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The Impact of Financial Factors on Financial and Tax Reporting Decisions of Listed Firms on the Colombo Stock Exchange

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Abstract: The purpose of this study is to examine the impact of financial factors on a firm's financial and tax reporting decisions in the context of a developing country, Sri Lanka. Relevant past studies revealed that firms struggled to achieve both financial and tax reporting goals concurrently. The present study employed quantitative methodology and collected data from audited financial statements of listed firms on the Colombo Stock Exchange from 2017 to 2022, during which tax sheltering practices were restricted under several tax rules. The study adopted a measure developed by Koh and Lee (2015) to specify the firm's decision-making between financial and tax reporting by considering earnings management and tax avoidance. Logistic regression analysis was used to analyse data. In contrast to previous studies, the findings of the present study reflect that firms with more long-term debt financing are likely to engage in aggressive financial reporting. The findings also reveal that firms with a more significant financing deficit are more likely to engage in aggressive financial reporting to seem profitable during fundraising. In contrast, firms with greater access to the external capital market engage in aggressive tax reporting. The findings of this study are useful to determine the decision-making methods of managers, auditors, standard setters, and financial statement users in Sri Lanka.

Keywords: Financial Factors, Financial Reporting, Tax Reporting, Colombo Stock Exchange, Sri Lanka

1. Introduction

Corporate executives are interested in keeping their book income up for financial reporting purposes while maintaining their taxable income down for tax reporting purposes (Koh & Lee, 2015). The optimal achievement of this objective is questionable primarily because, in the real world, managers are confronted with situations where book-tax conformity is high, and tax-avoidance actions are limited (Koh & Lee, 2015). Financial reporting aggressiveness is described as an attempt to manage earnings upwards whereas tax reporting aggressiveness is characterised as an attempt to manage taxable income downwards (Rachmawati & Martani, 2017).

Therefore, managers cannot adopt both strategies simultaneously since earnings management leads to higher taxable income and tax avoidance leads to lower book income (Erickson, Hanlon, & Maydew, 2004; Hunt, Moyer, & Shevlin, 1996; Klassen, 1997; Koh & Lee, 2015). This would result in rational managers following these two conflicting strategies, eventually leading to a trade-off. Koh and Lee (2015) suggested that this decision is mainly based on the unequal weighing of financial reporting and tax costs. Rational managers emphasise financial reporting aggression when financial reporting costs exceed tax costs by moving book income upward. In contrast, they would prioritise aggressive tax reporting by adjusting taxable income downward when the tax cost exceeds the financial reporting cost (Koh & Lee, 2015).

According to Rachmawati and Martani (2017), it is worthwhile to examine the relationship between earnings management and tax evasion for two reasons. First, two main research streams examined this relationship. First stream concentrated on whether tax reporting aggressiveness, or tax avoidance, would affect financial reporting aggressiveness (Dhaliwal, Gleason, & Mills, 2004; Frank, Lynch, & Rego, 2009; Rachmawati & Martani, 2017). According to Desai and Dharmapala (2009), tax avoidance is an activity that maximises the shareholder value from an investor's perspective. Further, they stated that shareholders would persuade managers to engage in tax avoidance activities (Desai & Dharmapala, 2009). By doing that, shareholders are attributable to higher after-tax income through dividends (Desai & Dharmapala, 2009). In contrast, the second stream examines how aggressive financial reporting, often known as earnings management, influences aggressive tax reporting (Frank et al., 2009; Lennox, Lisowsky, & Pittman 2013; Rachmawati & Martani, 2017). According to Dhaliwal et al. (2004), to achieve certain earnings, firms tend to utilise current tax expense account as a last resort to make earnings management. Earlier scholars also suggest that many firms decide to pay additional taxes by engaging in earnings overstatement that has been reported in financial reports. The main reason for such a trend would be to avoid suspicion from parties like savvy investors, capital market regularities, and the tax authorities (Desai & Dharmapala, 2006; Erickson et al., 2004; Rachmawati & Martani, 2017). The second reason, the link between aggressive financial and tax reporting, is highly dependent on the amount of book-tax conformity (Rachmawati & Martani, 2017). Furthermore, Rachmawati and Martani (2017) claim that no empirical evidence exists to demonstrate that varying levels of book-tax conformance alter the relationship between financial and tax reporting aggressiveness. In contrast, Tang (2014) created a new proxy for mandatory conformity

and observed that a high level of book-tax conformity was associated with lower earnings management and tax avoidance.

There is an intellectual puzzle whether managerial decision-making is affected by the conflicting nature of the two strategies: earnings management and tax management. Due to the inherent tension between these two tactics, corporations frequently find themselves in a book-tax trade-off. However, numerous previous scholars have disputed this concept, arguing that firms do not always face a trade-off between financial and tax reporting (Desai, 2003; Frank et al., 2009). The relationship between financial factors, earnings management, and tax management mainly depends on financial reporting and tax cost (Koh & Lee, 2015). Managers are likely to adopt a strategy that can minimise the highest cost element as they cannot follow both strategies simultaneously. Previous researchers had focused on this trade-off in detail based on different contexts, but still, there is a shortage of studies as to the exact nature of earnings management and tax management strategies. According to Frank et al. (2009), aggressive financial and tax reporting have a strong positive correlation. Nonetheless, Lennox et al. (2013) refused this idea by establishing a negative correlation between those factors. A study conducted by Rachmawati and Martani (2017) suggested an endogeneity problem in the relationship between aggressive financial and tax reporting. They further stated "only tax reporting aggressiveness that affects financial reporting aggressiveness, but no otherwise" (Rachmawati & Martani, 2017, p.99). Therefore, we observed mixed results generated by past studies as their contextual settings and choice of methods is different.

Additionally, there were mixed results concerning the extent to which book-tax conformity level affects this book-tax trade-off process. We also observed a scarcity of studies in a developing country context, especially in Sri Lanka, where the nature of tax sheltering activities is substantially different from previously studied contexts. Further, the findings of earlier scholars suggest that the nature of capital structure and its determinants in a developing country could be extensively diverse from a developed country context (Lemma & Negash, 2014). Moreover, we observed that the level of accounting-tax alignment of Sri Lanka significantly differed from previously studied contexts. Hence, the current study investigates the effects of specified financial factors on managers' choice between aggressive financial reporting/earnings management and aggressive tax reporting/tax avoidance strategies of listed companies on the Colombo Stock Exchange (CSE). Accordingly, the study attempts to accomplish the following research objectives:

1. To investigate the impact of selected financial factors on the financial and tax cost of listed firms on the CSE.

2. To identify the preferred strategy among aggressive financial and tax reporting when listed firms on the CSE incorporate selected financial factors.

The remainder of the paper is organised as follows. Section 2 of the paper reviews relevant past studies and develops hypotheses. Methodological concerns of the study are explained and regression models are developed in Section 3. Empirical results are presented and discussed in Section 4 of the paper and Section 5 concludes the paper.

2. Literature Review and Hypothesis Development

2.1. Review of relevant past studies

A large body of prior research explored the trade-offs managers must make regarding financial and tax reporting (Frank et al., 2009; Koh & Lee, 2015). According to Frank et al. (2009), anecdotal evidence suggested that financial and tax reporting aggressiveness increased significantly between the mid-1990s and early 2000s. Numerous firms were charged and prosecuted during this period for engaging in fraudulent accounting techniques and abusive tax avoidance procedures (Frank et al., 2009; Lennox et al., 2013). Similarly, the Internal Revenue Service of the US and several other academic experts claimed that there had been a rising disparity between financial and tax reporting income during the same period (Frank et al., 2009). According to Boynton, DeFilippes, and Legel (2005), the total book-tax difference calculated from corporate US tax filings grew from $43 billion in 1993 to $313 billion in 1999, before declining to $49 billion in 2001. Boynton et al. (2005) further stated that even though there was a massive fall in book-tax difference in 2001, this figure showed a dramatic increase to $436 billion in 2003. These findings suggest that more and more firms engaged in aggressive financial and tax reporting practices (Boynton et al., 2005; Frank et al., 2009).

The framework developed by Scholes and Wolfson (1992) explained the book-tax trade-off by indicating that effective tax avoidance strategies would primarily depend on the tax planner's ability to identify all costs arising from the tax avoidance process. This relationship was empirically tested by Shackelford and Shevlin (2001), and they recognised that the extant literature provides mixed evidence on the determinants of tax reporting aggressiveness. Most of the previous literature provided evidence that the firm tends to "choose accounting methods that are favorable for either financial or tax reporting by focusing on the accounts or transactions in which accounting principles and tax laws conform" (Koh & Lee, 2015, p.114). For example, Klassen (1997) investigated significant asset divestitures and discovered that firms with a higher percentage of

managerial ownership are less likely to face market pressure to claim high income, thus lowering financial reporting costs and motivating tax reporting aggressiveness. Past researchers stated that firms experiencing higher tax reporting costs tend to adopt LIFO as their inventory valuation method. Since the LIFO method can reduce the tax burden firms currently face and in doing so, they sacrifice the firm's ability to earn higher book income (Johnson & Dhaliwal, 1988; Koh & Lee, 2015). The study conducted by Johnson and Dhaliwal (1988) examined the LIFO abandonment decision. The findings of Johnson and Dhaliwal (1988) suggested that such abandoned firms tend to be at high leverage and closer to violating working capital restrictions specified in loan agreements.

Several previous scholars had conducted small-sample analyses of the trade-off between financial and tax reporting. Guenther, Maydew, and Nutter (1997) used data from 66 quoted firms in the US context, and cash basis taxpayers before the Tax Reform Act of 1986 (TR86). This research suggested that the adoption of TR86 tax reforms strengthened the link between book and tax income as they converted to mandated accrual basis taxpayers. This resulted in increasing the trade-off between financial and tax reporting (Guenther et al., 1997). Meanwhile, Erickson et al. (2004) investigated a sample of 27 firms charged with falsely inflating earnings by the Securities and Exchange Commission to see whether they were willing to give up taxes to boost book income. The findings of Erickson et al. (2004) indicated that accused firms overpaid taxes by more than $3.36 billion to inflate earnings.

Furthermore, researchers estimate that some managers express a willingness to pay significant additional taxes on earnings with little or no economic value. A study conducted by Marques, Rodriques, and Craig (2011) in the Portugal context suggests that the desire to minimise tax expenditure motivated managers to manipulate earnings. Recently, the Portugal government introduced a system of "special payment on account (SPA) and relevant firms needed to pay an amount of income tax in advance that varies between a promulgated minimum and maximum" (Marques et al., 2011, p.83). The researcher examined the extent to which the SPA tax policy incentivises private Portuguese firms to manipulate their earnings. The findings indicated that observed firms employed earnings management techniques more frequently to minimise their SPA (Marques et al., 2011). Furthermore, the results indicated that firms whose estimated SPA liability fell within the range of the minimum and maximum SPA limitations had a higher level of discretionary accruals than firms whose estimated SPA liability was (equal to or) greater than the new legislation's ceiling (Marques et al., 2011).

In contrast, recent research trends demonstrate that firms are not always forced to choose between financial and tax reporting. Several previous studies showed that non-conformity between accounting and tax standards enabled firms to declare higher book income to shareholders while reporting lower taxable income (Desai, 2003; Hanlon, 2005). Similarly, multiple prior researchers argued that the most advantageous tax planning, which permanently separated financial and tax reporting, was widespread in the United States in the late 1990s (McGill & Outslay, 2004; US Congress Joint Committee on Taxation, 1999). Frank et al. (2009) suggested a strong, positive relationship between aggressive financial and tax reporting. This practice is motivated by the recent series of accounting scandals, extensive tax sheltering, and the widening book-tax disparity. Frank et al. (2009) examined this possibility using discretionary accruals and discretionary permanent book-tax difference (DTAX), which served as proxy measures for aggressive financial and tax reporting, respectively. They concluded that there was a positive association between these measures (Frank et al., 2009). Frank et al. (2009) further stated that the proxy used to measure aggressive financial reporting was supported by many past scholars (Dechow, Sloan, & Sweeney, 1995; Jones, 1991; Koh & Lee, 2015). However, the proxy used (i.e., DTAX) by Frank et. (2009) to measure aggressive tax reporting was relatively new and it statistically detected tax sheltering activities better than other measures suggested by past literature.

In contrast, Lennox et al. (2013) claimed that firms could not manage their book and taxable income in the same period in opposite directions. Lennox et al. (2013) examined this relationship further by using financial statement frauds (a proxy for aggressive financial reporting) and eight different proxies for aggressive tax reporting. Lennox et al. (2013) analysed data of the US public firms from 1981 to 2001. They mentioned 1981 as the earliest year for which data on fraudulent financial reporting became available and 2001 as the latest year for which researchers could reliably measure accounting frauds (Lennox et al., 2013). According to the findings of Lennox et al. (2013), after triangulating their evidence using a wide range of effective tax rate and book-tax difference proxies and common factor pull out from these measures, aggressive tax reporting was less likely to engage in fraud than non-tax aggressive firms. They implied a negative relationship between aggressive financial and tax reporting (Lennox et al., 2013). Therefore, it is clear that the findings of Lennox et al. (2013) are more consistent with former arguments than the latter. Lyon (2017) re-examined these conflicting results and concluded that the relationship between aggressive books and tax reporting was positive for some firms but negative for others. Further, Lyon (2017) had found

conclusive solid evidence on the relationship between aggressive financial and tax reporting which was methodically different for firms practicing frauds than for firms with higher level of discretionary accruals. Thus, Lyon (2017) suggested that the relationship between aggressive financial and tax reporting was subject to scholars measuring aggressive book reporting in their studies. Further, Lyon (2017) stated that firms accused of financial statement fraud had a negative association, and non-fraud firms or firms with higher discretionary accruals revealed a positive association between aggressive financial and tax reporting, respectively. The study conducted by Rachmawati and Martani (2017), using the 303 firms listed in Indonesian Stock Market during the period 2013 to 2016, suggested an endogeneity problem in the association between aggressive financial and tax reporting but no causality relationship. These scholars further stated that only tax reporting aggressiveness affects financial reporting aggressiveness, but not otherwise (Rachmawati & Martani, 2017). Frank et al. (2009) argued that firms' ability to engage in aggressive financial and tax reporting activities is contingent on the extent to which they are subject to book-tax conformity. The researchers further stated that firms could have greater capability to practice aggressive financial and tax reporting when firms operated in an environment that permited higher capability in their financial and accounting decisions (Frank et al., 2009). Similarly, a study conducted by Atwood, Drake, Myers, and Myers (2012), using a worldwide sample of 69,301 firm-year observations from 22 countries suggested that the extent of aggressive tax reporting across countries would directly be impacted by book-tax conformity, global versus territorial approach, and perceived strength of tax enforcement. Similarly, Rachmawati and Martani (2017) findings also suggested that firms with a lower degree of book-tax conformity faced a more adverse trade-off between aggressive financial and tax reporting than firms with a greater level of book-tax conformity. However, Frank et al. (2009) claimed that even businesses could concurrently employ aggressive financial and tax reporting tactics. Yet, it is unlikely that such firms would be eager to engage in aggressive financial and tax reporting practices. Prior research claimed that firms with more significant book-tax differences would be subjected to close monitoring of regulators and external auditors (Badertscher, Phillips, Pincus, & Rego, 2009; Cloyd, 1995). As a result, many businesses forwent proactive financial and tax reporting to escape increased regulatory scrutiny (Frank et al., 2009). In conclusion, there is a shortage of studies in relation to book-tax trade-off in the Sri Lankan context. A study conducted by Rajeevan and Ajward (2019), using 70 quoted firms in the CSE, suggested a positive relationship between CEO-Chair duality and earnings

management. A study conducted by Gunathilaka (2012) found after analysing 215 responses collected from the Sri Lankan context that tax evasion was seen as more reasonable as the respondents viewed the government as corrupt, and wasteful, and felt that a relatively complex tax system existed in Sri Lanka.

2.2. Hypothesis Development

According to the positive accounting theory's debt/equity covenant hypothesis, the higher a firm's debt/equity ratio, the more likely managers will make income-increasing accounting choices (Watts & Zimmerman, 1990). According to Watts and Zimmerman (1990), a more significant debt ratio places a firm at risk of violating collateral requirements and bearing the cost of technical default. As a result, managers are driven to use income-increasing accounting tactics to relax debt limitations and lower the cost of technical default (Watts & Zimmerman, 1990). Researchers observed that past literature on the association between debt ratio and earnings management generated mixed results (Koh & Lee, 2015). Meanwhile, several earlier scholars had suggested a positive relationship between debt ratio and earnings management by examining accounting decisions such as depreciation strategies, inventory valuation techniques, and discretionary accruals (Beneish, 2001; Sweeney, 1994). It was observed that prior studies indicated an association between debt ratio and tax avoidance. Debt financing allowed firms to enjoy less tax expenditure because interest payments were generally tax-deductible. However, extant literature also revealed a unique research setting where financial reporting and tax cost increased as debt level increased. Scholars explained this behaviour by stating that loan interest expenses beyond a particular threshold established by tax rules could not be deducted for taxation purposes (Koh & Lee, 2015; Jeon, 1997). Therefore, an increase in debt would increase the tax cost and financial reporting cost in such a situation. Thus, firms with a higher debt ratio would likely adopt tax avoidance strategies (Koh & Lee, 2015). Therefore, following Koh and Lee (2015), we assumed that lowering tax costs would be the better option as financial reporting costs were already high compared to tax costs. As per this behaviour, we developed the first hypothesis of the study as follows:

H1: Firms with lower debt ratios follow more aggressive financial reporting strategies.

Furthermore, previous studies have examined the effect of debt financing on the tax expenditure. Scholes and Wolfson (1992) argued that refinancing costs would make issuing a series of short-term loans more expensive than issuing a single long-term debt. Scholes and Wolfson (1992)

also discovered that enterprises were likely to take advantage of ongoing tax shelters and choose long-term debt over short-term debt. Therefore, firms that utilise more long-term debt would naturally adopt tax avoidance strategies to reduce their tax burden (Koh & Lee, 2015). A few researches have examined the relationship between debt maturity and earnings management strategies, but the evidence is inconclusive. According to prior studies, increasing short-term debt would increase liquidity risk since firms could be rejected loan renewals or their loans could mature before their projects were finished (Johnson, 2003). As a result, several scholars anticipated that organisations with a greater reliance on short-term debt financing would be more inclined to employ aggressive financial reporting tactics to appear more profitable to lenders than firms with a greater reliance on long-term debt financing (Gupta et al., 2008). Likewise, empirical evidence from Fung and Goodwin (2013) indicates that corporations with a high proportion of short-term debt are more likely to manipulate reported earnings upward. Accordingly, the second hypothesis of the study can be developed as follows:

H2: Firms that utilise long-term debt financing engage in aggressive tax reporting strategies.

According to Koh and Lee (2015), firms with financing deficits would focus more on aggressive financial reporting to reflect themselves as profitable or in a financially solid situation. Otherwise, creditors and banks may be unwilling to lend money to such firms, and even unprofitable firms may be unable to issue shares at reasonable rates (Koh & Lee, 2015). Therefore, following Koh and Lee (2015), as third hypothesis of the study we predict that financing deficit leads managers' opportunistic behaviour to focus more on aggressive financial reporting due to their relatively high financial reporting cost than tax cost.

H3: Firms with financing deficits follow aggressive financial reporting strategies.

Following Koh and Lee (2015), we used the market-to-book ratio as a proxy for access to the external capital market (ECM) because a higher market-to-book ratio represents growth opportunities available to a particular firm, and this is considered a success factor for firms as it is more attractive to banks, financial institutions as well as stocks/bonds investors. Therefore, organisations with greater access to ECM have less desire to engage in earnings management. Their need to look profitable to attract lenders is minimal than firms with limited access to ECM. Similarly, Koh and Lee (2015) stated that firms with better access to internal capital markets (ICM) would be less concerned about earnings management.

Further, since firms have the supplementary ability to enter into flexible debt contracts with their affiliated firms and even relax their debt covenants in a time of need, they would be less concerned about financial reporting costs. Consequently, we hypothesise that firms having greater access to ECM or ICM are more likely to engage in more aggressive tax planning to lower their total cost and eventually maximise firm value.

H4: Firms with better access to ECM or ICM adopt more aggressive tax reporting.

3. Research Design

The population of the study consists of all listed firms in the CSE as of March, 31, 2022. The current study adopts the sampling procedure explained in Koh and Lee (2015) (see Table 1). The initial sample of this study consisted of firms listed in the CSE between 2017 and 2022. The study first identified a data of 710 firms-years, and later initial analyses was carried out to detect the aggressive financial and tax reporting firms. As a result of the analysis, 320 firm-years were classified as either aggressive financial or tax reporting firms (EMTM=1 and EMTM=0, respectively). Those firms were considered as the final sample for the subsequent analyses of the study. The study used secondary data retrieved from audited financial statements, interim financial reports and stock market published data which are considered to be reliable sources of data.

Table 1: Sample Selection

Description	*No. of Quoted Firms*
The total quoted firms at CSE as of 31st March 2022	294
Newly listed firms during the analysis period	(8)
Financial Firms	(73)
Non-March year-end firms	(33)
Inadequate information available	(38)
Final sample firms	142

This study adopted various models proposed by Koh and Lee (2015) to evaluate earnings management and tax avoidance in the exercise of examining firm's financial and tax reporting. According to Koh and Lee (2015), the present study estimated the level of earnings management using discretionary accruals from the Modified Jones Model. The study also used several models proposed by previous scholars, such as Desai and Dharmapala (2006) and Tang and Firth (2011) Abnormal BTD Model, to measure firms' level of tax avoidance. Based on the earnings management

and tax avoidance calculated by previously stated models, the study classified firms as aggressive financial or tax reporting firms. Any sample firm that employed both high (low) earnings management and tax avoidance levels were excluded, as it was unclear which technique they prioritised in.

Based on Koh and Lee (2015), the current study developed the following logistic regression models (i.e., Model 1 – 4) to estimate firm's decision-making between financial and tax reporting in quoted firms in the CSE.

$$EMTM_{i,t} = \beta_0 + \beta_1(LEV)_{i,t} + \beta_2(LEV)^2_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 REV_{i,t} + \beta_6 MTR_{i,t} + \beta_7 OWN_{i,t} + \beta_8 FOR_{i,t} + \beta_9 BIG_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$EMTM_{i,t} = \beta_0 + \beta_1(LTDEBT)_{i,t} + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 REV_{i,t} + \beta_6 MTR_{i,t} + \beta_7 OWN_{i,t} + \beta_8 FOR_{i,t} + \beta_9 BIG_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$EMTM_{i,t} = \beta_0 + \beta_1(DEFICIT)_{i,t} + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 REV_{i,t} + \beta_6 MTR_{i,t} + \beta_7 OWN_{i,t} + \beta_8 FOR_{i,t} + \beta_9 BIG_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$EMTM_{i,t} = \beta_0 + \beta_1(ECM\ or\ ICM)_{i,t} + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 REV_{i,t} + \beta_6 MTR_{i,t} + \beta_7 OWN_{i,t} + \beta_8 FOR_{i,t} + \beta_9 BIG_{i,t} + \varepsilon_{i,t} \quad (4)$$

where EMTM is the measure of the dependent variable which is assigned a value of '1' if firms were classified as aggressive financial reporting and '0' if firms were classified as aggressive tax reporting. Leverage, firm size, profitability, growth, marginal tax rate, major shareholder ownership, foreign shareholder ownership, and big auditors are the control variables of Models 1-4. The variables are defined in Appendix 1.

4. Empirical Results

Table 2 presents descriptive statistics of the variables used in the study. EMTM is the measure of a dependent variable that carries a value of '1' if firms are classified as aggressive financial reporting and '0' if firms are classified as aggressive tax reporting. The mean and standard deviation of EMTM in Panel A of Table 2 indicates that approximately 50% of sample firms practice aggressive financial reporting. It is also observed that the average LEV value is 34.94% with a 23.68% standard deviation. This suggests that, on average, many firms are ungeared. Further, LEV which is the independent variable of the study has a skewness value of approximately 0.4, suggesting a positively skewed distribution. It indicates

that the majority of LEV values position below the average of 34.94%, and there are a few extremely high LEV values in the distribution. Moreover, LEV distribution has a kurtosis value of 2.567 which is a platykurtic distribution. Hence, the values of LEV are relatively scattered across the scale. Among the control variables of the study, LTDEBT, ECM, ICM, and FOR, have positively skewed distributions whereas DEFICIT, SIZE, ROA, REV, MTR, OWN, and BIG, variables are negatively skewed. In relation to the kurtosis of control variables, LTDEBT has a platykurtic distribution, the SIZE variable is approximately normally distributed and the remaining control variables have leptokurtic distributions which means most of the values of such variables are gathered around the mean value.

Table 2: Descriptive Statistics

Panel A							
	EMTM	*LEV*	*LTDEBT*	*DEFICIT*	*ECM*	*ICM*	*SIZE*
Mean	0.503	0.349	0.325	0.059	2.666	0.048	14.84
Maximum	1.000	1.058	0.893	5.471	189.1	0.743	19.47
Minimum	0.000	0.001	-0.006	-5.561	0.042	0.000	11.21
Std. Dev.	0.500	0.236	0.259	0.453	14.77	0.097	1.44
Skewness	-0.013	0.395	0.413	-0.614	10.66	3.776	-0.215
Kurtosis	1.000	2.567	1.928	138.8	118.9	21.59	2.906
Panel B							
	ROA	*REV*	*MTR*	*OWN*	*FOR*	*BIG*	
Mean	0.028	0.019	0.254	0.876	0.099	0.808	
Maximum	0.721	0.699	0.400	1.000	0.891	1.000	
Minimum	-0.522	-1.957	0.000	0.000	0.000	0.000	
Std. Dev.	0.103	0.188	0.059	0.105	0.194	0.394	
Skewness	-0.057	-4.213	-1.966	-2.923	2.451	-1.565	
Kurtosis	13.91	45.22	7.539	19.58	8.524	3.450	

Note: Number of observations is 320

According to Schreiber-Gregory and Bader (2018), logistic regression is distinct from linear regression as it does not make several of the critical assumptions that linear and general linear models have. Though logistic regression rejects several assumptions of linear regression, there are some assumptions such as appropriate outcome structure, observation independence, absence of multicollinearity, linearity of independent variables and log odds, and having a larger sample size to be fulfilled before estimating a logistic regression model (Schreiber-Gregory & Bader, 2018). The current study used a dummy variable with a value of '1' if firms were classified as aggressive financial reporting and '0' if firms were classified as aggressive tax reporting to fulfill the appropriate outcome

structure assumption. The study collected data from quoted firms in the CSE covering 20 sectors. Each such firm was registered separately, and the nature of their business transactions was unique to one another. Hence, it is safe to assume that observations in the current logistic regressions of the study are independent without repeated measurements or matched data. The study used only one independent variable (the remaining variables are control variables) in each model hence there was no requirement for testing the multicollinearity assumption. Following Schreiber-Gregory and Bader (2018) the present study adopted the maximum likelihood estimation method to ensure linearity of independent variables and log odds. Analysis of this study is based on 320 firm-year observations which is relatively a large sample to represent the population of the study. In addition to fulfilling the above assumptions, the authors identified the presence of extreme values of DEFICIT, ECM, ROA, and REV variables, and ruled out the effect of extreme values by trimming them to equate with the penultimate highest value in the data set arranged in ascending order. After all, the logistic regression results of Models 1-4 are summarised in Table 3 and used in testing the hypotheses of the study.

Table 3: Summarised Logistic Regression Results

Logistic Regression Model	*Independent Variable*	*Coefficient*	*Std. Error*	*Probability*	*R Squared (Mc Fadden)*
Model 01	Level of Debt ratio (LEV)	3.3712	2.0063	0.0929	0.3961
	Square of Level of Debt ratio (LEV^2)	-3.8085	2.5985	0.1427	
Model 02	Long-Term Debt Ratio (LTDEBT)	1.1524	0.5895	0.0506	0.3999
Model 03	Financing Deficit (DEFICIT)	3.3628	1.4758	0.0227	0.4049
Model 04	External Capital Market Accessibility (ECM)	-0.3228	0.1623	0.0467	0.4083
	Internal Capital Accessibility (ICM)	-0.4200	1.6080	0.7941	0.3913

Hypothesis 1 of the study assumes that companies with debt ratios below a certain threshold use aggressive financial reporting tactics. The results of the regression output of Model 1 (see Table 3) show a positive coefficient (i.e., 3.3712) with a probability value of 0.0929, which is insignificant as it is above the allowable error of 0.05. Having a positive

coefficient indicates that quoted firms in the CSE with a debt ratio below a specific limit are more likely than EMTM=1, thus being aggressive financial reporting firms (to cut the substantial cost of financial reporting). However this relationship is not statistically significant. The coefficient on the squared value of debt ratio (LEV2) is negative with a probability value of 0.1427 is also statistically insignificant. A negative coefficient indicates that quoted firms in the CSE with a debt ratio above a specific limit are less likely than EMTM=1, thus being an aggressive tax reporting firm (EMTM=0). However, the relationship is not statistically significant. Hence, H1 of the study is not supported. The results of the regression estimate of Model 2 show a positive coefficient (i.e., 1.1524) with a probability value of 0.0506, which is statistically significant. Having a positive coefficient indicates that quoted firms in the CSE with long-term debt financing are more likely to EMTM=1, thus being aggressive financial reporting firms to cut the substantial cost of financial reporting. However, the authors initially expected firms with more long-term debt financing to follow aggressive tax reporting (H2). However, the H2 of the study is not supported by available statistical evidence. H3 of the study assumes that firms with financing deficits engage in aggressive financial reporting strategies. The results of the regression output in Table 03 show a positive coefficient (i.e., 3.363) with a probability value of 0.0227, which is statistically significant. A positive coefficient indicates that quoted firms in the CSE with a high level of financing deficit are more likely to EMTM=1, thus being aggressive financial reporting firms. This result supports H3 of the study. We assume in H4 of the study that firms with better access to the external capital market engage in aggressive tax reporting strategies. The estimates of Model 4 in Table 3 reveal a negative coefficient (i.e., -0.323) with a probability value of 0.0467, which is statistically significant. With a negative coefficient, quoted firms in the CSE with greater access to the external capital market are more likely to have EMTM=0, indicating that they are aggressive tax reporting firms. H4 also assumes that firms with better access to internal capital are more likely to engage in aggressive tax reporting strategies. Regression estimates in Table 3 indicate a negative coefficient (i.e., -0.4200) with a probability value of 0.7941. This negative coefficient reveals that quoted firms in the CSE with greater access to internal capital are more likely to have EMTM=0, indicating that they are aggressive tax reporting firms to avoid the substantial cost of tax reporting they currently incur. However, this relationship is not statistically significant. Thus, it cannot be concluded that firms with better access to internal capital are more likely to follow aggressive tax reporting strategies.

5. Conclusion

This study uncovered an exciting finding: listed firms on the CSE with a higher amount of long-term debt financing use aggressive financial reporting tactics. Several prior studies (see Koh & Lee, 2015; Scholes & Wolfson, 1992) disagree with the above findings of the present study. Empirical findings of the study also revealed that quoted firms in the CSE with more long-term debt financing currently incur relatively higher financial reporting costs than tax costs. Therefore, by pursuing more aggressive financial reporting (earnings management) strategies, such firms could minimise total costs and achieve the overall objective of maximising shareholder wealth. Another key finding of the present study is that quoted firms in the CSE with financing deficits follow aggressive financial reporting strategies. This practice validates the findings of numerous prior studies, which demonstrated that firms with financing deficits currently incur relatively higher financial reporting costs than their tax costs (Koh & Lee, 2015). Thus, such firms are more likely to engage in aggressive financial reporting practices because such strategies will help them minimise their total cost. Finally, the findings of this study reveal that companies with increased access to the external capital market are more likely to pursue aggressive tax reporting. Accordingly, quoted firms in the CSE with better access to the external capital market are more likely to engage in aggressive tax reporting. This enables them to decrease their significant tax costs and maximise shareholder value, as quoted firms in the CSE already have relatively minimal financial reporting costs. Several past studies (e.g., Chen & Zhao, 2006; Koh & Lee, 2015) support this finding.

The present study significantly contributes to the book-tax tradeoff literature, especially in reference to a developing country context like Sri Lanka. Following Koh and Lee (2015), the current study examined the effect of several financial factors on the financial reporting and tax costs of Sri Lankan firms. The outcomes of the study are useful for policymakers, auditors, and regulators to understand whether such firms are more likely to engage in aggressive financial or tax reporting. Moreover, the findings would signal stakeholders regarding the possibility of potential fraud and misstatements.

Following Koh and Lee (2015), the current study analysed only four financial elements when examining organisations' decision-making regarding aggressive financial and tax reporting, even though there could be a multitude of additional financial considerations at play. Therefore, future researchers could consider other financial factors in addition to the financial factors utilised in this study. Another limitation of the study is the limited number of data utilised. Future researchers can utilise data

from more firm-years for analysis. Future researchers could also conduct interviews and group discussions with crucial stakeholders like managers, directors, shareholders, auditors, etc., to obtain a deeper understanding of the phenomenon. It would assist future researchers to detect more firm-specific reasons for such firms' opportunistic financial and tax reporting behaviours.

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Appendix 01

The nomenclature of the variables used in the research model is explained below.

Abbreviation	*Description*
EMTM	EMTM is 1 if a firm is classified as an aggressive financial reporting firm; 0, if a firm is a reporting firm, and 0, if a firm is a tax reporting firm, for a firm *i* in the year *t*.
LEV	debt/total asset for firm a *i* in the year *t*, where debt = short-term debt + long-term debt + bond.
LTDEBT	(long-term debt + bond)/debt for a firm *i* in the year *t*, where debt = short-term debt + long-term debt + bond
DEFICIT	(capital expenditures + net increase in working capital + dividend + portion of long-term debt at start of the period " operating cash flows)/ assets of a firm *i* in the year *t*, where net increase in working capital = increase in account receivables change " increase in inventories " increase in account payables
ECM	(liability +market value of equity)/total asset for a firm *i* in the year *t*
ICM	debt from related parties/total asset for a firm *i* in the year *t*
SIZE	Log (asset) for a firm *i* in the year *t*
ROA	Net income/total asset for a firm *i* in the year *t*.
REV	Change in sales/total asset for a firm *i* in the year *t*.
MTR	Manzon's (1994) marginal tax rate modified for Sri Lankan tax laws for a firm *i* in the year *t*.
OWN	Proportion of common shares held by major shareholders for a firm *i* in the year *t*.
FOR	Proportion of common shares held by foreigners for a firm *i* in the year *t*.
BIG	1 if the auditor is one of the Big 4 auditors, and 0 otherwise a firm *i* in the year *t*.
ε	Model's error of estimate