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Earnings Management: An Analysis on Textile Sector of Bangladesh

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Abstract: *This paper evaluates the earnings management in the textile sector of Bangladesh. The modified Jones Model has been used in detecting earnings management, which incorporates the change in revenue in measuring discretionary accruals, for the period of 1992 to 2002. In this period discretionary accruals are found to be significant for five out of fourteen firms. Nevertheless it is not robustly conclusive from the test that earnings have been managed within the observation period.*

Keywords: *Earnings management, Discretionary accruals.*

Introduction

Investors, auditors, regulators and the academicians should be interested in determining whether earnings management is being practiced or not by the business organizations. Earnings are the powerful indicators of the firms' business activities and decisions made by the management. Earnings management is the manipulation of accounting results for the purpose of creating an alternative impression of business performance. Managers can use their knowledge and are given with latitude to exercise their judgment in financial reporting. Now question may arise why this flexibility is allowed? Generally Accepted Accounting (GAAP) principles allow diversity in its application. Primary reason behind this phenomenon is, unlike natural science, GAAP have been evolving from the prevalent varied accounting practices that eventually lead to diverse set of accounting rules. To increase the relevance and credibility of accounting information, managers are allowed with latitude in selecting accounting methods, as they are more knowledgeable about the nature of business they run (Habib, 2004).

Former Chairman of the US Securities and Exchange Commission Arthur Levitt (1998) in a speech highlighted on the importance of having flexibility in accounting. Following are some excerpts from his speech:

> Our accounting principles weren't meant to be a straitjacket. Accountants are wise enough to know they cannot anticipate every business structure, or every new and

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> innovative transaction, so they develop principles that allow for flexibility to adapt to changing circumstances....Flexibility in accounting allows it to keep pace with business innovations. .....

Managers are supposed to select reporting methods and estimates that match the firms' business economics and describe the financial position and performance of their firms in best possible way. Unfortunately, some unscrupulous managers abuse this opportunity and choose reporting methods and estimates that do not adequately reflect firms' underlying economics. This results in departure from producing "true and fair" view of the firms' state of affairs. Managers at many firms use a variety of techniques to keep a control over their earnings announcement. This control is more likely to be exercised on accrual component of earnings rather than on cash flow component of earnings (Beneish, 2001).

Accrual basis of accounting is being defined in International Accounting Standard (IAS) No.1 as follows:

> Under the accrual basis of accounting, transactions and events are being recognized when they occur (and not as cash or its equivalent is received or paid) and they are recorded in the accounting records and reported in the financial statements in the periods to which they relate. Expenses are recognized in the income statement on the basis of a direct association between the costs incurred and the earnings of specific items of income (matching).

One very important characteristic, which accrual accounting possesses, is subjectivity. Accrual accounting is made mandatory by GAAP in recording and reporting transactions and events to portray the real financial situation of firms but the inherent subjectivity of accrual accounting allows managers to manipulate earnings figures (Habib, 2004).

Financial reporting in Bangladesh is mainly regulated by the Company Act 1994 and Securities and Exchange Rules 1987. Company Act 1994 requires going concern, consistency and accrual are fundamental accounting assumptions which shall be followed in preparing financial statements (Sec: 185). So disclosure aspect of financial reporting in our country emphasized the accrual basis.

In Bangladesh, the Institute of Chartered Accountants of Bangladesh (hereafter ICAB) is entrusted with the responsibility of developing accounting standards. According to Bangladesh Accounting Standard 1 (as adopted by the ICAB to be the standard of the presentation of the Financial Statements from the IAS 1 issued by IASB): An entity shall prepare its financial statements, except for cash flow information, using the accrual basis of accounting."

In this study, we made an attempt to find out whether any accounting results are manipulated to create an impression by the textile sector in Bangladesh. The Textile and Clothing Sector in Bangladesh is currently the largest contributor to the national export earnings. Starting in the late seventies as a minor non-traditional sector with a negligible export base, the sector experienced a remarkable growth in the recent past. In FY 2001 the sector earned US$ 5.2

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billion in which the contribution. The sector consisting of 3700 enterprises has a contribution of 10.50% to the GDP of the country: (GOB, 2004). This sector has large number of stakeholder both at home and abroad. These motivated us to make an analysis whether the earnings management is being practiced or not.

The outline of the paper is as follows. Section 2 is literature review. In section 3 describes the dataset. The methodology and models employed to examine the existence of earnings management explained in section 4. Section 5 presents the empirical results and section 6 contains concluding comments.

Literature Review

Earnings management can be defined as the accounting policies or the accruals control, chosen by the management of enterprises to make the earnings reach the expected level under the pressure from the relevant stakeholders and the constraints of generally accepted accounting principles (GAAP). Generally speaking, in addition to the choice of accounting policy and the control of accruals, the means of earnings management have also included lobbying for the regulatory organization to modify the accounting principles and the manipulation of profit figures in the fiscal report.

According to Healy and Wahlen (1999:368): "Earnings management occurs when managers use judgment in financial reporting and structuring transactions to alter financial report to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers."

There are two methods that could be used for earnings management. First, one could use the flexibility allowed in generally accepted accounting principles (GAAP) to change reported earnings—without changing the underlying (past) cash flows, which Healy and Wahlen describe as usage of managerial judgment in financial reporting. This is called accounting earnings management. Second, a manager may change operating decisions, such as delivery schedule or maintenance, in order to manage the underlying cash flows that will later on result in different income reports, which is being described as structuring of transactions by Healy and Wahlen. This kind of management is usually referred to as economic earnings management.

To date few questions have been emphasized in the earnings management research. Specifically they are: which particular accruals are used to manage earnings, the magnitude and frequency of earnings management, and whether earnings management has any bearing on resource allocation decision in the economy (Healy and Wahlen, 1998). Although the accounting literature documents particular instances of earnings management, researches have struggled to quantify the overall extent to which managers exercise their accounting discretion to achieve particular earnings realization (Healy and Wahlen, 1998). Most of the earnings management studies centered on the investigation of accounting accruals more specifically discretionary accruals. Nondiscretionary (expected) accruals provide management with little flexibility that can be employed in managing earnings. Different models developed to detect earnings management range from simple models in which discretionary accruals are measured as total accruals, to more sophisticated models that

attempt to segregate total accruals into discretionary and nondiscretionary components. In the later models nondiscretionary accruals are used to decompose total accruals into its discretionary and nondiscretionary component (Dechow *et al.*, 1995). All the extant models have their own merits and demerits. Dechow *et al*. (1995) evaluate these five accrual-based models for detecting earnings management. The models are: (a) The Healy (1985) model, (b) The DeAngelo (1986) model. (c) The Jones (1991) model, (d) The modified Jones (Dechow et al., 1995), and (e) The Industry model (Dechow and Sloan, 1991).

One major challenge faced by earnings management researchers is that academics as well as investor are unable to observe and/or measure the earnings management component of accruals (Beneish, 2001). It is difficult to distinguish between choices that are fraudulent and those that comprise aggressive, but acceptable, ways in which managers can exercise their accounting discretion. Perhaps for this problem most of the earnings management researches have tried to relate incentives to manage earnings along with the test of construct validity of different accrual models.

Many accounting studies suggest that when given with a situation to make choice from among competing but equally acceptable accounting policies, rationally behaved self-serving mangers make choices that maximize their own wealth rather than the wealth of the stockholders. Several researches find different managerial incentives for earnings management. Watts and Zimmerman (1986) suggest that certain factors such as debt covenant constraints, compensation plan provisions, and political costs, the need to issue equity capital, insider trading, etc. provide managers with incentives to manage earnings. Some studies on linkage between accounting numbers and debt contracts suggest that managers take income-increasing actions to delay the onset of default (Sweeny, 1994: Defond and Jiambalvo, 1994), other studies do not find any such relationship (Beneish and Press, 1993; DeAngelo, DeAngelo, and Skinner, 1994). Studies by Healy (1985), Gaver et al. (1995), and Holthausen, Larker and Sloan (1995) provide evidence that managers alter reported earnings to increase their compensation.

Several recent studies investigate the capital market incentives for earnings management. These studies emphasize on discretionary accruals during the periods when capital market incentives are believe to be high. Several studies investigate the relationship between earnings management and security offerings. Teoh, Welch and Rao (1998), Teoh, Welch and Wong (1998a), and Kabir (2002) study earnings management of initial public offerings (IPO), and Rangan (1998) and Teoh, Welch and Wong (1998b) investigated earnings management of seasoned equity offerings. These studies find evidence that at issue year firms, on average, have high positive earnings and abnormal accruals, followed by poor long-run earnings and negative abnormal accruals.

Earnings management literature finds that motivations and opportunities for income manipulation vary with circumstances like CEO changes. Dechow and Sloan (1991) find that incumbent CEOs generally manage current period income at the end their tenure at the expense of future performance even to the extent of affecting 'real' investment decisions and not just accounting choices. Again a number of studies narrow the focus to test earnings management using specific accruals, such as bank loan loss provisions, claim loss reserves for property-casualty insurers

and deferred tax valuation allowances. There is some evidence that some firms use loan loss provisions and claim loss reserves to manage earnings but there is little evidence that firms use deferred tax valuation allowance to manage earnings (Healy and Wahlen, 1998).

In the recent years, a growing number of researches have been carried out on earnings management in Asia. Leuz, Nanda and Wysocki (2003) suggests that outsider economies with relatively dispersed ownership, strong investor protection, and large stock markets (e.g., United Kingdom and United States) exhibit lower levels of earnings management than insider countries with relatively concentrated ownership, weak investor protection, and less developed stock markets (e.g., Italy and India). Specifically in Indian context, Sarker, Sarker and Sen (2006) investigate the relationship between earnings management and board of directors. According to them diligent boards are associated with lower earnings manipulation, while boards that have large number of multiple directors exhibit higher earnings management in India. Adhikary, Derashid and Zhang (2005) investigate the relationship between the effective tax rate and earnings management in the Malaysian context. They conclude that for large Malaysian firms, the incentives to manage earnings can be related to tax policy changes.

Sample size and data

The data set contains fourteen firms for the period of 1992 to 2002, which are listed on Dhaka and Chittagong stock exchanges under the head of textile sector and is obtained from the publication of Bangladesh Bank. For each year, current assets, current liabilities, cash, receivables, assets, depreciation, net sales, other income and property, plant and equipment were used. The sample selection procedure ensures that all firms have at least eleven observations in their observation period.

Methodology

For the determination of total accruals we have considered the modified Jones Model in the empirical analysis of earnings management. The modified version of Jones Model is designed to eliminate the speculation tendency of the previous model to measure discretionary accruals with error when discretion is exercised over revenues, since the only adjustment relative to the original Jones Model is the change in revenues adjusted for the change in receivables in the event period. The original model implicitly assumes that discretion is not exercised over revenue in either the estimation period or in the event period. The modification implicitly assumes that all changes in credit sales in the event period result from earnings management. This is based on the reasoning that it is easier to manage earnings by exercising discretion over the recognition of revenue on credit sales than it is to manage earnings by exercising discretion over the recognition of revenue on cash sales. Therefore the estimation of earnings management should no longer be biased toward zero in samples where earnings management has taken place through the management of revenues.

The total accruals model, with organization (*i*) and year (*t*) subscripts, is:

$$TA_{it}/A_{i,t-1} = \alpha(1/A_{i,t-1}) + \beta_1(\{\Delta REV_{it} - \Delta REC_{it}\}/A_{i,t-1}) + \beta_2(PPE_{it}/A_{i,t-1}) + \varepsilon_{it} \quad (1)$$

Where,

TA_{it} = total accruals

$A_{i,t-1}$ = lagged (one year) total assets

ΔREV_{it} = change in operating revenues between t and t-1

ΔREC_{it} = change in net receivables between t and t-1

PPE_{it} = gross property, plant and equipment, and

ε_{it} = error term, known as discretionary, unexpected or abnormal accruals.

Non-discretionary accruals are defined as the fitted value from equation (1). Discretionary or abnormal accruals are defined as the residual of (1) – that is, the difference between TA and its fitted value from (1) (Jones 1991). Because each variable is scaled by lagged total assets, the level of abnormal accruals can be tested for significant differences between the highest other income year and other years.

Where α, β_1, and β_2 are the firm-specific parameters generated from the following equation in the estimation period:

$$TA_t = a_1 (1/A_{t-1}) + a_2 (\Delta REV_t) + a_3 (PPE_t) + u_t, \quad (2)$$

Where a_1, a_2 and a_3 denote the OLS estimates of α_1, α_2 and α_3 and TA is total accruals scaled by lagged total assets.

Consistent with previous studies of earnings management (Healy 1985 and Jones 1991) total accruals (TA) are computed as:

$$TA_{it} = (\Delta CA_t - \Delta CL_t - \Delta Cash_t + \Delta STD_t - Dep_t)/(A_{t-1}), \quad (3)$$

Where,

ΔCA_t = change in current assets between t and t-1

ΔCL_t = change in current liabilities between t and t-1

$\Delta Cash_t$ = change in cash and ach equivalents between t and t-1

ΔSTD_t = change in debt included in current liabilities between t and t-1

Dep_t = depreciation and amortization expense

To observe for the earnings management the estimated discretionary accruals are regressed on the partitioning variable, PART. In our observation, PART is assumed to have a value equals to one in the year where the company has highest other income and zero for otherwise.

$$DAP_{it} = \hat{a}_i + \hat{b}_i \, PART_{it} + e_{it} \quad (4)$$

The coefficient on PART, $\hat{b}_i$, provides a point estimate of the magnitude of the earnings management attributable to the stimulus represented by PART.

Empirical Results

Table 1 provides the descriptive statistics on average total assets, average current assets and average current liabilities for the fourteen sample firms over the eleven years (1992-2002) period.

Table-1 : Descriptive statistics of the sample firm-years

(Amount in lacs Tk.)

Name of the Company	Average Total Asset	Average Current Asset	Average Current Liabilities
Al-Haj	4,168	1,271	1,168
Ashraf	5,806	2,348	2,296
Desh Garments	924	234	701
Dulamia Cotton	2,966	881	1,113
Eagle Star	3,888	1,301	800
GMG Industrial Corp.	1,891	426	1,082
Padma Textile	28,599	13,029	10,559
Quasem Silk Mills	820	392	489
Quasem Textile Mills	999	291	988
Rahim Textiles	943	485	228
STM	675	185	710
Saiham Textile	5,307	1,592	1,196
Tallu Spinning	4,938	1,771	1,325
Tamijuddin	5,169	1,881	1,419

Table 2 provides descriptive statistics on the parameter estimates and test statistics generated by the modified Jones Model when applied to the sample of fourteen firms-years, which have more then eleven years of past record. For this model, the row labeled " $\hat{b}_i$" represents the estimated coefficient on PART, the row labeled "standard error" represents the standard error of this coefficient estimate, and the column labeled "*t*-statistics" represents the *t*-statistics for testing the significance of the coefficient. The mean and median values of earnings management are close to zero indicating, there is no systematic evidence of earnings management. The standard error tends to lower suggesting that the modified Jones Model effectively modeling the time-series process generating nondiscretionary accruals.

Table-2 : Results of tests for earnings management using modified Jones Model to measure discretionary accruals. The results are based on a sample of 14 firms, which had minimum 11 years data.

	Mean	Standard deviation	Lower quartile	Median	Upper quartile
$\hat{b}_i$	-0.0782	0.2161	-0.1090	-0.0385	0.1324
standard error	0.0762	0.0483	0.0428	0.0610	0.1820
t-statistics	-1.3957	4.6063	-1.6743	-0.3778	3.6365

Notes: Earnings management represents the estimated coefficient on PART, ($\hat{b}_i$), from firm-specific regression of $DAP_{it} = \hat{a}_i + \hat{b}_i PART_{it} + e_{it}$, where DAP is the measure of discretionary accruals produced by modified Jones Model and PART is assumed to have a value equals to one in the year where the company has highest other income and zero for otherwise. Standard error is the standard error of the coefficient on PART and t-statistics test the significance of the coefficient on PART.

Table 2 provides the results from tests of earnings management for the individual company using the modified Jones Model to generate discretionary accruals. The table reports discretionary accruals, standard error and *t*-statistics, where *t*-statistics is highly statistically significant at conventional level for five firms, though it is not robustly conclusive from the test that earnings has been managed within the observation period. In our analysis coefficient of PART i.e. $\hat{b}_i$ for four firms and another firm are significantly different from zero, which are supported at 1% and 5% level of significance respectively.

Table-3 : Results of tests for earnings management using modified Jones Model to measure discretionary accruals. The results are based on a sample of 14 firms, which had minimum 11 years' data.

Name of the company	$\hat{b}_i$	standard error	t-statistics
Al-Haj	-0.2260	0.0410	-5.5095*
Ashraf	-0.0178	0.0598	-0.2974
Desh Garments	-0.0503	0.1786	-0.2818
Dulamia Cotton	0.1112	0.0331	3.3581*
Eagle Star	-0.1402	0.0621	-2.2572†
GMG Industrial Corp.	0.0661	0.1016	0.6502
Padma Textile	-0.0590	0.0368	-1.6017
Quasem Silk Mills	-0.1031	0.1820	-0.5662
Quasem Textile Mills	-0.7416	0.0483	-15.3476*
Rahim Textiles	-0.0131	0.0787	-0.1665
STM	-0.1110	0.0653	-1.6986
Saiham Textile	0.1324	0.0364	3.6365*
Tallu Spinning	0.0849	0.0848	1.0006
Tamijuddin	-0.0266	0.0581	-0.4582

Notes: Earnings management represents the estimated coefficient on PART, ($\hat{b}_i$), from firm-specific regression of $DAP_{it} = \hat{a}_i + \hat{b}_i PART_{it} + e_{it}$, where DAP is the measure of discretionary accruals produced by modified Jones Model and PART is assumed to have a value equals to one in the year where the company has highest other income and zero for otherwise. Standard error is the standard error of the coefficient on PART and t-statistics test the significance of the coefficient on PART. (*) indicates significance at the 1 percent level; (†) indicates significance at the 5 percent level for two-tailed test.

In spite of our findings, it is still in doubt regarding the true practice of earnings management in the textile sector of Bangladesh. Our analysis exclusively based on application of the modified Jones model in the measurement of discretionary accruals. Albeit, the recent trend in earnings management literature is to jointly test the incentives to manage earnings and construct validity of extant various models for measuring discretionary accruals, we did not investigate any managerial incentives for doing such activity. In Bangladesh, even if opportunities exist for managers to engage in earnings management behavior, manager may lack the incentives to do so (Habib, 2004).

Conclusion

This paper evaluates the earnings management in textile sector of Bangladesh. Earning management now a day's a wide-reaching phenomenon and decisively observed by the researchers. This analysis has used only the modified Jones Model, which is more effective at modeling the time-series process generating nondiscretionary accruals and suffer less from misspecifications caused by omitted determinants of nondiscretionary accruals (Dechow *et al.*, 1995) albeit other model were used by the different researchers. Our study produced only a tentative evidence of earnings management since we applied the modified Jones model in measuring the discretionary accruals.

Some premises need further deliberation while applying the different overseas models; otherwise, the results might be affected.

There is a window of opportunity for the researchers to observe existence of earnings management in corporate sector of Bangladesh. Future study can be carried out to investigate the relationship between the earnings management and various incentives i.e., increase managerial compensation, raise capital, or avoid covenant default.

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