Earnings Management and Dividend Policy: Evidence from a Frontier Market

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Abstract

Profit or the earnings figure of an entity plays a vibrant role in transmitting information to the decision-makers especially, for the investors. However, if that figure is manipulated, the main objective of the financial reporting becomes valueless. This study investigates the manifestation of earnings management in two selected sectors at the Colombo Stock Exchange and tests the impact of earnings management on dividend policy. The study selected the manufacturing sector and hotel and travel sector companies from 2012 to 2019 as the sample. We employed descriptive statistics, rankings, and panel regression analysis as the main tools of analysis in the study. Dividend policy is measured via dividend yield and dividend payout ratio, while real earnings management approach and total accruals are used as proxies to measure earnings management. In addition, the size of the firm and leverage are used as control variables of the study. The findings reveal that there is no significant impact of earnings management on dividend policy in both sectors. However, the results discovered that the company's preceding year dividend policy is the primary concern to decide the current year dividend policy of the selected sectors. The study becomes original as the first attempt to investigate the impact of earnings management on dividend policy in the Sri Lankan context and compare two vital sectors. The findings assist stakeholders, especially investors and managers, in their decision-making process.

Keywords: Accruals, Dividend Policy, Earnings Management, Sri Lanka

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Introduction

Corporate managers usually make crucial decisions in organizations to maximize shareholder wealth, where dividend payout decisions also come under (Wiley, 1996). The top-level management of a firm should decide whether the firm's profits should be either paid as dividends to shareholders or retained within the firm for reinvesting. If paid as a dividend, what portion should be paid out? Those decisions are called dividend policy decisions. Numerous theories relate to the dividend policy, such as agency theory and signaling theory which provide motives for earnings management.

Earnings Management can be referred to as intentionally altering or manipulating reported earnings by the management to receive personal benefits or meet some targets (Burgstahler & Dichev, 1997; Noronha et al., 2008). Various factors affect the dividend payout decision of a firm, such as profitability, liquidity, leverage, cash flow, size of the company, and sales growth (Chansarn & Chansarn, 2016; Verma., 2012). Among those factors, this study investigates the impact of earning management on a firm's dividend policy.

Investors invest their assets in stocks with an expectation of receiving a higher rate of return. Therefore, when investing in a stock, there is a high tenancy to investors looking at the company's dividend policy. However, in some cases, investors may encounter many difficulties in making decisions on investment by looking at the company's dividend policy and financial figures. That is because management may tend to manipulate reported earnings to represent a positive picture of the company instead of an actual position (Verma., 2012; Dechow et al., 2010; Kighir et al., 2014; Wijesinghe & Kehelwalatenna 2017). Consequently, it is imperative to consider whether there is any impact of earning management on the dividend policy of listed companies.

Although different countries investigated and presenting conflicting findings on earnings management (Aurangzeb & Dilawer, 2012; Gill et al., 2014; Shah et al., 2010 and Ajide & Adermi, 2014; Ahmed et al., 2018) there are little works done in Sri Lankan context. However, few studies investigated the impact of earnings management on share return, leverage, and board characteristics (Rajeevan & Ajward, 2019; Wijesinghe & Kehelwalatenna 2017; Wijesinghe & Kavinda, 2017). Concerning dividend policy, numerous studies were done on dividend policy and firm performance (for example, Wijekoon and Senevirathna, 2019; Silva and Perera, 2020). Nevertheless, there is only a study done to examine the impact of earnings management on dividend policy. Recently Rupasinghe and Sameera (2021) investigated the impact of earnings management using a selected sample from the diversified sector companies in Sri Lanka. Yet, they have used convenience sampling with only one proxy to measure earnings management, which still doubts the findings. Moreover, using one proxy to quantify the earnings management is also criticized (for example, Dechow et al., 2010; Wijesinghe and Kehelwalatenna, 2017). Henceforth, the impact of earnings management on dividend policy remains an unresolved issue in the Sri Lankan context, especially in the manufacturing and the Hotels & travels

sector. Therefore, this study aims to fill this research gap in the literature by examining the impact of earnings management on dividend payout using two sectors listed in the Colombo Stock Exchange (CSE). The study's intensity further strengthens, as Sri Lanka is one of the frontier markets in the Asian region that has attracted both local and foreign investors (CSE, 2020).

CSE was incorporated as Colombo Securities Exchange limited 1985 as a Guarantee Company by seven subscribing stockbrokers. However, share trading in Sri Lanka goes back to the year 1896. As per the annual report of the CSE (2020), Investors Depository Accounts (CDS) has increased by 70%, while trading activities of the local investors grew by 192% compared to 2019. In September 2020 and in February 2011, the All Share Price Index (ASPI) of the CSE was classified as the best performing index in the world, and as of 2020 CSE has 637,069 local investors and 10,515 foreign investors with 283 companies with 20 sectors. In 2020, the market turnover of the CSE significantly improved, recording a 132% increase toping the value to Rs. 397 Bn. Furthermore, daily market turnover increased by 167% to Rs. 1,899 Mn (CSE,2020). CSE, as a prominent place of investments, the outcome of this study will help financial specialists, portfolio supervisors, and potential investors to enhance their basic investment decision-making.

Nevertheless, recent corporate failures (for example, CIFL, ETI, The Finance) create doubts on the governance of the entities and the regulators of Sri Lanka. Therefore, it seems that the governance rules or practices can still not eradicate such bankruptcies, hence influencing the investors' decisions. The governance of the country and corporate governance directly impact investors' decisions (Burgstahler et al., 2006; El Diri et al., 2020). Therefore, CSE is an attractive market with low confidence in governance, so investigating earning management is vibrant.

Given this backdrop, the main objective of this study is to investigate the presence of earnings management and examine the impact of earnings management on dividend policy in the manufacturing sector and hotel and travel sector companies listed in Colombo Stock Exchange (CSE). Furthermore, we employ both real earnings management variables and total accruals in our study. That combines the two aspects of measuring the earnings management that is infrequent in prior studies. Many of the studies employ only a single variable to measure the earnings management (Dechow et al., 2010; Licerán-Gutiérrez & Cano-Rodríguez, 2019). In addition, the study aims to identify the relationship between dividend policy with size of the firm (SF) and leverage of the company (LEV) as two control variables (Shah et al., 2010; Chansarn & Chansarn, 2016; Ibrahim et al., 2015). The contribution of this study is threefold. The first one is we contribute by investigating the impact of earnings management on dividend policy in the Sri Lankan context for two important sectors using two essential proxies. The second one is to compare two main sectors in the CSE rather than concluding for the whole market, which leads to an upsurge in the validity of our findings. Finally, we combined two main measurements to quantify the earnings quality with several control variables.

The remainder of this paper proceeds as follows. Section two discusses the theoretical framework and literature review, while Section three describes the research method used. Next, in section four, the principal results and findings are given. The final section of the paper presents the main conclusion, discussion, implications, limitations, and directions for future studies.

Literature Review

According to Nissim and Ziv (2001), dividend policy is the regulations and guidelines that a company uses to make dividend payments to shareholders. Because it considers the division of the profit between paying out to shareholders and reinvesting within the firm, management of a firm should decide what portion of earnings should be distributed as dividends and what portion should be retained within the company for future investment purposes. Thus, dividend policy is a crucial part of the firm long-run financing strategies of the corporate managers (Hussainey et al., 2011).

However, investors are more preferred dividend payment; on the other hand, it will compel growth opportunities for the company (Moghri & Galogah, 2013). Ibrahim et al., (2015) has suggested that dividend policy as a policy that determines the portion of earnings to be distributed to shareholders in the form of dividend and the portion of earnings to be retained with the business for expansion. Hence, it appears that companies should have the proper balance between dividend distribution and reinvestment to satisfy the shareholders and making a reasonable investment.

According to Baker and Powell, (1999), dividend payments will reflect the good financial health of a company. Changing dividend policy more frequently will cause inconvenience to the shareholders (Aurangzeb & Dilawer, 2012). If so, it will signal that the company is not sustainable in terms of financial position, and it will send an unfavorable signal to the market. Thus, dividend policy is directly reflected by signaling theory (Fama, 1970, 1991). This next section discusses the theoretical aspect of dividend policy.

Gordon (1963) developed the Bird in Hand theory which explained that due to uncertainty in the business environment, investors were more prefer dividends over capital gain. Hence, investors may pay a higher price for a firm with dividend payment. As indicated by the signaling theory, dividend policy provides signals to the investors about the company's financial health. Declaration of dividends will be providing positive signals to the stock exchange, which will lead to an increase in the bid for the stock prices. In the same way, reduce the dividend payments implies unfavorable future prospects and will have a tendency of seeing the reduction in the stock prices. Therefore, the dividend is a credible signaling mechanism as a result of the implicit costs involved.

Under the perfect market conditions, there is no conflict of interest between the managers and the outside shareholders is one of an assumption in relevance theory. But in the real world, this assumption might be doubtful. As per the agency theory (Fama,1980), if the earning is not distributed among the outside shareholders, managers might diverge for

the personal utility that provides personal benefits for the managers. Therefore, shareholders prefer more dividends, and firms with substantial dividend payments will improve the value of the firm by decreasing the amounts of funds available to managers. Furthermore, agency theory indicates that a firm's investment policy and the firm's dividend policy are negatively correlated.

Brennan (1970) and Ramaswamy (1979) developed tax-related theory, and it indicates a negative relationship between the dividend payout and the firm's value. They argued that dividends are taxed immediately at a higher rate than capital gain. Due to that higher dividend payout will increase the shareholder's taxable income. Therefore, investors were more prefer firms that retain profits rather than distribute them as a dividend.

As indicate by the Clientele effect, if a company changes its dividend policies, company share prices also react according to the changes in the dividend policy. Therefore, investors taking decisions based on the dividend policies of the firm, and Shareholders and investors will purchase shares of the firms whose dividend policy satisfies their requirements.

However, the irrelevance theory argued that in a perfect capital market, rational investor behavior, and perfect certainty, the dividend payout is unrelated to its firm value (Modigliani & Miller, 1958,1963). This theory assumed that in an ideal business world, there is no conflict of interest between managers and the shareholders, and all the information is free, and all the investors have equal access, and there is no transaction cost involved when they are buying and selling shares, and there is no difference between the tax rates for dividends and the tax rates for capital gain. Therefore, irrelevance concludes that dividend policy does not affect the value of the firm.

With these theoretical explanations, we can identify the importance of the dividend policy for investors. Next section, we will look at how this relates to earnings management. Before proceeding to earnings management literature, it is vital to realize what earnings are. Aurangzeb and Dilawer (2012) have defined earnings as the profit of the firm which a company gets by investing in different sectors or stocks and maintaining these earnings by doing diversification when needed. Earnings of the entities have a larger effect on managers, investors, and security analysts as they are interested in reported earnings (Allen et al, 2013; Graham et al., 2005; Chan et al., 2006; Richardson et al., 2006). However, this reported earnings figure may tend to manipulate to represent more consistent profit between periods (Li & Richie., 2009; Verma., 2012, Dechow et al., 2010). Therefore, investors and interested parties have to re-think the usefulness of the earnings information.

Healy and Wahlen, (1999) stated that earnings management happens when managers use judgment in financial reporting and structuring transactions to alter financial reports to misinform some stakeholders about the underlying economic performance of the company. According to Aini et al., (2006), earnings management occurs in corporations where managers attempt to present a more favorable financial picture of the company performance through discretionary accruals. Accordingly, earnings management can be

referred to as a process of manipulating reported earnings by the management to receive personal benefits or represent a more favorable financial position to investors.

However, there are many reasons for manipulating reported earnings by the management. For instance, Verma (2012, p. 539) has explored several motives to manipulate reported earnings by the management: 1). Receiving personal gain of management, 2). Information asymmetry, 3). To receive performance-based incentives, 4). Due to pressure to achieve targets, 5). To compete with market competition, 6). Lack of investors' awareness about the accounting concepts and, 7). The appreciation from management and accountants on earning management.

Having discussed the earnings management studies, subsequent scrutiny efforts to detect the relationship between earnings, earnings management, and dividends. Farsio et al., (2004) investigated the relationship between dividends and earnings. According to the presented results, it has been illustrated that there are no possible effects of earnings on future dividends, and there is no significant relationship between dividends and future earnings in the long run. Further, by applying regression analysis and the Granger causality test to quarterly earnings and dividends of S&P 500 index data over 1988-2002, it has been found out strong support to confirm that there is no significant relationship exists between dividends and earnings.

Aurangzeb and Dilawer (2012) researched the impact of earnings management on dividend payout policy in the Pakistan textile industry, considering the selected industry as the back born of Pakistan. The study suggested that earning management has a negative impact on dividend policy in the textile sector. Ahmed et al., (2018), who studied the significant four industries in Pakistan, concluded that the relationship between earnings management and dividend policy differs from industry to industry. Using panel lest square analysis, the study found that there is a negative relationship between DPS and P/E ratio is in both cement and fertilizer sector, which is the same as the result of Aurangzeb and Dilawer (2012) study done in the textile sector. The study also indicated that there is a positive relationship between DPS and P/E ratio in the food and oil and gas sector, which is different from the result of Saleem and Alifiah (2017) study in oil and gas companies. Further, the study concludes that because the nature of the industry differs from each other, the relationship may not be consistent between industries. Ashari et al., (2012) and Sun and Rath (2009) have also investigated that tendency of earnings management differs from industry to industry.

In the Nigerian context, Ajide and Aderemi (2014) examined the effects of earnings management on dividend policy by using quoted non-financial institutions. Saleem and Alifiah (2017) employed five variables, namely, dividend payout (DPO), discretionary accruals (DA) - calculated using Modified Jones model, size of the firm (SF), return on equity (ROE), and financial leverage (LEV) of the firm in the context of Pakistan. However, the results indicated that earning management expressed a positive relationship with dividend policy.

In India, Gill et al., (2014) have examined the impact of earnings management on subsequent dividend payout by taking 228 manufacturing firms as the sample. The results explored that earnings management negatively impacts the future dividend payout in Indian manufacturing firms, and the intensity of the impact differs from industry to industry, perhaps because the nature of one industry differs from another industry.

Because of the varying nature of the industry, the motivation to manage earnings and the extent to which it is practiced in different sectors is not similar (Ashari et al., 2012; Sun and Rath., 2009). Therefore, it is required to focus on industry-specific factors in investigating the impact of earnings management on dividend policy. For instance, capital intensity is an essential factor in explaining the variation in earnings management whereby firms with less capital-intensive industries have a higher tendency to manage earnings than those with higher capital intensity (Wasiuzzaman et al., 2015).

Furthermore, earning management and dividend policy of SMEs in Thailand were examined by Chansarn and Chansarn, (2016) using 51 listed SMEs. They have used both dividend payout and dividend yield used as proxies for dividend policy. The findings of regression analysis explored that earnings management is found to have a positive influence on dividend yield, and results also revealed that dividend policy and earnings management might have a causal relationship with each other.

As cited earlier, Aurangzeb and Dilawer (2012) and Gill et al., (2014) have suggested that earning management has a negative impact on dividend payout policy while, Ahmed et al., (2018) indicated that there is a positive relationship between earnings management and dividend policy in food and oil and gas sector in Pakistan. Conversely, Shah et al., (2010) and Ibrahim et al., (2015) found that earning management does not significantly impact dividend policy.

It is significant to highlight that, prior studies on earnings quality have mainly used only a single proxy to denote earnings management (Dechow et al., 2010; Licerán-Gutiérrez & Cano-Rodríguez, 2019). Although several studies were done in different countries in this area with conflicting results, it appears that no research has been conducted to investigate the impact of earnings management on dividend policy in the Sri Lankan context. In the same vein, prevailing studies relating to earnings management in the Sri Lankan context are a handful and only examine the earnings management and stock return, earnings management and board characteristics, and management and leverage (Rajeevan & Ajward, 2019; Wijesinghe & Kehelwalatenna, 2017; Wijesinghe & Kavinda, 2017). Given this backdrop, the impact of earnings management on dividend policy remains an unresolved issue in the Sri Lankan context. Furthermore, as Sri Lanka is one of the frontier markets and raised the attention of the number of local and foreign investments, it is vital to study whether earnings management impacts dividend policy in the Sri Lankan context. It will help financial specialists, portfolio supervisors, and potential investors to make their fundamental investment decisions.

Methodology

This research is carried out using a quantitative research approach based on panel data. Annual data is gathered from CSE for eight years, from the year 2012 to the year 2019. As a lucrative investment destination in the frontier markets in the Asian region, it is vital to examine earnings management in Sri Lanka.

It has been identified that it is not better to investigate the earnings management using a sample of companies that represent different sectors, as the results may not provide valid conclusions (Wijesinghe & Kehelwalatenna, 2017; Abdelghany, 2005; Lyimo, 2014; Wasiuzzaman et al., 2015). Hence, it is paramount to investigate a sector rather than the whole market. Moreover, the studies on the total market are questionable due to the industry-specific characteristics. Therefore, we selected companies listed under the manufacturing sector and hotel and travel sector as the sample of the study. The CSE statistics show that most companies are listed under the manufacturing, hotel & travel sectors except for the bank finance and insurance sectors. The total market capitalization of the CSE as of 2020 was Rs. 2,961 Bn. The selected two sectors record 15% of the total market capitalization as of December 2019. In line with the literature, we excluded the bank finance and insurance sector due to the industry's nature (Ali et al., 2020; Alam et al., 2020; Wijesinghe & Kehelwalatenna, 2017). Furthermore, according to Wijesinghe and Kavinda, (2017), manufacturing companies in Sri Lanka typically have higher revenue than other business types and are more likely to engage in earnings management than different business types.

Before discussing the conceptual framework, it is indispensable to understand the theoretical background of the study. As per Fama (1980), share price provides accurate signals for the investors to allocate their investments, and he identified the importance of the signaling theory. Using the same, we can identify the dividend signaling, which elaborates when a company pays dividends, it will send a favorable signal of future growth perspectives of a firm to the market. Therefore, if companies are incurring losses, managers may tend to manipulate reported earnings to avoid sending an unfavorable signal to the market.

According to the Agency theory (Fama,1980), when an organization has separate ownership and control, owners are preferred on long-term capital gain and dividend payment. In contrast, management is preferred on their short-term personal benefits. In that case, management may tend to manipulate reported earnings to their interest, and we test this in our study using H_1.

As explained in the literature, bird in hand theory, agency theory, and tax-related theory support establishing the relationship between dividend policy and earnings management. For example, managers may utilize funds available for their personal interests rather than distributing dividends. With this theoretical and empirical backdrop, we test this impact in our study through H_2. The conceptual framework of the study is depicted as follows.

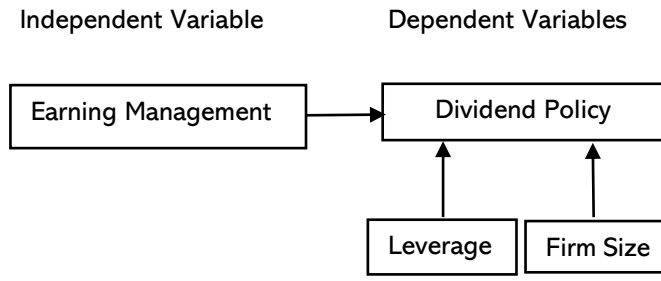

Figure 1: Conceptual Framework

Hypothesis Development

Based on the above conceptual framework and the theories identified above, we can develop the following hypotheses.

H_1: There is earnings management in the two selected sectors at CSE.

H_2: There is a significant impact from earnings management on dividend policy in the two selected sectors at CSE.

H_3: The impact from earnings management on dividend policy is consistent in the two selected sectors

Model Formulation

$$DP = \beta_0 + \beta_1 EM + \beta_2 SF + \beta_3 LEV + \varepsilon_{it} \quad \textbf{1}$$

Where,
DP =Dividend Policy
β_0 = Constant Variable
EM = Earnings Management
SF = Size of the Firm
LEV=Leverage
ε_{it} = Error Term

Dependent Variable – Dividend Policy

We measure the dividend policy using Dividend Yield (DY), and Dividend Payout Ratio (DPO), and the same have been extensively used in the previous studies to measure the dividend policy (Ajide & Aderemi 2014; Chansarn & Chansarn 2016; Saleem & Alifiah 2017). DY is the value of the annual dividend received by shareholders relative to the market value of the shares.

$$Dividend\ Yield\ = \frac{Dividend\ per\ Share}{Price\ \ per\ Share} \times\ 100 \quad \textbf{2}$$

DPO is the portion of earnings paid out as dividends to shareholders.

$$Dividend\ Payout\ Ratio\ = \frac{Dividend\ per\ Share}{Earning\ per\ Share}\ \times\ 100 \quad \textbf{3}$$

Independent Variable – Earnings Management

Earnings management can be practiced under two strategies: accrual earnings management and real earnings management. The researcher measures the earnings management under both approaches by using four proxies, namely, abnormal cash flow from the operation, abnormal production cost, total real earnings (sum of residual cash flow from operation and residual production cost). We measure real earnings management as Roychowdhury (2006) and total accruals as Hribar and Collins (2002) and Wijesinghe and Kehelwalatenna (2017). It has revealed that measuring earnings quality should not limit one variable since different proxies may provide different conclusions (Liceran-Gutierrz & Cano-Rodriguez, 2019; Wijesinghe & Kehelwalatenna, 2017). Additionally, the studies combining different approaches to measure earnings quality are limited. Therefore, to have robustness in our findings, we connect and employ two main methods used in the earnings quality literature.

However, discretionary expenses in the original model are excluded in this study as the entities do not disclose the research and development expenses. Therefore, we are not making any assumptions regarding the same matter to have robust inferences. The calculation of abnormal/residual cash flow and the abnormal/residual production cost is as follows.

If there are significant positive values for Earning Management proxies, that indicates earnings management in the selected company (H_1). To compare the two sectors, we used the results of the panel regression analysis (H_1).

Abnormal/Residual cash flow (RES_CFO)

$$\frac{\text{CFOit}}{\text{Ait}-1} = \beta 0 + \beta 1 \left[\frac{1}{Ait-1}\right] + \beta 2 \left[\frac{SALESit}{Ait-1}\right] + \beta 3 \left[\frac{\Delta SALESit}{Ait-1}\right] + \varepsilon_{\text{it}} \quad \textbf{4}$$

Where,
CFO_{it} = Cash flow from the operation of firm i in period t
Ait-1 = Total Assets of firm i in period t
$SALES_{it}$ = Sales of firm i in period t
$\Delta SALES_{it}$ = Sales firm i in period t less sales of firm i in period $t-1$
ε_{it} = Error term

Abnormal/Residual Production Cost (RES_CFO)

$$RODit = COGSit + \Delta INV \quad \textbf{5}$$

$$\frac{\text{COGSit}}{\text{Ait}-1} = \beta 0 + \beta 1 \left[\frac{1}{Ait-1}\right] + \beta 2 \left[\frac{SALESit}{Ait-1}\right] + \varepsilon \text{it} \quad \textbf{6}$$

$$\frac{\Delta INV}{\text{Ait}} = \beta 0 + \beta 1 \left[\frac{1}{Ait-1}\right] + \beta 2 \left[\frac{SALESit}{Ait-1}\right] + \beta 2 \left[\frac{\Delta SALESit}{Ait-1}\right] + \varepsilon \text{it} \quad \textbf{7}$$

$$\frac{PRODit}{\text{Ait}-1} = \beta 0 + \beta 1 \left[\frac{1}{Ait-1}\right] + \beta 2 \left[\frac{SALESit}{Ait-1}\right] + \beta 2 \left[\frac{\Delta SALESit}{Ait-1}\right] + \beta 2 \left[\frac{\Delta SALESit-1}{Ait-1}\right] \varepsilon i \quad \textbf{8}$$

Where,

$PROD_{it}$ = Sum of cost of goods sold and change in inventory of firm i in year t.

$\Delta Sales_{it-1}$ = Sales of firm 'i' in year t-1 less sales of firm i in year t-2;

Other variables are as previously defined.

Control Variables

Size of the Firm (Size) and Leverage (LEV)

Investors whose primary motive is the dividend should focus on investing more in large firms (in terms of total assets) than small firms. At the same time, investors should consider investing their resources in low-levered firms as they pay dividends more and are less likely to face bankruptcy problems. Hence, in line with previous studies, firm size and the leverage variables are taken as the control variables of the study (Shah et al., 2010; Chansarn & Chansarn, 2016; Ibrahim et al., 2015).

Data Analysis, Results, and Findings

We measure the dividend policy through two proxies, namely, dividend payout ratio and dividend yield. it is required to run two models for each sector as there are two sectors in the study: the hotel and travel sector and the manufacturing sector. The summary of the models to be run is as follows.

- Model 01: Dividend yield for the manufacturing sector
- Model 02: Dividend payout ratio for the manufacturing sector
- Model 03: Dividend yield for hotel and travel sector
- Model 04: Dividend payout ratio for hotel and travel sector

A sample of 40 company's data was gathered over eight years from 2012 to 2019 as 320 observations for each variable. We employ panel regression analysis and descriptive statistics. We have tested the unit root test employing the majority results of Levin, Lin and Chu test, Im Pesaran and Shin test. Accordingly, in Hotel & travel sector all independent and dependent variables are stationary at level. However, both control variables: leverage and size of the firm, are not significant at level. Therefore, to proceed,

we converted these variables to the first difference. Both these variables become stationary after taking their first difference (Please refer to appendix 01). In the manufacturing sector, all the variables are at a stationary level, except the firm's size, and we converted size into the first difference to make it stationary. (Please refer to appendix 02).

Furthermore, multicollinearity test, autocorrelation test, and Hausman tests were diagnosed before concluding the final analysis. According to the Hausman test, the fixed affect model is appropriate for all four regression models. According to Durbin Watson values, three models have autocorrelation. As a remedy for the autocorrelation problem, we have taken the 1st lag value of the dependent variable; as an explanatory variable to the model. The model which runs with the first lag of the dependent variable is called the autoregressive 01 model. The results of these tests are attached with Appendix 03.

According to the correlation analysis (See Table 2 below), the correlation between total real earnings and the other three variables is very high, that's why probability values are significant. Total earnings management is taking as a sum of residual cash flows and residual production costs. Therefore, total earnings management is probably correlating with those two variables. As a remedy, we decided to drop the total real earnings (TOTAL_EM) from the model.

Table 1: Correlation Metrix

Correlation Probability	NI_CFO	RES_CFO	RES_PROD	TOTAL_EM	SIZE_TA	LEV
NI_CFO	1.000000					

RES_CFO	-0.263767	1.000000				
	0.0000	-----				
RES_PROD	-0.265064	0.096367	1.000000			
	0.0000	0.0452	-----			
TOTAL_EM	-0.289666	0.204724	0.993993	1.000000		
	0.0000	0.0002	0.0000	-----		
SIZE_TA	-0.235050	0.417249	0.428953	0.467710	1.000000	
	0.0000	0.0000	0.0000	0.0000	-----	
LEV	0.017066	0.088248	-0.088124	-0.076957	0.132000	1.000000
	0.7610	0.1151	0.1156	0.1697	0.0182	-----

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively

According to descriptive statistics (See Table 2 below), the probability value of Jarque-Bera test is significant at a 1% level for all variables indicating that the data set is not

normally distributed. Skewness is also a term that describes the symmetry of the distribution of data, in reality, the data set is assumed to be not normally distributed. All variables are positively skewed and have positive kurtosis, which is greater than 3, which means that all variables have Leptokurtic distribution. Dispersion indicates how data points have spread around their mean value. Leverage has a higher standard deviation, emphasizing that data points are widely spread, while dividend yield has a lower standard deviation, stressing that data points are closely distributed.

Table 2: Descriptive Statistics

	D_YEILD	DPO	TA	RES CFO	RES PROD	TOTAL_ EM	SIZE	LEV
Mean	0.0427	1.8769	0.0805	0.1758	2.2387	2.4146	5.1611	12.766
Median	0.0338	0.3811	0.0493	0.0676	0.5026	0.6876	3.1991	3.4707
Maximum	0.5357	154.00	5.1029	4.5619	26.234	26.308	35.376	659.12
Minimum	0.0000	-4.1044	-3.7238	-1.3151	-3.7823	-3.9759	0.1873	0.7089
Skewness	5.0232	10.240	0.3138	4.0581	2.4826	2.3470	2.4335	9.5193
Kurtosis	43.462	121.49	7.7754	28.190	9.6387	8.9013	10.979	102.97
Jarque-Bera	23175	192797	309.31	9338.8	916.37	758.15	1164.8	138102
Probability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	***	***	***	***	***	***	***	***
Std. Dev.	0.0481	11.281	0.9505	0.4919	4.3999	4.4742	5.5825	52.415
Obser.	320	320	320	320	320	320	320	320

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively.

As discussed earlier, the regression analysis results were taken using the fixed affect model, and the summary of the results is outlined below.

Table 3: Regression Result of Model 01 and Model 02 (Manufacturing Sector)

	Mode 01 – D_Yield		Model 02 - DPO	
	Coefficient	Prob.	Coefficient	Prob.
C	0.0107	0.2237	-0.0069	0.9893
D.YEILD(-1)	0.7360	0.0000***		
DPO(-1)			-0.1518	0.9670
TA	-0.0048	0.1550	-0.0094	0.9670
RES_CFO	0.0021	0.8665	-0.4320	0.6194
RES_PROD	0.0001	0.9077	-0.0376	0.6860
SIZE(-1)	0.0022	0.4896	-0.0360	0.8703
LEV	0.0008	0.5503	0.0912	0.3318
R-squared	0.5571		0.1593	
Adjusted R-squared	0.4655		-0.0144	
F-statics	6.0865		0.9169	
Prob. (F-stat)	0.0000***		0.5969	

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively.

Model 01 is dividend yield in the manufacturing sector. According to the results, the lag value of the dividend yield is only the significant variable to the model. Therefore, Last year's dividend yield has a significant positive impact on the company's dividend yield. According to this result, the firm's size and leverage have a positive but not significant impact on dividend yield.

The model has a 46.5% adjusted R-square value. This means that the explanatory variables in the model can explain 46.5% of the dividend yield. Further, the overall model is significant at a 1% level.

Model 02 is a dividend payout in the manufacturing sector. According to the result, no variable is significant to the model.

The outcome of models 3 and 4 of the panel regression is outlined below.

3rd model explained dividend yield in the hotel and travel sector. Accordingly, no variable is significant to the model. The adjusted R square value of the model is 49.5%, and the overall model is significant.

Model 04 explained dividend payout in the hotel and travel sector. According to the above result, the lag value of dividend payout is only the significant variable to the model. According to this model, that means last year's dividend payout has a significant positive impact on the dividend payout of the company. The adjusted R square is 51.1%, and the overall model is significant.

Table 4: Regression Result of Model 03 and Model 04 (Hotel and Travel Sector)

	Model 03 – D_Yield		Model 04 - DPO	
	Coefficient	Prob.	Coefficient	Prob.
C	0.0062	0.0000***	2.0218	0.3772
DPO(-1)			0.4044	0.0002***
TA	-0.0193	0.1376	0.7814	0.8938
RES_CFO	-0.0062	0.5476	1.4590	0.7542
RES_PROD	0.0049	0.3122	0.0946	0.9659
SIZE(-1)	-0.0012	0.7230	0.0331	0.9834
LEV(-1)	0.0000	0.6518	-0.0015	0.9571
R-squared	0.5887		0.6073	
Adjusted R-squared	0.4950		0.5116	
F-statics	6.2833		6.3488	
Prob. (F-statistics)	0.0000***		0.0000***	

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively.

Discussion and Conclusion

The study examines the impact of earnings management on dividend policy using two industries, the manufacturing sector, and the hotel and travel sector, from 2012 to 2019. According to the findings of this study, earnings management is present in listed companies in both the manufacturing sector and hotel and travel sector. In the hotel sector, Ahot Properties, Trans Asia, Aitkens pen. Hotel Holdings and Keells Hotels exhibit the highest earnings management, respectively, while Dolphin Hotels, Pegasus Hotels, Amaya Leisure, Sigiriya Village, and Hotel Sigiriya exhibit the lowest earnings management. The results of the earnings management are attached with Appendix 04.

In the manufacturing sector, total accruals and total real earnings have given different results when ranking suggesting that different proxies provide different conclusions and the results are in line with the findings of Wijesinghe and Kehelwalatenna (2017).

According to the regression results, earnings management does not have a significant impact on dividend payout in both the manufacturing sector and hotel and travel sector companies, which is supported by previous studies (Ahmed et al., 2018; Shah et al., 2010; Rupasinghe & Sameera, 2021; Saleem & Alifiah, 2017). Therefore, the null hypothesis that earnings management has an impact on dividend policy cannot be accepted.

According to these results, both the manufacturing sector and hotel and travel sector display consistent results as earnings management does not significantly affect the company's dividend policy. Therefore, it can reject the null hypothesis that the relationship between earnings management and dividend policy differs from industry to industry and accept that the alternative hypothesis of the relationship is consistent with the selected two industries. Interestingly, our finding is contrary to the findings of some of the studies

(Ahmed et al., 2018; Ashari et al., 2012). However, Sun and Rath (2009) suggested that the relationship may not be consistent between industries. Nevertheless, our findings are consistent with Wijesinghe and Kehelwalatenna (2017), as they also concluded that earnings management exists in manufacturing sector companies in Sri Lanka. Importantly, we can note that there are possibly other factors that may affect the dividend policy of the two selected sectors.

According to the ranking of total accruals (See Appendix 04) and total earnings management in the hotel sector, Ahot Properties, Trans Asia, A. Spen. Hotel Holdings and Keells Hotels exhibit the highest earnings management, respectively, while Dolphin Hotels, Pegasus Hotels, Amaya Leisure, Sigiriya Village, and Hotel Sigiriya exhibit the lowest earnings management. However, total accruals and real earnings have given different results when ranking manufacturing sector companies suggesting that different proxies provide a different level of earnings management. Moreover, these findings suggest that we should not rely on one earnings quality proxies and should be investigated furthermore. This outcome is in line with the findings of Wijesinghe and Kehelwalatenna (2017). The details of the ranking are given in Appendix 04.

According to the results, there is no significant impact on dividend policy from earnings management in the manufacturing sector, when the dividend yield is taken as a proxy to measure dividend policy. Similarly, when considering the dividend payout as a proxy to measure dividend policy in the manufacturing sector, the results also indicate that earnings management does not significantly impact dividend policy. The results for the hotel and travel sectors also provide the same results; earnings management does not have a significant impact on dividend policy.

Interestingly, the finding revealed that last year's dividend policy is the main concern for deciding the current year's dividend policy. In summary, there is no significant impact from earnings management on dividend policy for both the manufacturing sector and hotel & travel sector. It can be concluded that earnings management's impact on dividend policy is consistent with two selected sectors. Additionally, in Sri Lanka, earnings management is not a factor to believe in the selected two sectors. In contrast, decision-makers, especially, investors should consider the previous year's dividend policy before making economic decisions. Simultaneously, poorly informed investors may be the main reason for the lack of impact on earnings management on dividend policy in two selected sectors.

Therefore, other factors such as company-specific factors and macro-economic factors may impact earning management on dividend policy. Hence, as the main limitations, we identified that study is confined with the real earnings management approach and total accruals to detect earnings management, and we used only two sectors were selected as the sample of the study. Therefore, we suggest future studies extend their investigations into other industries and employ more measurements, including qualitative techniques, to detect earnings management.

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Appendix 01: Stationary test of Hotel and Travel Sector

	Levin, Lin & Chu t*		Im, Pesaran and Shin W-stat		ADF - Fisher Chi-square		PP - Fisher Chi-square	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
D_Yeild	-2.0960	0.0180**	-0.8682	0.1926	41.686	0.0464**	46.628	0.0150**
D_Payout	-205.52	0.0000***	-36.409	0.0000***	65.707	0.0001***	75.338	0.0000***
Res_Cfo	-6.7628	0.0000***	-38.501	0.0182**	47.519	0.0121**	60.179	0.0004***
Res_Prod	-11.563	0.0000***	-4.4707	0.0000***	77.824	0.0000***	128.05	0.0000***
Leverage (-1)	-5.7074	0.0000***	-1.9233	0.0272**	49.728	0.0069***	53.836	0.0023***
Size (-1)	-7.8796	0.0000***	-2.3286	0.0099***	54.798	0.0018***	68.808	0.0000***
TA	-9.0790	0.0000***	-3.9107	0.0000***	70.600	0.0000***	90.309	0.0000***

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively.

Appendix 02: Stationary test of Manufacturing Sector

	Levin, Lin & Chu t*		Im, Pesaran and Shin W-stat		ADF - Fisher Chi-square		PP - Fisher Chi-square	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
D_Yeild	-1.6875	0.0457**	0.4673	0.6799	59.567	0.2196	70.904	0.0417**
D_Payout	-64142	0.0000***	-8851.8	0.0000***	91.871	0.0005***	118.72	0.0000***
Res_Cfo	-64.394	0.0000***	-21.148	0.0000***	261.75	0.0000***	267.58	0.0000***
Res_Prod	-13.769	0.0000***	-3.6765	0.0001***	106.84	0.0000***	122.20	0.0000***
Leverage	-9.9083	0.0000***	-2.2822	0.0112**	81.239	0.0059***	70.795	0.0425**
Size (-1)	-15.692	0.0000***	-5.4121	0.0000***	132.64	0.0000***	189.86	0.0000***
TA	-13.285	0.0000***	-5.8030	0.0000***	136.91	0.0000***	160.55	0.0000***

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively.

Appendix 03: Summary of the diagnosis tests.

Cross-section random effect of Hausman test

	Chi-Sq. Statistic	Prob.
Model 01	0.7888	0.0487**
Model 02	0.0000	0.0038**
Model 03	1.7627	0.0461**
Model 04	0.7755	0.0068**

Note: *, ** and *** indicates significant levels of 10%, 5% and 1% respectively

Autocorrelation

	Durbin Watson	Conclusion
Model 01	1.1271	Has Autocorrelation
Model 02	2.6471	Has Autocorrelation
Model 03	1.8941	No Autocorrelation
Model 04	1.1128	No Autocorrelation

Appendix 04: Ranking of the companies based on the averages of total accruals (TA) and the real earnings management (REM).

Hotel and travel sector

Rank According to TA			Rank According to RE		
Company Name	TA	Total REM	Com. Name	TA	Total REM
AHOT PROPERTIES	0.39	0.50	AHOT PROPERTIES	(0.34)	4.95
TRANS ASIA	0.19	0.06	TRANS ASIA	(0.07)	2.35
A. SPEN. HOT.HOLD	0.07	(0.06)	A. SPEN. HOT.HOLD	(0.04)	1.24
KEELLS HOTELS	0.05	0.19	KEELLS HOTELS	(0.20)	0.56
KANDY HOTELS	0.04	0.49	NUWARA ELIYA	0.39	0.50
NUWARA ELIYA	0.01	0.26	KANDY HOTELS	0.04	0.49
RENUKA CITY HOT.	(0.02)	(0.67)	LIGHTHOUSE HOTEL	(0.16)	0.44
LIGHTHOUSE HOTEL	(0.04)	1.24	ROYAL PALMS	(0.09)	0.35
ROYAL PALMS	(0.07)	2.35	PEGASUS HPTELS	0.01	0.26
DOLPHIN HOTELS	(0.09)	0.35	DOLPHIN HOTELS	(0.10)	0.23
PEGASUS HPTELS	(0.10)	0.23	RENUKA CITY HOT.	0.05	0.19
AMAYA LESIURE	(0.16)	0.44	AMAYA LESIURE	0.19	0.06
SIGIRIYA VILLAGE	(0.20)	0.56	SIGIRIYA VILLAGE	0.07	(0.06)
HOTEL SIGIRIYA	(0.34)	4.95	HOTEL SIGIRIYA	(0.02)	(0.67)

Manufacturing sector					
Company Name	TA	Total REM	Com. Name	TA	Total REM
SINGER IND.	1.13	0.31	GRAIN ELEVATORS	(0.18)	16.40
SWADESHI	0.78	0.18	TOKYO CEMENT	(0.63)	14.68
LANKA WALLTILE	0.77	2.17	JTEEJAY LANKA	(1.40)	13.90
LANKA ALUMINIUM	0.76	1.07	CHEVRON	(2.28)	6.52
SIERRA CABL	0.73	2.76	KELANI CABLES	0.41	5.72
ACL	0.65	5.71	ACL	0.65	5.71
SAMSON INTERNAT.	0.59	0.13)	PIRAMAL GLASS	(0.34)	5.35
PRINTCARE PLC	0.55	0.38	LANKA TILES	(0.30)	3.79
REGNIS	0.49	2.41	SIERRA CABL	0.73	2.76
CENTRAL IND.	0.45	1.94	REGNIS	0.49	2.41
KELANI CABLES	0.41	5.72	DIPPED PRODUCTS	0.20	2.35
LAXAPANA	0.38	2.57)	LANKA WALLTILE	0.77	2.17
AGSTAR PLC	0.38	0.56	CENTRAL IND.	0.45	1.94
LANKA CERAMIC	0.32	(0.70)	ROYAL CERAMIC	0.15	1.75
DIPPED PRODUCTS	0.20	2.35	ACL PLASTICS	0.18	1.29
ACL PLASTICS	0.18	1.29	LANKA ALUMINIUM	0.76	1.07
SWISSTEK	0.16	0.18)	AGSTAR PLC	0.38	0.56
ROYAL CERAMIC	0.15	1.75	PRINTCARE PLC	0.55	0.38

KELANI TYRES	0.08	0.28)	SINGER IND.	1.13	0.31
GRAIN ELEVATORS	(0.18)	16.40	RICH PERIS EXP	(0.50)	0.30
LANKA TILES	(0.30)	3.79	SWADESHI	0.78	0.18
PIRAMAL GLASS	(0.34)	5.35	SAMSON INTERNAT.	0.59	(0.13)
RICH PERIS EXP	(0.50)	0.30	SWISSTEK	0.16	(0.18)
TOKYO CEMENT	(0.63)	4.68	KELANI TYRES	0.08	(0.28)
JTEEJAY LANKA	(1.40)	13.90	LANKA CERAMIC	0.32	(0.70)
CHEVRON	(2.28)	6.52	LAXAPANA	0.38	(2.57)

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