RESEARCH ARTICLE

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Corporate attributes and corporate accruals

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Abstract

This study examines the linear relationship between corporate attributes and corporate accruals (discretionary accruals) in Bangladesh. The behaviour of corporate accruals is explained by corporate attributes such as asset size, turnover, earnings per share, number of shareholders, year of listing, international link of audit firm, ownership structure, internationality, market category, and leverage. A statistically significant relationship is observed between corporate accruals and asset size. We also observed inconsistent growth of inventory, faster growth of accounts receivable with an overvaluation of fixed assets reported by probe committee. Indeed, corporate accruals are not dependent on corporate attributes but rather on the mindset of the corporate manager. Management is in a unique position to produce fraudulent financial statements. The study suggests a number of measures including the establishment of an Institute of Chartered Surveyor of Bangladesh (ICSB), the introduction of audit reviews, the updating of corporate governance guidelines, increasing the effectiveness of board independence, and the strengthening institutional setting, in order to protect the rights of stakeholders, especially marginal shareholders.

Keywords:

Corporate accruals, Corporate attributes, Discretionary accruals, Earnings, Management, Overvaluation of assets, Financial fraud, Managerial opportunism, Information asymmetry, Bangladesh.

JEL classification:

M41.

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Atributos y **devengos corporativos**

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Resumen

En este artículo se estudia la relación lineal existente entre los atributos y los devengos corporativos (discrecionales) en Bangladesh. El comportamiento de los devengos corporativos se explica a través de atributos corporativos como el tamaño de los activos, la cifra de negocios, las ganancias por acción, el número de accionistas, los años de cotización, los vínculos internacionales de la firma auditora, la estructura de propiedad, el grado de internacionalización, la categoría de mercado y el leverage. Se observa una relación estadísticamente significativa entre los devengos corporativos y el tamaño de los activos. También se ha observado un inconsistente crecimiento de los inventarios, un crecimiento más rápido de las deudas pendientes y una sobrevaloración de los activos fijos en los informes del Comité de Investigación. De hecho, los devengos corporativos no dependen de los atributos corporativos sino más bien de la mentalidad del manager corporativo. La administración es una posición única en lo que se refiere a la generación de estados financieros fraudulentos. Este artículo sugiere que el establecimiento una serie de medidas entre las que se incluyen la creación del Instituto de Supervisión Colegiada de Bangladesh, revisiones de auditoría, la actualización de las directrices de la gobernanza corporativa, una mayor independencia del Consejo de Administración y el fortalecimiento del marco institucional, para proteger los derechos de los accionistas, especialmente los marginales.

Palabras clave:

Devengos corporativos, atributos corporativos, devengos discrecionales, ganancias, administración, sobrevaloración de activos, fraude financiero, oportunismo gerencial, información asimétrica, Bangladesh.

1. Introduction

The accrual method of accounting appears to be the most appropriate accounting method as it considers all business transactions (cash and non-cash) within an accounting period. Consequently, the operating performance of a company for said period can be measured accurately with financial statements providing an accurate and fair reflection of the reporting entity. On the other hand, accruals create an opportunity for corporate managers to manage earnings because they require managers to make forecasts, estimates, and judgments. Accrual accounting opens the door to opportunistic short-run income smoothing that can lead to future restatements and write-downs. With this method, the company does not change its activities, but rather creatively reports their income from an existing activity. Examples include increasing income by reducing allowance for doubtful accounts, capitalizing costs rather than expensing them, and avoiding asset write-offs. In business organizations, management can sometimes use its discretionary power to manipulate corporate financial reporting to achieve desired goals. The over-reporting or under-reporting of earnings is a common practice in corporate accounting in Bangladesh. The recent crash of the capital market (2011) has led to an examination of malpractices in the Bangladeshi corporate sector. According to the capital market inquiry report (2011), accounting manipulation is one of the factors responsible for the crash. Management is in a unique position to produce fraudulent financial statements and the incidence of managerial opportunism in corporate financial reporting in Bangladesh is very high (Hasan *et al.,* 2014).

The Bangladesh capital market experienced two bubble-burst episodes: one in 1996, the other in 2011. Generally, small investors do not have sufficient technical knowledge of accounting to understand how accounting can be manipulated. Furthermore, there are many institutional weaknesses that create an opportunity for managers to use their discretionary power when reporting corporate finances (opportunity factor of the fraud triangle). In addition, there are a number of failings in the corporate environment such as the almost complete absence of board independence, the fact that the majority of companies are family-run, CEO duality, the distinct lack of professionalism in the boardroom or work place, inherent institutional weaknesses, and reliance upon political connections to name a few. Given the aforementioned flaws, corporate management is able to distort information (information asymmetry) in corporate reports either to show a rosier picture or a more vulnerable picture, depending on which one suits their purpose. Corporate managers are in a unique position to commit fraud and can manipulate accounting information for corporate stakeholders. Managers use their discretionary power when forecasting, estimating and making judgments in the preparation of financial reports. We use the term 'Corporate Accruals' (*CA*) instead of discretionary accruals since, by definition, it is a result of the management mindset.

Every company has its own vision, mission, goals, objectives, structure, features, strengths, weaknesses, opportunities, threats, work plans, and strategies, which distinguish it from other companies. The characteristics of each sample company are clearly different with regard to their size, nature of business, capital structure, management style, board independence, composition of board, quality of independent directors, corporate governance, ownership structure, business strategies, auditors quality, customers, access to financial services, leadership quality, innovation policy, entrepreneurship orientation, ethical culture, corporate social responsibility, corporate culture, ecological guidelines, market reputation, market capitalization, profitability and the like. The patience, experience, credentials, integrity, neutrality, professionalism and demographic information of auditors and accountants of these organizations are different, and they do not even all have the same accounting period. This divergence of corporate attributes may influence corporate accruals. The quality of accruals of a company depends on the portion of corporate accruals as a percentage of total accruals. The quality of accruals is high when the portion of corporate accruals is low or close to zero. At greater levels of corporate accruals as a percentage of total accruals, such accruals are judged to be of poor quality or no quality. The quality of accruals can vary among companies as a function of accruals even in the absence of intentional earnings manipulation. Both estimations and judgments are required in order to determine earnings, and some companies require more forecasts and estimates than others. Companies in growing industries, for example, will typically have high accruals, which calls into question their reliability as accruals are likely to contain estimation errors. Estimation errors reduce earning persistence (because they must be corrected in future earnings) and are irrelevant for valuation. Larger accruals therefore (positive or negative) may be indicative of a major underlying volatility in the company's operations and low-quality earnings.

Corporate attributes or corporate characteristics were first studied by Singhvi (1968). Since then, corporate characteristics have been considered an important factor that may influence other business activities too. For example, earlier literature shows that a number of corporate attributes influence the extent of disclosure, such as Employment of Qualified Accountants (Parry and Groves, 1990; Karim,1996), Company Size (Singhvi and Desai, 1971; Buzby, 1975; Stanga, 1976; Belkaoui and Kahl, 1977; Firth, 1979; Cooke,1989; Cooke,1991; Hasan, 2012), Profitability (Cerf, 1961; Singhvi and Desai,1971; Singhvi, 1967; Hasan, 2012), Leverage (Robbin and Austin, 1986; Chow and Boren, 1987; Nicholls, 1994; Hasan, 2012), Multinationality (Rahman and Scapens, 1988; Bazley *et. al.*, 1995), International Ties of Audit Firm

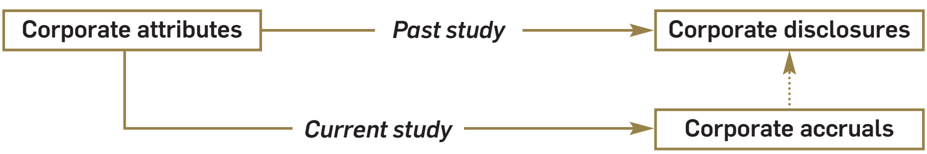
(DeAngelo, 1981; Haque, 1984; Hasan, 2012) while many other corporate attributes may also have ties to the corporate disclosure of financial reporting. But earlier researcher did not look at the relationship between corporate characteristics (attributes) and information asymmetry (corporate accruals). It is information asymmetry that allows such executives to disguise the real motives behind their actions. In other words, such unethical people are in a position to hide or distort information in such a way as to make many of these actions appear to be benign, or even in the best interests of stakeholders (Downes and Russ, 2005). The recent huge stock market crash in Bangladesh occurred following capital market reforms (as a result of the crash in 1996). There is an urgent need to determine if a significant relationship does exist between corporate accruals and corporate attributes. In this study we are primarily interested in the relationship between accounting information asymmetry and corporate attributes. A research gap exists and the paper aims to fill in the missing elements. Additional studies in this area are required to prevent managerial opportunism in corporate financial reporting.

The remainder of the paper is organized as follows: section 2: Literature review, section 3: Data and Methods, section 4: Results and discussion and section 5: Conclusion.

2. Literature review

Many studies have been conducted on corporate attributes in accounting research all over the world. Singhvi (1968) for example studied company size, profitability, number of shareholders, type of management as corporate attributes; Singhvi and Desai (1971) studied company size, listing status, profitability, audit firm, number of shareholders; Buzby (1975) studied company size and listing status; Firth (1979) studied company size, listing status and audit firm; McNally *et al.* (1982) studied company size, rate of return, growth, audit firm and industry; Chow and Boren (1987) studied company size, financial leverage, assets in place; Wallace (1988) studied various user groups; Cooke (1989) studied company size, listing status, industry and parent company relationship; Cooke (1992) studied company size, listing status, and industry; Cooke (1993) listing status; Malone *et al.* (1993) studied company size, listing status, profitability, leverage, audit firm, number of shareholders; Wallace *et al.* (1994) studied company size, profitability, listing status, industry, liquidity, audit firm and gearing; Meek *et al.* (1995) studied company size, profitability, country origin, listing status, industry, leverage and multinationality; Raffournier (1995) studied company size, profitability, ownership structure, internationality, industry, leverage, and auditor type; Wallace and Naser (1995) studied company size, profitability, scope of business, audit firm, market capitalization, sales, liquidity, earnings return, outside ownership, foreign registered office, and gearing; Inchausti (1997) studied company size, stock exchange, industry, profitability, leverage, auditing, and dividends; Adams and Hossain (1998) studied company size, stock exchange, industry, profitability, leverage, auditing and dividends; Owusu-Ansah (1998) studied company size, audit quality, ownership structure, industry type, company age, MNC affiliation, profitability and liquidity; Entwistle (1999) studied research & development expense proportion, capitalization of R&D, cross listing status, size, industry and capital structure; Tower *et al.* (1999) studied country, size, leverage, profit, industry and days; Ahmed and Curtis (1999) studied size, listing status, leverage and profitability; Depoers (2000) studied company size, barriers to entry, labour pressure, leverage, ownership structure and audit firm; Gray *et al.* (2001) studied profit, turnover, capital employed, industry classification, and number of employees; Street and Gray (2001) studied listing status, company size, profitability, industry, type of auditor, type of accounting standard studied, country of domicile and size of domestic stock market; Bujaki and McConomy (2002) studied financial condition, share issue, unrelated director, regulated industry, medium and size; Chau and Gray (2002) used ownership structure, size, leverage, audit firm, multinational, industry and profitability; Naser *et al.* (2002) studied company size, liquidity, market capitalization, gearing, sales, profitability, number of shareholders, percentage of government ownership, percentage of foreign ownership, percentage of Arab ownership, size of auditors, type of industry, profit margin and number of employees; Camfferman and Cooke (2002) studied industry type, size, net income margin, debt ratio, liquidity ratio, return on equity and audit firm; Ferguson *et al.*(2002) studied firm type (Local, H-Share, Red Chip), industry type, firm size, leverage and multiple listing; Eng and Mak (2003) studied managerial ownership, government ownership, proportion of external directors, size, leverage, growth, industry, audit firm, analyst and profitability; Glaum and Street (2003) studied company size, industry type, profitability, multinationality, domicile, maturity, growth, growth options, choice, ownership structure, and country listing; Ali *et al.* (2004) studied size, financial leverage, multinationality, size of external auditor and profitability; Prencipe (2004) studied correspondence between segments, growth rate, listing status, age, ownership dilution, profitability, size and leverage; Akhtaruddin (2005) studied company size, company age, industry type, and profitability; Iatridis (2006) studied size, growth, profitability, liquidity, leverage, taxation and management; Daske and Gebhardt (2006) studied the log of market capitalization, the log of assets, average number of analysts, total debt to market capitalization, PPE to total assets and return on assets; Barako (2007) studied board composition, leadership structure, board size, audit committee, shareholder concentration, foreign ownership, institutional ownership, firm size, external auditor firm, leverage, profitability, liquidity, and industry type; Al-Shammari *et al.* (2008) studied company size, country of origin, industry type, profitability, leverage, liquidity, auditor, internationality, ownership dilution and company age; Aminah (2012) studied gender diversity, audit committee composition, corporate culture, financial distress, company size, profitability, company age, ownership structure, multinationality, leverage, industry type, liquidity, board size, and board meetings; and Hasan *et al.* (2013) studied asset size, profitability, shareholders, year of listing, multiple listing status, ownership structure, internationality, market category, audit fee, international link of audit firm and leverage. In these examples, researchers addressed the relationship between corporate attributes and corporate disclosures, namely the weighted disclosure index, unweighted disclosure index, disclosure score, and disclosure ratio, and showed that disclosure behaviour can be explained by corporate attributes. Their findings confirmed the hypothesis that that corporate attributes have a significant influence on the overall disclosure index. However, the same earlier studies did not examine the relationship between corporate attributes and corporate accruals. After the major crash of 2011, examining the relationship between corporate accruals and corporate attributes took on an even greater importance as listed companies' characteristics are different from each other. This is a very contemporary subject (research gap) and one which this paper aims to address. Moreover, additional studies need to be carried out in this area to reduce or eliminate the use of managerial opportunism in corporate financial reporting in Bangladesh. This study strives to fill the research gap by building an empirical model to establish whether corporate accruals are related to a number of company-specific characteristics using regression analysis. In other words, this paper is designed to form a graphical presentation to connect present research with the earlier studies. Figure 1 clearly shows that in the past, researchers focused on the influence of corporate attributes on corporate disclosures. In the diagram, the wave of corporate accruals influences corporate disclosures. The current study extends that research by examining the influence of corporate attributes on corporate accruals.

Figure 1. **The concept of present research**



3. Data and methods

3.1. Data

Of the 155 non-financial companies listed on the Dhaka Stock Exchange (DSE), the largest capital market in Bangladesh, 68 were taken as a sample data set for the current study, based on access to their corporate annual reports for 2010-2011

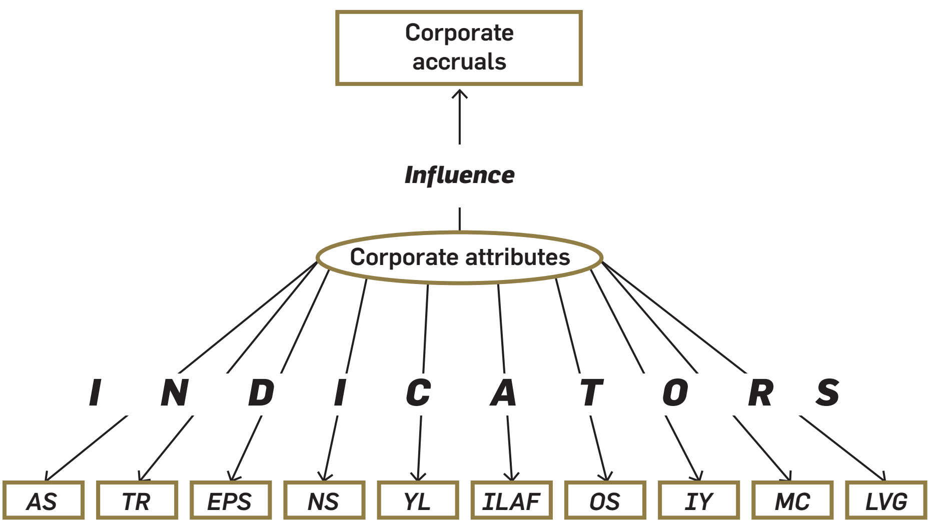
(Appendix 1). The sample size equates to 44 percent of the listed companies so allows us to generalize the findings of this study. Corporate accruals data were measured using the Kothari-Jones Model (2005). Market category and year of listing data were collected from DSE and the remaining data for all other variables were extracted from a survey of annual reports of sampled companies.

3.2. Method

In order to test the relationship between corporate attributes and corporate accruals, accruals by management choice or discretionary accruals of sampled companies have been used as a dependent variable (*CA*) while Assets Size (*AS*), Turnover (*TR*), Earnings Per Share (*EPS*), Number of Shareholders (*NS*), Year of Listing (*YL*), International Link of Audit Firm (*ILAF*), Ownership Structure (*OS*), Internationality (*IY*), Market Category (*MC*), and Leverage (*LVG)* have been used as explanatory variables. We then tested if the effect of the above independent variables on corporate accruals is null or significantly different from zero (the nullity of these effects constitutes the hypotheses of the model). The linear regression model is as follows:

$$CA = \alpha + \beta_1 AS + \beta_2 TR + \beta_3 EPS + \beta_4 NS + \beta_5 YL + \beta_6 ILAF + \beta_7 OS + \beta_8 IY + \beta_9 MC + \beta_{10} LVG + \varepsilon$$

Figure 2. Conceptual model of influence of corporate attributes on corporate accruals



The definition and measurement of the above explanatory variables and the range of their values are presented in Table 1. Below we provide an explanation of the dependent and independent variables included in the model.

Table 1. The definition, measurement and range of values of variables

Variables	Definition	Measurement	Range of values
Corporate Accruals (CA)	Corporate accrual is defined as the difference between financial statement accruals and estimated accruals divided by lagged total assets of sample companies.	Financial statement accruals minus estimated accruals divided by lagged total assets	Any value
Asset Size (AS)	Asset size is defined as total assets of sample companies.	Fixed assets plus current assets	Any value
Turnover (TR)	Turnover is defined as total sales or revenue during financial year of sample companies.	Total sales comprises cash sales and credit sales.	Any value
Number of Shareholders (NS)	Number of shareholders is defined as total number of ordinary shareholders at end of financial year.	Sponsors plus institutions plus foreign plus government plus general public.	Any value
Year of Listing (YL)	Year of listing is defined as the company age. Older companies are incorporated and listed under the Companies Act of 1913 and newer companies are incorporated and listed under the Companies Act of 1994.	Code „1" for companies incorporated under the Companies Act of 1913 „0" otherwise.	0,1
Earnings per share (EPS)	Earnings per share is defined as earnings available per ordinary share for ordinary shareholders.	Earnings available for ordinary shareholders divided by the number of ordinary shares.	Any value
Ownership Structure (OS)	Ownership structure is defined as foreign shareholders in the ownership of sample companies.	Code „1" for foreign ownership and „0" otherwise	0,1
Internationality (IY)	Internationality is defined as majority of shares of sample companies held by foreigners.	Code „1" for international companies and „0" otherwise	0,1
Market Category (MC)	Market category is defined as listing categories of stock market as A, B, Z and N.	Code „1" for A and B category and „0" otherwise.	0,1
International Link of Audit Firm (ILAF)	International link of audit firm is defined as the reputation of the auditor of sample companies that are linked to the foreign firm.	Code „1" for internationally linked audit firm and „0" otherwise.	0,1
Leverage (LVG)	Leverage is defined as the long term loan in capital structure of sample companies.	Code „1" for debt capital and „0" otherwise.	0,1

Corporate accruals

We term discretionary accruals as corporate accrual because these accruals are a result of corporate management choices. Corporate accrual (*CA*) is the difference between financial statement accruals (*FSA*) and estimated accruals (*EA*). Calmès *et al.* (2013) use an approach that tackles the errors-in-variables problem in accrual models. Financial statement accruals is defined as the difference between net income (*NI*) and flow from operations (*CFO*) divided by lagged total assets (*LTA*). This is shown as below:

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

Estimated accruals is determined using the Kothari-Jones model (Kothari *et al.*, 2005) in order to eliminate any potential mechanical relationship between performance metrics and current-period corporate accrual. All variables are deflated by lagged total assets (*LTA*, the total assets of the previous year), in order to reduce heteroskedasticity. The model is as follows.

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

Then corporate accrual is fixed using the following equation:

$$\left[\frac{CA}{LTA}\right] = \left[\frac{FSA}{LTA}\right] - \left[\frac{EA}{LTA}\right]$$

Asset size

Asset size means that total assets comprise both fixed assets and current assets. According to the accrual method of accounting, non-cash transactions are recorded in the accounting books. Two international accounting standard boards i.e., the Financial Accounting Standard Board (*FASB*) and the International Accounting Standard Board (*IASB*) are working on issuing accounting standards. The *FASB* operates in the USA while the IASB operates elsewhere in the world. As per IAS 16, assets can be valued using one of two methods, the cost model or the revaluation model. The revaluation model is for showing true and accurate views of assets on the balance sheet. On the other hand, the revaluation model is not permitted according to US GAAP. Most Bangladeshi companies are taking advantage of this method to exploit the shareholders (Inquiry Report, 2011). Singhvi (1968), Singhvi and Desai (1971), Buzby (1975), Belkaoui and Kahl (1978), Courtis (1979), Stanga (1976), Firth (1979), Cooke (1991), Ahmed and Nicholls (1994), Wallace *et al.* (1994), Wallace and Naser (1995), Raffournier (1995), Ahmed (1996), Inchausti (1997), McNally *et al.* (1982), Ahmed (1999), Razzaque (2004), Ahmed (2009), Hasan and Hossain (2013) used these variables as corporate attributes in their studies.

Turnover

Corporate turnover or sales is an important element that needs to be examined very carefully as it generates revenue for the company. A higher turnover is indicative of good performance and vice-versa. Turnover includes both cash sales and credit sales according to the accrual accounting method. A company's survival depends on its turnover. A greater turnover creates an opportunity for the company to access financial services. The management can inflate turnover to gain such an opportunity by manipulating turnover through credit sales. The ultimate result of turnover is profitability, and this had a great impact on the stock market. Stanga (1976), Firth (1979), Courtis (1979), Cooke (1991), Ahmed and Nicholls (1994), Wallace *et al.* (1994), Wallace and Naser (1995), Raffournier (1995), Ahmed (1996), Inchausti (1997) used turnover as corporate attributes as an independent variable.

Number of shareholders

The number of shareholders of a company is essential information for potential investors. The greater the number of shareholders, the greater the spread of shares while the fewer the shareholders, the lesser the spread of shares. Fewer shareholders can create a syndicate and create an artificial demand in the market in order to raise the share price. Therefore, the number of shareholders has an impact on market capitalization. Singhvi (1968), Singhvi and Desai (1971), Courtis (1979), McNally *et al.* (1982), Cooke (1989a), Cooke (1989b), Cooke (1991), Ahmed (1999), Razzaque (2004), Ahmed (2009), and Hasan and Hossain (2013) used number of shareholders as corporate attributes.

Year of listing

Year of listing indicates the age of a company and may influence corporate accruals. It is assumed that older companies have more experience than newer companies and hence have an impact on corporate accruals. Sample companies are divided into two categories - older and newer. Older companies are incorporated and listed under the Companies Act of 1913 and newer companies are incorporated and listed after the Companies Act of 1994. Owusu-Ansah (1998), Preccipe (2004), Razzaque (2004), Akhtaruddin (2005), Al-Shammari (2005), Ahmed (2009), and Hasan and Hossain (2013) used company age as corporate attributes.

Earnings per share

Earnings per share (EPS) is the most important indicator to evaluate the earning power of a company. Primarily, this is important for stock market participants who hone in on companies with a continuous increase in earnings per share. Cerf (1961), Singhvi (1967), Singhvi and Desai (1971), Belkaoui and Kahl (1978), Spero (1979), Wallace (1987), Razzaque (2004), and Ahmed (2009) found that earning per share was an important element in the degree of corporate disclosure. It is therefore assumed that companies overstate or understate their earnings to achieve desired goals such as to satisfy shareholders or to satisfy analyst expectations. Earnings per share is therefore an independent variable in the current study.

Ownership structure

The corporate ownership structure may have a bearing on the level of corporate accruals. Ownership structure indicates the composition of ownership according to nationality. The company may not operate internationally, but when other nationalities maintain ownership of the company, it is logically perceived that the companies either over report or under report their earnings in order to satisfy said owners. Raffournier (1995), Owusu-Ansah (1998), Entwistle (1999), Depoers (2000), Chow and Gray (2002), and Glaum and Street (2003) used ownership structure as corporate attributes in their studies.

Internationality

In this study, foreign ownership is considered as the degree of internationality of the firm. Foreign shareholders are more knowledgeable about reporting, business strategies, corporate governance, and future potentials. Therefore, the presence of foreign shareholders in the ownership structure creates a positive image of the company in the market. It could be assumed that the quality of accruals of this company is high, in other words the extent of corporate accruals in total accruals is either less or nil. Meek *et al.* (1995), Raffournier (1995), Owusu-Ansah (1998), Chow and Gray (2002), Glaum and Street (2003), Ali *et al.* (2004), Razzaque (2004), Al-Shammari (2005), Ahmed (2009), and Hasan and Hossain (2013) used internationality/multinationality as corporate attributes.

Market category

Market Category may have an impact on the level of corporate accruals. There are five categories (*A*, *B*, *G*, *N* and *Z*) of company listed on Dhaka Stock Exchange (*DSE*) in Bangladesh. "*A*" category companies hold annual general meetings (*AGM*) and have a declared dividend of 10 percent or more in a calendar year. "*B*" category companies also hold AGMs but have failed to achieve a dividend of at least 10 percent in a calendar year. "*G*" category companies are Greenfield companies. "*N*" category companies are newly listed companies, excluding Greenfield companies, and their settlement system would be similar to that of B category companies. "*Z*" category companies are those which have failed to hold an AGM or failed to declare any dividend or have not been continuously operational for more than six months or whose accumulated loss after adjustment of revenue reserve, if any, is negative or exceeds its paid-up capital. Only *A*, *B* and *Z* category companies were selected for the current study. *Z*-category companies are likely to have higher accruals than those in the other two categories[1]. This type of categorization will obviously provide a signal to the market regarding their performance. Singhvi and Desai (1971), Buzby (1975), Firth (1979), Cooke (1989a), Cooke (1992), Cooke (1993), Malone *et al.* (1993), Wallace *et al.* (1994), Meek *et al.* (1995), Entwistle (1999), Street and Gray (2001), Glaum and Street (2003), Prencipe (2004), Razzaque (2004), and Karim and Ahmed (2005) used listing status as corporate attributes.

International link of audit firm

The international link of audit firm may potentially influence the level of corporate accruals. A greater importance is usually attached to an audit firm that has an affiliation with a foreign audit firm (Big-Eight or Non-Big-Eight firms) compared to those with no foreign affiliation. In order to defend their reputation, larger firms usually produce higher

[1] *Z category companies are unable to produce sufficient earnings to meet its operating costs and hence unable to pay dividend to its stockholders. Therefore, they use high level of accruals to move up stock price. Solan (1996) indicates that a trading strategy that uses a long position in the stock of firms reporting relatively low levels of accrual earnings and a short position in the stock of firms reporting relatively high levels of accruals generates positive abnormal returns.*

quality audit reports than those of smaller audit firms. The larger audit firms also invest more to maintain the reputation of the quality of their audits. In Bangladesh there are six audit firms with international affiliations. These firms appear on the list in Table 2. Companies audited by such firms are expected to have less corporate accruals than companies audited by other firms. Singhvi and Desai (1971), Firth (1979), Malone *et al.* (1993), Wallace *et al.* (1994), Raffournier (1995), Wallace and Naser (1995), Inchausti (1997), Adams and Hossain (1998), Owusu-Ansah (1998), Depoers (2000), Chow and Gray (2002), Naser *et al.* (2002), Camfferman and Cooke (2002), Eng and Mak (2003), Ali *et al.* (2004), Razzaque (2004), Al-Shammari (2005), Barako (2007), and Hasan and Hossain (2013) used auditing as corporate attributes.

Table 2. **International link of audit firms**

Name of firm	International firm with which it is linked
Rahman Rahman Haq and Co.	KPMG
Hoda Vasi Chowdhury and Co.	Deloitte Haskins and Sells
S.F. Ahmed and Co.	Ernst and Young
Howlader Younus and Co.	Arthur Young
A Quasem and Co.	PricewaterhouseCoopers
M.J. Abedin and Co.	Moor Stephen

Leverage

Leverage is an important strategy for reducing a company's weighted average cost of capital. Debt is always considered an important source of finance in the business community. A company cannot pass even a single day without having a loan, for example, short-term loan. In fact, in business it works very much the same was as does blood in the human body. But, long-term loan or debt-capital is not used in the same way as a short-term loan. A company may take out a long-term loan or not, it depends on the financial strength of the company. If the company suffers from a shortage of long-term funds, it will not be able to implement its own investment project. It can therefore arrange a long-term loan to alleviate the financial needs of its investment project. Companies may take out loans from different sources as required and feel comfortable about doing so. Lending institutions always want to safeguard the funds they supply. First of all, they require sufficiently reliable information about the concern they have invested in or are going to invest in. Usually, it is assumed that companies that have debt-capital may engage in over reporting or under reporting earnings, resulting in increased or decreased corporate accruals compared to companies with no debt-capital. Therefore, leverage may be treated as a powerful element in determining the level of corporate accruals. Chow and Wongboren (1987), Malone *et al.* (1993), Meek *et al.* (1995), Raffournier

(1995), Adams and Hossain (1998), Tower *et al.*(1999), Depoers (2000), Chow and Gray (2002), Ferguson *et al.* (2002), Eng and Mak (2003), Ali *et al.* (2004), Prencipe (2004), Razzaque (2004), Al-Shammari (2006), Iatridis (2006), Barako (2007), Ahmed (2009), and Hasan and Hossain (2013) used leverage as corporate attributes.

4. Results and discussion

If we look at the results of the correlation matrix, in Table 3 we see that there are no multicollinearity issues between independent variables. The examination of multicollinearity between independent variables is essential because if multicollinearity issues do exist then we need to drop one of the variables from the model as the variables are measuring the same thing. Judge *et al.* (1985) and Bryman and Cramer (1997) suggest that simple correlation is not harmful unless they exceed 0.90. In the interpretation of the results of the multiple regression analysis, the observed correlations did not exceed 0.90 and are therefore not considered harmful.

Table 3. **Correlations matrix**

	AS	TR	NS	YL	EPS	OS	IL	MC	ILAF	LVG
AS	1	.845**	.370**	-.117	.277*	-.033	.237*	.128	.296**	.028
TR		1	.346**	-.132	.239*	-.122	.210*	.097	.219*	.153
NS			1	-.221*	-.052	-.109	-.018	.116	.027	.182
YL				1	.340**	.203*	.087	.146	.148	.052
EPS					1	.005	.172	.202*	.041	.118
OS						1	.211*	.047	.194	.000
IY							1	.180	.266*	.098
MC								1	.165	.180
ILAF									1	.143
LVG										1

If we look at the ordinary least square (OLS) regression analysis, Table 4 shows a significant relationship between asset size and corporate accruals. The graphical representation of ordinary least square model using AMOS appears in Figure 3. Asset size has a significant effect on corporate accruals at the five-percent significance level. The other independent variables do not have any significant (linear) effect on corporate accruals. In principle, the value of a business is often reflected by its assets; therefore, the more assets a company can show on its books, the better it looks to investors and other stakeholders. Generally, companies use resources to earn money and pay off debts. The assets that are most commonly improperly valued are inventory, accounts receivable and fixed assets (Omar, 2012, p.7). We observed inconsistent growth of inventory, faster growth of accounts receivable and during investigation, the probe committee (2011) observed that companies were overstating their assets in the name of revaluation while deferred tax implications were not being properly accounted for in the financial statement (Table 5). Many companies even went so far as to illegally issue bonus shares based on these unreal gains. Revaluation of fixed assets tends to be carried out by certified chartered accountants. But in Bangladesh, chartered institutes of certified accountants and chartered certified accountants simply do not exist. Company auditors are doing the job of certified chartered accountants, something which is not internationally accepted. An improper asset valuation is classified as financial statement fraud (Omar, 2012). Indeed, corporate accrual (information asymmetry) is not a regular business variable and it does not stem from the business cycle but rather it is injected into the report through the mindset of corporate managers.

Table 4. Regression weights

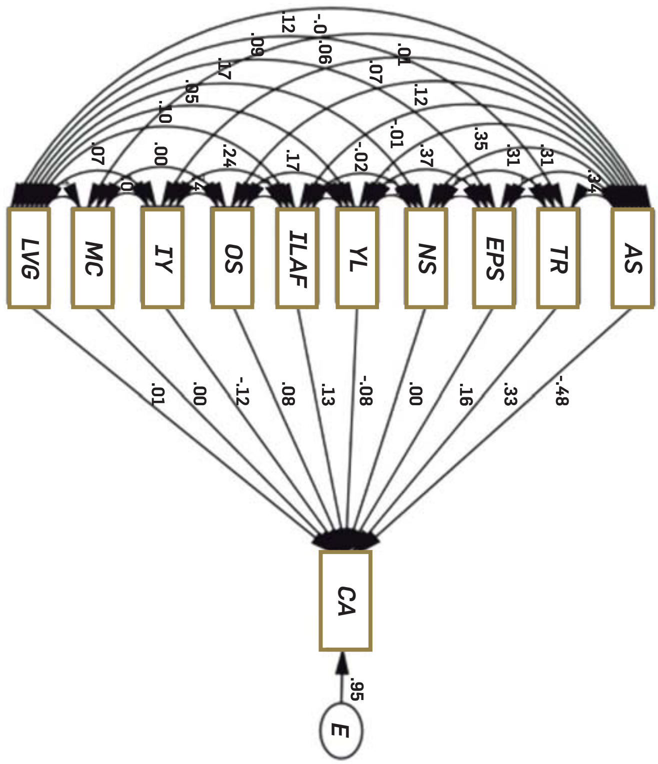
Dependent variables		Independent variables	Beta	P
CA	<---	Other		***
CA	<---	*AS*	–.48	0.038*
CA	<---	*TR*	.33	0.352
CA	<---	*NS*	.00	0.862
CA	<---	*YL*	–.08	0.51
CA	<---	*EPS*	.16	0.215
CA	<---	*OS*	.08	0.606
CA	<---	*IY*	–.12	0.291
CA	<---	*MC*	.00	0.982
CA	<---	*ILAF*	.13	0.304
CA	<---	*LVG*	.01	0.942

Table 5. 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.

■ Figure 3. **Graphical output of OLS model using AMOS**



Agency problems exist between management and shareholders in the Bangladeshi corporate sector (Hasan *et al.,* 2014). It could easily be understood that corporate management uses its position to draft financial statements that ensure a positive representation of management performance in running the business. They are in a unique position to use their discretionary power to produce fraudulent financial reports and it is well known that fraudulent financial reports do not depend on any regular variables of the business cycle but rather on the mindset of corporate managers. The separation of ownership and control creates an information asymmetry between management and shareholders whereby owners are not provided with the information to be able to accurately assess the decisions made by managers (Downes and Russ, 2005). Unethical managers can take advantage of information asymmetry and use their positions to further their own agendas rather than those of owners, engaging in so-called managerial opportunism (Williamson, 1996). It is information asymmetry that allows immoral executives to disguise the real motives behind their actions. They are in a position to hide or distort information in such a way as to make many of their actions appear benign or even in the best interests of the shareholders. Shareholders have no way of knowing in advance which individuals will display such tendencies (Downes and Russ, 2005). The temptation to artificially inflate share prices, fabricate profits, and hide losses is too great for those whose jobs depend on the results (Zandstra, 2002). At first glance, it would appear that the board would provide a sufficiently effective solution to the agency problem in that it would be able to detect and prevent any opportunistic managerial behaviour. Directors are compensated for the risks that accompany the duties and responsibilities of board membership. Directors must vigorously seek the truth in any situation by being active and proactive rather than passive and reactive. Unfortunately, many have relationships with corporate management teams that cloud their judgement and they do not ask enough tough questions (Downes and Russ, 2005). Board independence is essential for preventing managerial opportunism in corporate financial reporting. Without effective monitoring of the activities of corporate management by the board, it will be impossible for regulators or others to stop or eliminate the managerial opportunism in corporate reporting in Bangladesh. Effective monitoring of the board should work as a watchdog for corporate management but in truth, there is no effective monitoring in the boardrooms of Bangladesh and corporate managers fully enjoy their discretionary power to manipulate corporate financial reports. The external users' perception about the qualitative characteristics of corporate financial reporting is far below the acceptable level and as such, external users' have a negative attitude towards disclosure of financial reporting (Hasan *et al.*, 2014).

Consequently, the level of confidence of external stakeholders on corporate financial reporting is still too low, as per the findings of earlier studies. Karim (1998) found that financial reporting in developing countries is generally characterized by a 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 standards and in most cases, they are dressed up and embellished. What they reveal is interesting but what they conceal is vital. That is why nobody has confidence in said financial statements and hardly anybody uses them as a basis for making financial decisions. Rahman (1978) stated that there was no truth in accounting. Accounting is what one wants it to be. Figures can be manipulated for good or evil. Rahman (1982) found that multinational enterprises understated profits by manipulating accounting policies. Razzaque (2004) and Hasan (2013) found the same poor level of confidence of the stakeholders on corporate financial reporting in Bangladesh.

5. Conclusion

The study captures the relationship between corporate accruals and asset size. The study also observed the inconsistent growth of inventory, faster growth of accounts receivable and the overvaluation of fixed assets as reported by the probe committee (2011). The other corporate attributes do not have a significant relationship with corporate accruals. Corporate accruals are accruals by management choice, in other words it comes from the management mindset and is injected into the business reporting to hide or distort information to achieve desired goals. Institutional weakness, inefficient capital market, poor corporate governance, ineffective boards, lack of competent independent directors, no audit review, CEO duality, limited institutional investors in ownership, majority family ownership, political connections, no qualified accountant, no institute of chartered surveyor, etc., create opportunities for managerial opportunism in corporate financial reporting. They study recommends that an Institute of Chartered Surveyor be created immediately in order to ensure the provision of an accurate reflection of the fixed assets in the balance sheets. An audit review program should be introduced, corporate governance mechanism should be updated to ensure effective monitoring of management activities, and institutional capacity should be strengthened. Further research can be conducted to investigate other parts of financial statements such as concealed liabilities, fictitious revenues, timing differences, and improper disclosures.

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Apendix I

List of sample companies

SN	Company name	SN	Company name
1	Rahim Textile	35	Ambee Pharma
2	Samorita Hospitals	36	Pama Oil Company
3	Savar Refractories ltd	37	Salvo Chemical Industry Limited
4	Beach Hatechery ltd	38	British American Tobacco
5	Tallu Spinning Mills	39	Eastern Housing Limited
6	Imam Button	40	Bata Shoe Company
7	Safko Spinning	41	National Tea Company Limited
8	Anlima Yarn Dyeing ltd	42	Aziz Pipe
9	Bangladesh Auto Cars Limited	43	Jamuna Oil Company Limited
10	Eastern Cables	44	National Polymer Industries Limited
11	Atlas Bangladesh Limited	45	Quasem Drycells Ltd
12	Meghna Petroleum Limited	46	CMC Kamal Textile Mills Limited
13	Apex Adelchi Footwear Limited	47	Bangladesh Lamps Ltd.
14	Deshbandhu Polymer Limited	48	Metro Spinning Mills Limited
15	Fine Foods Limited	49	MJL Bangladesh Limited
16	Khulna Power Company Limited	50	Aftab Automobiles limited
17	GBB Power Limited	51	Square Textiles Limited
18	Libra Infusion Limited	52	Singer Bangladesh Limited
19	The Dacca Dyeing & Manufacturing	53	ACI Formulations Limited
20	R. N. Spinning Limited	54	Prime Textile Spinning Mills Limited
21	BSRM Steels Limited	55	Saiham Textile Mills Limited
22	Bangladesh Thai Aluminium Ltd.	56	H. R. Textile Mills Limited
23	Keya Cosmetics ltd	57	Agricultural Marketing Co Ltd
24	M I Cement Factory Ltd.	58	Apex Spinning & Knitting Mills Limited
25	Fuwang Foods Ltd.	59	Makson Spinning Mills Limited
26	Pharma Aids Limited	60	Malek Spinning Mills Ltd.
27	Kohinoor Chemical Company	61	Jute Spinners Limited
28	Samata Leather Complex Ltd	62	BD COM Limited
29	Sonali Aansh Industries Limited	63	Daffodil Computers Limited
30	Navana CNG Limited	64	United Airways Limited
31	Grameen Phone	65	Standard Ceramic Industries Limited
32	Dhaka Electric Supply Company Limited	66	Beacon Pharma
33	Titas Gas Transmission and Distribution	67	Orion Infusion Ltd.
34	Square Pharmaceuticals	68	Active Fine Chemicals Ltd

Corporate attributes and corporate accruals. *Hasan, M.S., Omar, N., Abdul Rahman, R. and Hossain, S.Z.*
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