866626	14934227	3%
51	5247748947	4445402112	802346835	18%	1236014474	1623278528	-387264054	-24%
52	5461234639	4829017641	632216998	13%	1392109377	1009211317	382898060	38%
53	2443657886	1924403783	519254103	27%	704746537	699819589	4926948	1%
54	1947342997	1506444690	440898307	29%	596728610	511555137	85173473	17%
55	570302654	383956707	186345947	49%	284599985	172626204	111973781	65%
56	1814459565	1241049945	573409620	46%	78500199	110913971	-32413772	-29%
57	1316345576	1205155338	111190238	9%	514774187	491757780	23016407	5%
58	2231013380	1586094474	644918906	41%	263164972	150077244	113087728	75%
59	1744462051	1522562141	221899910	15%	1286872443	779176551	507695892	65%
60	3509105802	1978824374	1530281428	77%	1932774214	844148180	1088626034	129%
61	876725792	656836533	219889259	33%	280656746	197565052	83091694	42%
62	172717375	126138066	46579309	37%	19781631	13631338	6150293	45%
63	275209157	229875624	45333533	20%	58058489	36577632	21480857	59%
64	1780954287	1114948678	666005609	60%	121892636	5924845	115967791	1957%
65	210283278	172586011	37697267	22%	75543574	92214272	-16670698	-18%
66	734972610	554265199	180707411	33%	886225292	667168268	219057024	33%
67	596355557	541672423	54683134	10%	113774226	87700510	26073716	30%
68	442640850	166412261	276228589	166%	144744695	81632221	63112474	77%

Risk factors related to incentives or pressures	
1	Financial stability or profitability is threatened by economic, industry, or entity operating conditions, such as high degree of competition or market saturation, accompanied by declining margins.
2	Excessive pressure exists for management to meet the requirements or expectations of third parties, such as need to obtain additional debt or equity financing to stay competitive.
3	Information available indicates that management or board of directors' personal financial situation is threatened by the entity's financial performance, such as significant portion of their compensation being contingent upon achieving aggressive targets for stock price, operating results, financial position, or cash flow.
4	There is excessive pressure on management or operating personnel to meet financial targets set up by the board of directors or management, including sales or profitability incentives goals.
<i>Source: AICPA, SAS No.99, Consideration of Fraud in a Financial Statement Audit, October 2002</i>	

Risk factors related to opportunities	
1	The nature of the industry or the entity's operations provides opportunities to engage in fraudulent financial reporting, such as assets, liabilities, revenues, or expenses based on significant estimates that involve subjective judgments or uncertainties that are difficult to corroborate.
2	There is ineffective monitoring of management, such as domination of management by a single person or small group without compensating controls.
3	There is a complex or unstable organizational structure, such as overly complex organizational structure involving unusual legal entities or managerial lines of authority.
4	Internal control components are deficient, such as inadequate monitoring of controls, including automated controls and controls over interim financial reporting (when external reporting is required).
<i>Source: AICPA, SAS No.99, Consideration of Fraud in a Financial Statement Audit, October 2002</i>	

Risk factors related to attitudes / rationalizations	
1	Ineffective communication, implementation, support, or enforcements of the entity's values or ethical standards by management or the communication of inappropriate values or ethical standards.

2	Non-financial management's excessive participation in or preoccupation with the selection of accounting principles or the determination of significant estimates.
3	Known history of violations of securities laws or other laws and regulations or claims against the entity, its senior management, or board members alleging fraud or violations of laws and regulations.
4	Excessive interest by management in maintaining or increasing the entity's stock price or earnings trend.
5	A practice by management of committing to analysts, creditors, and other third parties to achieve aggressive or unrealistic forecasts.
6	Management failing to correct known reportable conditions on a timely basis.
7	An interest by management in employing inappropriate means to minimize reported earnings for tax-motivated reasons
8	Recurring attempts by management to justify marginal or inappropriate accounting on the basis of materiality.
9	The relationship between management and the current or predecessor auditor is strained, such as frequent disputes with current or predecessor auditor on accounting, auditing, or reporting matters
<i>Source: AICPA, SAS No.99, Consideration of Fraud in a Financial Statement Audit, October 2002</i>	

Annex- 6

Common Accounting Warning Signs	
1	Aggressive revenue recognition
2	Operating cash flow out of line with reported earnings
3	Growth in revenues out of sync with economy, industry, or peer companies and with growth in receivables.
4	Growth in inventory out of line with sales growth or days inventory increasing over time.
5	Classification of non-operating or non-recurring income as revenue.
6	Deferral of expenses
7	Excessive use of operating leases by lessees.
8	Classification of expenses or losses as extraordinary or non-recurring.
9	LIFO liquidations
10	Gross margins or operating margins out of line with peer companies.
11	Use of long useful lives for depreciation and amortization.
12	Use of aggressive pension plan assumptions.
13	Common use of fourth-quarter surprises.

14	Equity method of accounting / frequent use of off-balance sheet SPEs or variable-interest entities.
15	Other off-balance sheet financing or guarantees.
<i>Source: Financial Reporting and Analysis, CFA Institute, Level 1, Reading 33, 2011</i>	