The value relevance of Quarterly Reporting for Listed Firms in Sri Lanka

Abstract

We provide evidence of the value relevance or otherwise of quarterly reports for listed companies on Sri Lanka's Colombo Stock Exchange from 2012-2019. We also identify contextual variables that moderate the relationship between value relevance and quarterly reporting. This is an archival study applying the modified Ohlson residual income valuation model and ordinary least squares regression. We find that quarterly reporting is value relevant and quarter three is more value relevant than the other three quarters. Contextual variables of company size, financial health, and decline stage of company life cycle negatively moderate the value relevance of quarterly reporting.

Keywords: Value relevance, quarterly financial reporting, interim reporting, share returns, earnings per share, book value per share

JEL Classifications: M41

1. Introduction

We provide evidence on the value relevance or otherwise of quarterly reports for listed companies on Sri Lanka's Colombo Stock Exchange from 2012-2019. Some countries have changed their support and their requirement for quarterly reporting and we provide direct evidence of the benefit of quarterly reporting focusing on value relevance (Rahman et al., 2007; Ernstberger et al., 2017; Nallareddy et al., 2017; Kajüter et al., 2019; Kajüter et al., 2021). Taiwan, for example transferred from half-yearly to quarterly reporting (Tsao et al., 2018). Other countries such as United Kingdom (U.K.) (Nallareddy et al., 2017), members of the European Union (EU) (Schleicher & Walker, 2015) and Singapore (Leuz et al., 2003) changed a mandatory requirement of quarterly reporting to a voluntary requirement.

Support exists in the United States (U.S.) for both quarterly and half-yearly reporting, and

the preference for quarterly reporting over half-yearly reporting is unclear. Some commentary highlights the advantages of quarterly reporting, whereas other feedback is more focused on the disadvantages and advantages of half-yearly reporting[1]. Deloitte & Touche, for example, posted comments supporting the continuation of interim reporting every quarter because they maintain that investors receive timely, regular and reliable information through this reporting regime (SEC, 2020). Ernst & Young, though highlighting the positive outcome of the timely and frequent earnings releases of quarterly reporting, recommends moving to half-yearly reporting to reduce the burden on companies while maintaining investors' protection (SEC, 2020).

It is important to provide evidence on the benefits of quarterly reporting because there is a global trend toward the abolition of quarterly reporting in developed countries or the use of half-yearly reporting practices in countries, such as Australia. Limited research has considered the value relevance of quarterly reporting. Value relevance studies in accounting research focus on perspectives other than quarterly financial reporting (eg., Badu & Appiah, 2018; Mirza et al., 2019; Kent & Birt, 2021; Srivastava & Muharam, 2022). Sri Lanka is one of a few countries that require quarterly reporting. Its stock market is comparatively small, with approximately 290 listed companies. Given the absence of universal implementation and support for quarterly reporting, Sri Lanka's environment provides an opportunity to investigate the value relevance of quarterly reporting. Examining the value relevance of financial information disclosed by quarterly reports in Sri Lanka adds evidence to the international debate (Link, 2012; Mirza et al., 2019).

We find that quarterly reporting is value relevant in Sri Lanka. The results show that earnings significantly positively explain the variation in share returns whereas book value

[1] As of December 24, 2023, eighty-nine public comments were reported on the U.S. SEC website from December 18, 2019, to October 27, 2020.

significantly negatively explains the variations in share returns in the samples of small, BIG4, auditor no change, and the decline stage companies in Sri Lanka.

The results also demonstrate that context variables moderate the value relevance differently in the four quarters. Company size (negatively), poor financial health (negatively), and financial leverage (positively) moderate the value relevance in the first quarter; poor financial health (negatively), mature stage (positively) and earnings volatility (positively) moderate the value relevance in the second quarter; earnings volatility (negatively), moderate the value relevance in the fourth quarter. The decline stage (negatively), and BIG4 (positively) moderate the value relevance in the small company sample and poor financial health (negatively) moderate the value relevance in the large company sample.

Our study provides a unique contribution to our understanding of the value relevance of quarterly reporting. Previous research (e.g., Zhou et al., 2015; Kent & Birt, 2021) examines value relevance with respect to a variety of contexts including the value relevant of cash flow method of reporting and exploration and evaluation expenditures. The global trend towards the abolition of quarterly reporting in developed countries is made without providing comprehensive evidence on the benefit of quarterly reporting. However, there is a shortage of information on the benefits of quarterly reporting and specifically the value relevance of quarterly reporting. Examining the value relevance of financial information disclosed by quarterly reports in Sri Lanka adds evidence to the international debate.

Our study is one of the first to directly test the value relevance of quarterly reporting in the Sri Lankan capital market. Our results provide international regulators and policymakers with evidence on whether quarterly reporting should be introduced in countries in which it is not in effect. Not all countries require quarterly reporting, some use continuous disclosure as an alternative to quarterly reporting. We provide information on the value relevance of quarterly

reporting disclosure in Sri Lanka. Evaluating the value relevance of quarterly reporting in Sri Lanka also provides evidence for stakeholders in similar markets to decide whether to apply quarterly reporting in their country.

We also contribute to the assessment of financial rules and regulations regarding the quality of continuous and quarterly reporting disclosure regulations. Thus, we contribute useful findings for standard setters and regulators, such as the SEC and the CA Sri Lanka, that assess the reliability of information disclosure in quarterly reporting by considering its value relevance. Value relevance research provides evidence to standard setters, who can update their prior beliefs regarding quarterly reporting (Barth et al., 2001). Finally, identifying the value relevance of quarterly reports potentially contributes to the creation of an efficient market. Efficient market conditions assist in attracting investors through increased confidence in market information that, in turn, can increase the amount of investment in the economy.

2. The theoretical background and hypothesis development

Agency theory has been widely used in capital market research in accounting and finance to discuss the economic relationship between shareholders and managers (Bricker & Chandar, 2000; Fogarty & Rogers, 2005). Agency theory posits that company managers, for reasons of self-interest, are less likely to act in the owners' interests in the absence of active monitoring. In other words, an agency problem arises in organizations where separation of control from ownership exists (Beyer et al., 2010). Consequently, formal, reliable channels that create the capacity for shareholders/owners to monitor and evaluate management performance are necessary. Leuz and Wysocki (2003) argued that earnings management creates a conflict of interest between a company’s insiders and outsiders. Company insiders, such as controlling owners or managers, can use their power for their benefit at a cost to other stakeholders in the

company. That is, some benefits are provided to insiders and are not shared with non-controlling outsiders.

Financial reporting is a means of mitigating agency problems (Jensen & Meckling, 1976; Healy & Palepu, 2001). Financial reporting quality reduces agency costs (Guay, 2008). More frequent disclosure of financial reports reduces the expected agency cost by providing relevant accounting information to shareholders (Downar et al., 2018) and debtholders (Guay, 2008). Quarterly and half-yearly reports help elements of annual financial statements be released more quickly. The reports become additional information disclosure beyond the figures received in annual reports. Butler et al. (2007) argued that a decline in earnings in a single quarter might not reflect the earnings pattern for the year. However, earnings information disclosed in quarterly reports could show the pattern of changes in earnings that is lost once the quarterly earnings are aggregated in annual reports.

Literature found that companies with more significant agency problems tend to delay the disclosure of interim reports more than companies with fewer agency problems (Boritz & Liu, 2006). High agency costs and information asymmetry have commonly been found to run together, problems that more frequent disclosure may help mitigate (Butler et al., 2007). Quarterly/Half yearly and annual reports that do not produce reliable information for shareholders result in a strain between principals and agents under the agency model. Existing studies documented that agency and information asymmetry costs have a relationship with quarterly reporting (Boritz & Liu, 2006; Butler et al., 2007). However, the share market may not react to quarterly reporting because earnings disclosed in quarterly reports cover a shorter reporting period; the information may need to be more reliable. The information may not be reliable because the accruals reported are for a shorter length of time (Warfield & Wild, 1992).

With the separation of ownership and less control arising through the agency problem, there may be some information asymmetry between managers and financial statement users because

of unreliable information provided by managers. For the frequency of reporting, there is a greater demand for high transparency to mitigate information asymmetry and reduce agency costs. Higher debt or financial leverage suggests a higher agency cost and information asymmetry (Bokpin, 2013).

2.1 The value relevance of quarterly reporting

The most significant interim reports discussed in IAS 34 Interim Financial Reporting are quarterly reporting and half yearly reporting. Pozen and Roe (2015) pointed out that quarterly reports are in high demand by shareholders and analysts because of up to date, timely information about the company. That helps reduce insider trading since it reduces the gap between inside information and publicly available information. Conversely, it has been argued that frequent reporting creates myopic management and leads to damaging consequences for companies and the economy (Yee, 2004).

In business communities, perceptions vary regarding the relative merits of quarterly earnings disclosures. One perspective is that more frequent earnings reporting increases analysts' power to review a company, improves earnings timelines and facilitates share trading (Rahman et al., 2007). This, in turn, provides additional value relevant information for investors seeking to evaluate a company's value (Chen et al., 2002), increases investor protection and reduces the transparency gap (Schleicher & Walker, 2015). It also reduces information asymmetry (Butler et al., 2007; Cuijpers & Peek, 2010). Alternatively, opponents of the above view contend that quarterly earnings disclosure supports short termism that can, in turn, lead to earnings management (García Osma et al., 2023) and price volatility (Rahman et al., 2007). Disclosure costs are also increased making it particularly problematic for smaller companies (Butler et al., 2007; Rahman et al., 2007). Quarterly reporting comes at a higher

cost than its half yearly equivalent hence the higher monitoring cost of quarterly reporting (Leftwich et al., 1981) is considered another disadvantage of quarterly reporting.

Currently, research is inconclusive regarding whether quarterly reporting is value relevant to investors in making their investment decisions based on the information disclosed in quarterly reports. Previous studies confirmed that specific changes in signs of earnings observed in the fourth quarter show a potential indication of earnings management behaviour (Das et al., 2009). Conversely, Meng et al. (2024) find that firms are more likely to manipulate quarterly reports, especially first-quarter reports, if the company's annual report contains bad news. It has been confirmed that quarterly earnings information is associated with higher real activity manipulation than half yearly reporting, which supports the evidence for managerial myopia (Ernstberger et al., 2017). Besides earnings management, managerial myopia and short termism are disadvantages of quarterly reporting (Fu et al., 2020).

The global debate questions the value relevance of quarterly reporting. Kajüter et al. (2019) highlighted the controversial quarterly requirement of the Singapore market with a long running debate over 15 years on the costs and benefits of quarterly reporting without a solution. Arif and George (2020) highlighted the ongoing debate on quarterly reporting with the SEC actively seeking feedback to support evidence for quarterly reporting rather than half-yearly reporting in the U.S.

Though the argument is that quarterly reporting provides incrementally helpful information to investors, previous research demonstrates that quarterly reporting improves the analysts' forecasts (Filip et al., 2024). Partial benefits of quarterly reporting can be identified in evidence of the value relevance of quarterly reporting to the company. The value relevance of quarterly reporting has been recognised in literature on developed countries, e.g., Sweden (Hassel et al.,

2005). However, few studies have been carried out in developing counties. We test the value relevance of quarterly reporting in Sri Lanka with the following hypothesis:

H1: Quarterly financial disclosure is value relevant.

2.2 Context variables and the value relevance of quarterly reporting

The stock market reacts naturally to changes in information according to social, financial and environmental events. Evidence supports the literature that context variables have systematically changed the value relevance of earnings and book value over the past 65 years (Collins et al., 1997). The value relevance of financial statement disclosure may also vary substantially across countries because countries are characterized by different institutional settings and disclosure practices (Banghøj & Plenborg, 2008).

Financial statements, quarterly or annual, are associated with share price changes in stocks (Lev & Zarowin, 1999; Efendi et al., 2007). Previous studies identify different factors that moderate the value relevance relationship. Accordingly, we focus on company size (Aboody & Lev, 1998; Landsman & Maydew, 2002; Habib & Azim, 2008; Rountree et al., 2008), earnings (Kent & Birt, 2021); financial health (Habib & Azim, 2008; Altman et al., 2017; Mostafa, 2017) financial leverage (Aboody & Lev, 1998; Habib & Azim, 2008; Rountree et al., 2008; Machokoto et al., 2020); company life cycle (Habib & Azim, 2008; Dickinson, 2011); earnings volatility (Foster, 1977; Jayaraman, 2008; Cao & Narayanamoorthy, 2012), share price volatility (Landsman & Maydew, 2002; Rahman et al., 2007), audit quality (Lee & Lee, 2013; Omer & Yuan, 2024); auditor change (Francis & Wilson, 1988) and cash flow volatility (Jayaraman, 2008; Altuntas et al., 2017), as context variables that moderate the value relevance of financial reporting. Accordingly, we expect these variables to moderate the value relevance of quarterly financial reports and they are tested in hypothesis two:

H2: Context variables moderate the value relevance for quarterly reporting

3. Research methodology

3.1 Data sample

The sample comprises data for all non-financial companies listed on the CSE from 2012 to 2019. The selected period aligns with the implementation of mandatory quarterly reporting requirements introduced in 2012. Data collection is limited to 2019 because of the disruptive impact of the COVID-19 pandemic that included widespread closures and curfews during the first half of 2020. Data for the study is collected using the Refinitive Eiken database and CSE website.

Previous literature highlighted that companies with certain characteristics have different value relevance results (Alomair et al., 2022). The sample is divided into subsamples based on company size, with small and large companies differentiated as those below and above the median of total assets, respectively, consistent with prior research on the influence of company size on value relevance (Bokpin, 2013; Badu & Appiah, 2018; Kent & Birt, 2021; Alomair et al., 2022). This yields subsamples of 512 quarters for small companies and 512 quarters for large companies. In addition, the subsamples are further divided based on auditor type, with 872 quarters audited by a BIG4 auditor and 152 quarters audited by a non-BIG4, because the independent auditor plays a critical role in financial information disclosure (Francis & Wilson, 1988; Healy & Palepu, 2001; Boritz & Liu, 2006; Bokpin, 2013; Alomair et al., 2022).

A subsample is analysed based on auditor rotation, identified as auditor change (Frost et al., 2024), to assess whether such changes significantly moderate the value relevance of quarterly reporting (Francis & Wilson, 1988). That subsample consists of 168 company quarters where auditors change, and 856 company quarters where auditors do not change. Another subsample is based on the life cycle stages of companies, since no study has yet examined, in the Sri

Lankan context, the value relevance of quarterly reports based on this criterion. The methodology developed by Dickinson (2011) is used to identify life cycle stage because other life cycle proxies tend to assume uniform stages (Anthony & Ramesh, 1992; Habib, 2010). Dickinson (2011) focuses on cash flow statement analysis in life cycle stages. The sample consists of 171 company quarters in the introduction stage, 267 in the growth stage, 369 in the mature stage and 217 in the decline stage.

3.2 Research model

Regression analysis with the Ohlson valuation model is used in our study. This approach is justified by the widespread recognition of the model's significance in assessing the value relevance of financial reporting, as evidenced by prior research (Swartz et al., 2006; Lee & Lee, 2013; Zhou et al., 2015; Mirza et al., 2019, Kent & Birt 2021). We used the term quarter fixed effect because quarterly data are used compared with a previous study by Kent and Birt (2021) that used the year fixed effect. All the continuous variables are winsorized at the top and bottom five percent level of the distribution to control for outliers. The dependent variable is quarterly share returns with respect to the quarterly financial reporting disclosure date. The primary regression equation is as follows. For the definition of the variables, please prefer to Appendix.

$$RETURN_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \varepsilon_{it} \qquad (1)$$

3.3 Contextual variables

We also include other contexts where quarterly reporting users potentially place a greater emphasis on the disclosure of a company's earnings to predict its future performance. Financial leverage uses as a proxy for agency costs (Debreceny and Rahman 2005; Butler et al., 2007; Bokpin, 2013). We used audit quality by distinguishing whether a Big4 or non-Big4 auditor

audits company financial reporting as a second proxy for agency costs (Piot, 2001; Lee & Lee, 2013; Khan et al., 2016).

Context variables predicted to moderate the value relevance of financial reporting are as follows:

$$RETURN_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \alpha_3 SIZE + \alpha_4 EARN + \alpha_5 FINLEV + \alpha_6 INTRODUCTION + \alpha_7 GROWTH + \alpha_8 MATURE + \alpha_9 DECLINE + \alpha_{10} EARNVOL + \alpha_{11} PRICEVOL + \alpha_{12} BIG4 + \alpha_{13} AUDITCHA + \varepsilon_{it} \quad (2)$$

Market capitalization (MARKETCAP) (Aboody & Lev, 1998; Rountree et al., 2008) and z-score (Z-SCORE) (Kent & Birt, 2021) are alternative measures of company size and financial health respectively, as additional tests. Cash flow volatility (CASHVOL) (Jayaraman, 2008; Altuntas et al., 2017) is also included in additional tests. Cash flow volatility (CASHVOL) is included as an additional variable because of its correlation with EPS and other contextual variables.

4. Results

4.1 Descriptive statistics

Table 1, Panel A, presents the industry breakdown and calendar years for the non-financial sector. The sample includes all GICS classifications, excluding the financial industry. Table 1, Panel B outlines the summary statistics for total assets and market capitalization for the non-financial sectors. Breakdowns include auditor identity (BIG4 audit firms versus non-BIG4 audit firms), firm size (small versus large), and firm lifecycle stages (start-up, growth, maturity, renewal/decline).

In percentage terms, small companies comprise 50.00 percent of the sample and large companies 50.00 percent. Of the sample companies, 86.53 percent of annual financial reports are audited by BIG4 audit firms and 13.47 percent are audited by non-BIG4 audit firms. Furthermore, 15.03 percent of sample change their auditor during the sample period and 84.97 percent of them did not change their auditor. For firm lifecycle stage, 14.90 percent of companies are in the introduction stage, 27.85 percent in the growth stage, 41.97 percent in the mature stage and 15.28 percent are in the decline stage.

All sectors exhibit similar means and medians for total assets and market capitalisation. BIG4 audit companies have a mean (median) logarithm of total assets of 8.630 (8.515) and non-BIG4 audit companies report a mean (median) logarithm of total assets of 7.157 (6.978). Market capitalisation for BIG4 audit companies is a mean (median) logarithm of 7.927 (7.759) with non-BIG4 audit companies having of 6.462 (6.210).

There are summary statistics in Table 2 for share return, earnings per share, book value per share, size, net income, financial leverage, earning volatility, price volatility, cash flow volatility, z-score, and market capitalization. Each variable presents quarterly accounting numbers. Table 2 also presents the mean (median) and standard deviation for quarters one, two, three and four and the average of each quarter.

Table 2 reports a positive mean (median) for all variables for each quarter. Share return (RETURN), earnings per share (EPS) and book value per share (BVP) comprise a mean (median) of 0.009 (0.004), 1.703 (0.353), and 84.648 (33.061), respectively. The proxy for agency cost, financial leverage (FINLEV), has a mean (median) of 0.563 (0.364). Consistent with research by Butler et al. (2007), financial leverage as a proxy for agency cost reports lower values with frequent (quarterly) reporting. Price volatility (PRICEVOL) has a mean (median) of 3.982 (1.392). Financial health (EARN), company Size (SIZE), ZSCORE (ZSCORE), and

market capitalization (MARKETCAP) report means (medians) of 143.233 (30.923), 8.432 (8.399), 2.567 (1.791), and 7.730 (7.528), respectively. The mean (median) shows earnings volatility (EARNVOL) and cashflow volatility (CASHVOL), are 3.159 (0.995), and 13.596 (5.126), respectively.

Table 2 shows considerably higher standard deviations for *EARN* and *BVP* compared with *SIZE*, *ZSCORE* and *MARKETCAP*. Like Butler et al. (2007), the firm quarterly financial reports are more profitable than to half-yearly financial reports in terms of return on assets. Kent and Birt (2021) report a negative mean for net income from the cash flow statement at the financial year-end. *EARN* and BVP contribute mainly to the variation in 266.029, and 137.367. The standard deviation, FINLEV, the proxy for agency costs, is 0.566. *PRICEVOL* shows a standard deviation of 6.278, which is high compared with FINLEV. The lower standard deviation for *RETURN* is 0.057.

Table 3 Table 3 presents the Pearson correlation coefficients for the sample. *RETURN* is positively correlated with *EPS* at 0.076 ($p \leq 0.05$) and negatively correlated *EARN* at -0.137 ($p \leq 0.01$), and *DECLINE* at -0.109 ($p \leq 0.05$). Results highlight some significant correlations among the context variables. *EPS* is significantly positively correlated with *BVP* at 0.644 ($p \leq 0.01$), *MARKETCAP* at 0.163 ($p \leq 0.01$), *MATURE* at 0.110 ($p \leq 0.05$), *EARNVOL* at 0.107 ($p \leq 0.05$), *CASHVOL* at 0.132 ($p \leq 0.05$), *PRICEVOL* at 0.728 ($p \leq 0.01$), and BIG4 at 0.077 ($p \leq 0.05$). *EPS* is significantly negatively correlated with *EARN* at -0.403 ($p \leq 0.01$), *ZSCORE* at -0.296 ($p \leq 0.01$), *FINLEV* at -0.246 ($p \leq 0.01$), *INTRODUCTION* at -0.142 ($p \leq 0.01$) and *AUDITCHA* -0.088 ($p \leq 0.10$). *BVP* is significantly positively correlated with *CASHVOL* at 0.111 ($p \leq 0.01$), and *PRICEVOL* at 0.723 ($p \leq 0.01$) and significantly negatively correlated with *EARN* at -0.176 ($p \leq 0.01$), *ZSCORE* at -0.170 ($p \leq 0.01$), and *AUDITCHA* at -0.062 ($p \leq 0.10$). However, *SIZE* is not correlated with *RETURN*, or *BVP*. In contrast, Mirza et al. (2019)

found firm size is significantly positively correlated with *RETURN* at 0.297 ($p \leq 0.01$), and significantly positively correlated with BVP at 0.468 ($p \leq 0.01$). Examining the value relevance of different financial reporting timelines and a different securities market may be one possible reason for the different results. However, findings of our study support the findings of Mirza et al. (2019) that RETURN the significantly positively correlated with EPS.

4.2 Multivariate regression results

4.2.1 Value relevance of quarterly reporting (H1)

We hypothesise that quarterly financial disclosure is value relevant (H1) to CSE participants from 2012 to 2019. To address this hypothesis, the price model is used. It expresses share return as a linear function of earnings per share, book value per share, and other accounting information following Ohlson (1995). We use the following model to examine the relationship between share return, earnings per share, and book value per share and investigate the value relevance of quarterly financial disclosure:

$$RETURN_{60\ DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \varepsilon_{it} \quad (1)$$

Table 4 presents the results of the value relevance of the quarterly financial disclosure for listed firms in CSE and shows that hypothesis one is supported. Table 4, column two, shows a positive, statistically significant *EPS* coefficient at the one percent level of 0.003 and the *BVP* coefficient is also statistically significant at the one percent level at -0.001. The R^2 of the regression is 0.018 explaining returns from a market perspective. The fixed effect for industry and quarters is set out in Table 4, Column 2. We use the term quarter-fixed effect because quarterly data are used compared with a previous study by Kent and Birt (2021) that uses the year-fixed effect.

These results compare with a Malaysian study that shows that *EPS* and *BVP* are positively significant at one percent and an adjusted R^2 of 0.735 using annual financial disclosure (Mirza et al., 2019). However, Bokpin (2013) reports a non-significant relationship between financial reporting and the market-to-book value ratio and a negative relationship for share return. Bokpin (2013) uses the Fama and French model relating firm value to firm-level characteristics, and this could be a reason for the different results because Bokpin uses a different method to examine the value relevance.

Table 4, columns three, four, five, and six and show the value relevance of quarterly financial disclosure every quarter. The results for Quarter three reveal a positive, statistically significant association ($\beta = 0.003$, $p \leq 0.05$) between *RETURN* and *EPS*, providing support for hypothesis one. Additionally, a statistically significant association ($\beta = 0.001$, $p \leq 0.10$) between *RETURN* and *BVP* is observed, further supporting the hypothesis.

We conduct a t test to compare the coefficient of EPS (BVP) between quarters. This is done by multiplying the EPS (BVP) coefficient calculated in the regression by EPS (BVP) for the companies and testing for significant differences. Value relevance differences across quarters are compared using a t-test for the coefficients for *EPS* and *BVP*, as set out in Table 5, Panel A. The means are significantly different for *EPS* [2] at $p \leq 0.01$, with $t_{Q1} = 6.332$, $t_{Q2} = 6.967$, $t_{Q3} = 7.283$, and $t_{Q4} = 7.422$. The mean ratings for *BVP* [3] are also significantly different for each quarter at the one percent level with $t_{Q1} = 8.497$, $t_{Q2} = 8.487$, $t_{Q3} = 8.534$, and $t_{Q4} = 8.643$. The results explain the consistency of investors ascribing a positive value to the accounting information disclosed in quarterly financial reports. Importantly, the *EPS* coefficients differ

[2] A t-test for EPS measures the differences between EPS and EPS * coefficient of EPS to test for significant differences between each quarter.
[3] A t-test for BVP measures the differences between BVP and BVP * coefficient of BVP to test for significant differences between each quarter.

significantly from quarter to quarter[4]. The mean difference of *EPS* reported in quarter one is significantly lower than for quarter two ($t = -2.039$, $p \leq 0.05$); quarter one is significantly lower than for quarter three at ($t = -3.239$, $p \leq 0.01$).

The mean difference of *BVP* reported in quarter one is significantly higher than for quarter three ($t = 2.076$, $p \leq 0.05$); and quarter one is significantly higher than for quarter four at ($t = 3.863$, $p \leq 0.01$). The mean of quarter two is significantly different and higher than for quarter four at $p \leq 0.01$ for *BVP* ($t = 3.145$), and also quarter three is significantly higher than quarter four ($t = -2.596$, $p \leq 0.05$). This result seems intuitive, given that each quarter has a significant impact on the value relevance of quarterly information. The mean value of *EPS* and *BVP* is significantly higher/lower from one quarter to another. As an essential earnings benchmark, quarterly reporting (Graham et al., 2005) is relatively important for the economy. Stakeholders gauge a company's *EPS* and *BVP* as key performance indicators to identify the actual effect of *RETURN*. The results also show the economic importance of *EPS* and *BVP*, whereas shareholders are more concerned about the company's performance and liquidity when making investment decisions that help develop the economy.

To examine the value relevance of quarterly reporting further, the sample is divided into subcategories on company size (small-large companies), annual financial statement audit company (BIG4 – non BIG4), and stages of a firm's life cycle (Introduction, Growth, Mature, and Decline). According to the subsample analysis, quarterly reporting is value relevant for small companies, companies annual financial statement audited by BIG 4 auditor and auditor no change companies.

[4] A t-test measures significant difference between the EPS * coefficient of EPS (BVP and BVP * coefficient of BVP).

Previous studies argued that larger companies are expected to have higher value relevance than small companies (Bokpin, 2013; Badu & Appiah, 2018). However, in our study, *RETURN* is significantly associated with *EPS* ($\beta = 0.004$, $p \leq 0.01$) and *BVP* ($\beta = -0.001$, $p \leq 0.05$) for small companies (Untabulated Results). These findings support previous literature that earnings and book value are significantly, positively associated with share price for both small and large companies (Badu & Appiah, 2018).

RETURN is significantly associated with *EPS* ($\beta = 0.002$, $p \leq 0.01$) and *BVP* ($\beta = -0.001$, $p \leq 0.01$) for BIG4 companies (Untabulated Results). Untabulated results shows a positive, statistically significant association between *RETURN* and *EPS* ($\beta = 0.003$, $p \leq 0.01$), and a negative, statistically significant association between *RETURN* and *BVP* ($\beta = -0.001$, $p \leq 0.01$) for companies that have not changed their auditor. For the value relevance of quarterly reporting, hypothesis one is only supported by the decline stage of firm life cycle, *RETURN* is significantly associated with *EPS* ($\beta = 0.004$, $p \leq 0.10$) and *BVP* ($\beta = -0.001$, $p \leq 0.05$) (Untabulated results).

4.2.2 The value relevance of quarterly reporting with context variables (H2)

Model two examines the value relevance of quarterly financial disclosure by including the moderating variables firm size, poor financial health (financial distress), financial leverage, stage of firm life cycle, earnings and price volatility, and auditor influence. Table 6, columns 2, report that *BVP* is significant at the five percent level with positive coefficients of -0.001. Table 6, column 2, supports hypothesis two as context variables are significantly associated with *RETURN*. Among the context variables, Table 6, column two, shows that *SIZE*, *EARN* and *DECLINE* are significantly negatively associated with quarterly *RETURN* with a coefficient of -0.003, -0.018 and -0.010, respectively.

The results show low value relevance of *BVP*, and accounting information, for instance, *SIZE*, *EARN*, and *DECLINE* with quarterly *RETURN*. Supporting that, Barth et al., (2023) find that earnings has become significantly less value relevant. The proxy for agency costs, *FINLEV,* is generally not significant with *RETURN* in quarterly financial disclosure. However, *FINLEV* is significantly negatively associated with quarterly *RETURN* at the 10 percent level with a coefficient of 0.013 for quarter one. Additionally, the second proxy for agency cost, *BIG4*, has a statistically significant positive relationship with the *RETURN* at the one percent level with a coefficient of 0.033 for quarter one. Theoretically, the results confirm the agency theory (Jensen & Meckling, 1976) at the same time as following the findings of Lopes and Rodriques (2007) and Bokpin (2013) for quarter one.

In addition to the significant variables in column two, Quarter two shows a positive and statistically significant association ($\beta = 0.017$, $p \leq 0.10$) between *RETURN* and *MATURE*. *EARNVOL* is significantly associated with *RETURN* for Quarter two ($\beta = 0.001$, $p \leq 0.05$), and Quarter four ($\beta = -0.001$, $p \leq 0.10$). Managers believe earnings volatility negatively affects earnings quality (Graham et al., 2005) and Misund (2016) argued that higher earnings volatility leads to a lower value relevance of accounting information because high earnings volatility possibly reduces earnings quality. The results could be inconsistent with previous studies because of analysing different factors and securities' markets.

We conduct t tests to compare the coefficient of EPS (BVP) between quarters. This is done by multiplying the EPS (BVP) coefficient calculated in the regression by EPS (BVP) for the companies and testing for significant differences. Table 7 reports the mean values that are significantly different for *EPS* at $p \leq 0.01$, with $t_{Q1} = 6.328$; $t_{Q2} = 6.963$; $t_{Q3} = 7.278$; $t_{Q4} = 7.406$. The mean values significantly differ from *BVP* at $p \leq 0.01$, with $t_{Q1} = 8.497$; $t_{Q2} = 8.487$; $t_{Q3} = 8.534$; $t_{Q4} = 8.643$.

The results show the importance of quarterly reports with a significant difference in EPS and BVP from one quarter to another. Table 7 reports the quarter differences in EPS and BVP. Importantly, *EPS* in quarter one is significantly different from and lower than quarter two (t = -2.039, $p \leq 0.05$); and quarter one is significantly lower than quarter three (t = -3.239 $p \leq 0.01$). Additionally, the mean deference of *BVP* reported in quarter one is significantly higher than quarter three (t = 2.076, $p \leq 0.01$); quarter one is significantly higher than quarter four (t = 3.863 $p \leq 0.01$). The *BVP* in quarter two is significantly higher than quarter four (t = 3.145, $p \leq 0.01$); and quarter three is significantly different from and higher than quarter four (t = 2.596, $p \leq 0.05$).

The analysis further tests the value relevance of quarterly financial disclosure in specific contexts. Untabulated results show that few context variables moderate the value relevance of quarterly reporting for small companies, *RETURN* is significantly positively associated with *EPS* ($\beta = 0.003$, $p \leq 0.05$), and *RETURN* is significantly negatively associated with *BVP* ($\beta = -0.001$, $p \leq 0.05$). *RETURN* is statistically, significantly associated with *DECLINE* ($\beta = -0.031$, $p \leq 0.01$), and *BIG4* is ($\beta = 0.014$, $p \leq 0.10$). Large companies show significant results only for *EARN* ($\beta = -0.017$, $p \leq 0.05$). This result is important; it identifies the contrasting results for company size in examining the value relevance of quarterly reporting. Kent and Birt (2021) revealed that results for small and large companies are qualitatively similar when using the total assets as a proxy for measuring company size. However, our study's results show different outcomes for small and large companies but the sample for the two studies is different. *BIG4*, as a proxy for audit quality, supports the agency theory for small companies since *RETURN* is significantly positively associated with *BIG4* ($\beta = 0.014$, $p \leq 0.10$) for small companies.

Compared with the initial findings and other sub-sample results, hypothesis two is supported since some context variables are significant for companies audited by BIG4 auditors and

auditor no change companies (untabulated results). Other than *BVP*, *RETURN* is significantly associated with the context variables *SIZE* (β = -0.003, $p \leq 0.10$); *EARN* (β = -0.017, $p \leq 0.01$), and *DECLINE* (β = -0.020, $p \leq 0.05$) for companies audited by BIG4 auditors (untabulated results). The findings regarding the outcomes of BIG4 auditors as a proxy for audit quality align with the literature around BIG4 audit firms and company financial disclosure (Bokpin, 2013). Lee and Lee (2013) reported that *EPS* and *BVP* audited by BIG4 audit firms are more value relevant than those audited by non-BIG4.

The role of auditor rotation is the subject of considerable research with a substantial body of literature both supporting and rejecting auditor rotation impact (Ruiz-Barbadillo et al., (2009). However, change in key audit partners or rotation of key audit firms are proxies for auditor independence (Cimini et al., 2022). During the sample period, 15% of firms changed auditor. The *EPS, BVP* and other context variables are non-significant for auditor change companies (untabulated results). Thus, hypothesis two is not supported in that auditor rotation is not significantly related to value relevance. *RETURN* is significantly associated with *BVP* (β = -0.001, $p \leq 0.05$) for companies that did not change auditor. *RETURN* is significantly negatively associated with *SIZE* (β = -0.003, $p \leq 0.10$); and *EARN* (β = -0.018, $p \leq 0.01$); *DECLINE* (β = -0.015, $p \leq 0.10$) for the companies that did not change their auditor (untabulated results). The *FINLEV*, the proxy for agency costs, is not significant.

The value relevance of quarterly reporting based on the firm's life cycle stages is examined and untabulated results show that *EPS* and *BVP* is significant for only in decline stage of firms' life cycles, *RETURN* is significant at the 10 percent level with *EPS* and *BVP* with coefficients of 0.005, and -0.001, respectively. Further, *RETURN* is significantly associated with *EPS* (β = 0.004, $p \leq 0.05$) for growth stage firms' life cycles. *RETURN* is significantly associated with contextual variables in the introduction stage, growth stage and mature stage. Untabulated

results show that *RETURN* significantly negatively associate with *SIZE* (β = -0.009, $p \leq 0.05$) and *RETURN* is significantly positively associated with *BIG4* (β = 0.040, $p \leq 0.05$) for the introduction stage. *EARN* (β = -0.021, $p \leq 0.05$) and *FINLEV* (β = 0.015, $p \leq 0.10$) is significantly associated with *RETURN* for the growth stage. *EARN* (β = -0.019, $p \leq 0.05$) and *BIG4* (β = 0.018, $p \leq 0.05$) is significantly associated with *RETURN* for the mature stage. Hypothesis two is not supported for the decline stage of the firm life cycles because all variables are non-significant. The proxy for agency cost, *FINLEV* (β = 0.015, $p \leq 0.10$) is significant for the growth stage, and *BIG4* is significant for the introduction stage (β = 0.040, $p \leq 0.05$), and mature stage (β = 0.018, $p \leq 0.10$), supports evidence for the agency cost in the introduction, growth and Matute stages in a firm life cycle.

4.3 Additional testing

4.3.1 The robustness of a context variable market capitalization (MARKETCAP) and Z-SCORE (ZSCORE)

Tests are conducted using market capitalization (MARKETCAP) as an alternative measure of firm size and Z-SCORE (ZSCORE) as an alternative measure of financial health. *RETURN* is significantly associated with *EPS* (β = 0.002, $p \leq 0.05$), *BVP* (β = 0.001, $p \leq 0.01$), and *BIG4* (β = 0.012, $p \leq 0.10$). Untabulated results confirms the initial findings of agency theory in showing the significant positive relationship of *RETURN* (β = 0.012, $p \leq 0.10$) with *BIG4*.

Value relevance results are slightly different based on each quarter rather than considering all quarters together. Untabulated results show *RETURN* is significantly positively associated with *EPS* (β = 0.002, $p \leq 0.05$) which is not significant in Table 6. Compared with Table 6, untabulated results do not support hypothesis two for Quarters 4 because the context variables are non-significant. In addition to the results of Table 3, untabulated results, provides evidence

of support for agency theory for Quarter 1, Quarter 2, and Quarter 3 whereas *RETURN* is significantly associated with *BIG4*, Q1 ($\beta = 0.012$, $p \leq 0.10$); Q2 ($\beta = 0.027$, $p \leq 0.05$); Q3 ($\beta = 0.028$, $p \leq 0.05$), respectively. When we include *MARKETCAP* and *ZSCORE* as alternative measures of firm size and financial health, the result is no longer incrementally value relevant for Quarter 1 (Vuong Z-statistic of 1.307), Quarter 2 (Vuong Z-statistic of 1.429), Quarter 3 (Vuong Z-statistic of -0.514), and Quarter 4 (Vuong Z-statistic of -1.116) compared with the results in Table 6.

RETURN is not significantly associated with *MARKETCAP* and *ZSCORE* for small and large companies. *MARKETCAP* and *ZSCORE* as alternative measures of firm size and poor financial health, does not make any significant difference to the results in sub-sample analysis of small companies (Vuong Z-statistic of -0.113), large companies (Vuong Z-statistic of -0.080) (untabulated results).

However, when the results are re-examined using *MARKETCAP* and *ZSCORE* as alternative measures of firm size and poor financial health, *RETURN* is significantly associated *EPS* ($\beta = 0.003$, $p \leq 0.05$), *BVP* ($\beta = -0.001$, $p \leq 0.05$) for companies audited by BIG4, and also *RETURN* is significantly associated the contextual variables of *GROWTH* ($\beta = 0.013$, $p \leq 0.10$), *MATURE* ($\beta = 0.014$, $p \leq 0.05$). *MARKETCAP* and *ZSCORE* as alternative measures of firm size and poor financial does not make any significant difference to the results for companies audited by *BIG4* (Vuong Z-statistic of 0.319) and for companies audited by non-BIG4 (Vuong Z-statistic of -0.441).

RETURN is significantly associated *EPS* ($\beta = 0.003$, $p \leq 0.05$), *BVP* ($\beta = -0.001$, $p \leq 0.05$) for companies that auditors do not change, and also *RETURN* is significantly associated the contextual variables of *BIG4 (*$\beta = 0.014$, $p \leq 0.10$). However, *MARKETCAP* and *ZSCORE* as alternative measures of firm size and poor financial does not make any significant difference

to the results for auditor company change (Vuong Z-statistic of -1.051) and for companies that auditors do not change (Vuong Z-statistic of 0.918). *RETURN* is not significantly associated with any contextual variables for companies audited by non-BIG4 and auditor change companies when *MARKETCAP* and *ZSCORE* alternative measures of firm size and poor financial health.

RETURN is significantly associated *ZSCORE* for introduction stage of firm life cycle (β = 0.009, $p \leq 0.05$) and mature stage of firm life cycle (β = -0.003, $p \leq 0.05$). *MARKETCAP* and *ZSCORE* alternative measures of firm size and poor financial health, does not make any significant difference to the results for the introduction stage (Vuong Z-statistic of -0.926), growth stage (Vuong Z-statistic of -0.234), mature stage (Vuong Z-statistic of -0.468), and decline stage (Vuong Z-statistic of 0.305) (untabulated results). Thus, using *MARKETCAP* and *ZSCORE* alternative measures of firm size and poor financial health does not make any significant difference to the initial findings.

4.3.2 The robustness of a context variable – cashflow volatility

Cashflow volatility (CASHVOL) is used as an additional context variable to examine whether cashflow volatility moderates the value relevance of quarterly reporting in Sri Lanka. Untabulated results show that *RETURN* is not significantly associated with *CASHVOL.* Cashflow volatility as an additional context variable does not make any qualitative difference to the initial finding (Vuong Z-statistic of 0.001).

Cashflow volatility, as an additional contextual variable, does not make any significant difference to the results in sub-sample analysis of small companies (Vuong Z-statistic of -0.127) large companies (Vuong Z-statistic of -0.309), BIG4 companies (Vuong Z-statistic of -0.264), non-BIG4 companies (Vuong Z-statistic of -0.061), auditor changed companies (Vuong

Z-statistic of -0.249), auditor not changed companies (Vuong Z-statistic of -0.139), the introduction stage (Vuong Z-statistic of -0.295), growth stage (Vuong Z-statistic of -0.168), mature stage (Vuong Z-statistic of -0.143) and decline stage (Vuong Z-statistic of -0.780). Thus, including or excluding *CASHVOL* does not make any significant difference to the initial findings.

4.3.3 The robustness of a Dependent Variable – Share Price

Table 8 provides the results of the value relevance of the quarterly financial disclosure for listed firms on Sri Lanka's CSE and indicates that hypothesis one is supported. Table 8, column two, shows a positive, statistically significant association ($\beta = 20.369$, $p \leq 0.01$) between share price (SHAREPRICE) and *EPS*, and a statistically significant association ($\beta = 0.518$, $p \leq 0.01$) between *SHAREPRICE* and *BVP*. The adjusted R^2 of the regression is 0.690 explaining share price from a market perspective. Share price, as a dependent variable, shows a higher adjusted R^2 value. Compared with results in Table 4, the results in Table 8 show hypothesis one is supported for each quarter because *SHAREPRICE* is statistically significant associated with both *EPS* and *BVP* in each quarter.

Table 9 provides the context variables for determining value relevance for quarterly financial disclosure using share price as the dependent variable. *EPS* and *BVP* are statistically significantly associated with *SHAREPRICE* at the one percent level and report positive coefficients of 2.596 and 2.364, respectively. Among the contextual variables, *SIZE*, *PRICEVOL*, and *BIG4* are positively significant with quarterly *SHAREPRICE* with coefficients of 4.912, 20.858, and 11.707, respectively. The results show high-value relevance of *EPS*, *BVP*, and accounting information, e.g., *SIZE, PRICEVOL*, and *BIG4* with quarterly *SHAREPRICE*, while the adjusted R^2 is 0.947.

The proxy for agency costs, FINLEV, is generally not significant associated with the share price on quarterly financial disclosure. However, the second proxy for agency cost and audit quality, BIG4, reveals a statistically significant positive relationship with the *SHAREPRICE* at the one percent level and a coefficient of 11.707. Theoretically, the results confirm the agency theory (Jensen & Meckling, 1976), following the findings of Lopes and Rodriques (2007) and Bokpin (2013).

Compared with the results in Table 6, the results in Table 9 show that share price is significantly associate with *EPS* ($\beta = 2.596$, $p \leq 0.01$) and *BVP* ($\beta = 0.106$, $p \leq 0.01$), which is not significant in Table 6. Additionally, Table 9 show that share price is significantly associated with *EPS* ($\beta = 2.364$, $p \leq 0.10$) and *BVP* ($\beta = 0.107$, $p \leq 0.01$) for quarter one and share price is significantly associated with *EPS* ($\beta = 3.796$, $p \leq 0.01$) and *BVP* ($\beta = 0.094$, $p \leq 0.01$) for quarter two, and also share price is significantly associated with *EPS* ($\beta = 4.620$, $p \leq 0.01$) and *BVP* ($\beta = 0.111$, $p \leq 0.01$) for quarter three, though not significant in Table 6.

5. Conclusion

Using the Ohlson (1995) valuation model, it is found that quarterly reporting is value relevant and contextual variables moderates the value relevance. In addition, quarterly earnings and book value account for significant variation in share returns. The results also suggest that, even though accounting information disclosed in quarterly reports, in general, is value relevant, quarterly earnings positively explain variation in share returns but book value negatively explains the variation in share returns in quarter three. Though quarterly financial reporting is value relevant in CSE, investors and quarterly financial statement users of CSE give more importance to income statements than balance sheet information. The findings are useful for regulators and policymakers in deciding on whether to continue to require quarterly reporting in Sri Lanka.

Our findings provide a number of significant contributions and implications for our understanding of the value relevance of accounting information disclosed in quarterly reports. Accordingly, the findings are useful for regulators from the SEC and CSE, investment advisors, investors, and researchers on the role of quarterly reporting in domestic and international capital markets because some countries are considering abolishing quarterly reporting (Schleicher & Walker, 2015; Nallareddy et al., 2017), some other countries are adopting (Tsao et al., 2018) and others continuing with quarterly report disclosure (Allam & Lymer, 2003; Boritz & Liu, 2006; Mirza et al., 2019).

Examination of the value relevance of accounting information disclosure in quarterly reports provides regulators (SEC and CSE) with sound empirical evidence when reviewing the effectiveness of quarterly report disclosures. The study results offer regulators at the SEC an improved understanding of the value relevance of quarterly reports (results show low-value relevance in quarterly reporting), the dynamic nature of this relevance based on company characteristics (value relevance of quarterly reports moderate differently based on the sub-sample), and the significance of quarterly reports in Sri Lanka. With scarce empirical evidence available on the value relevance, the important findings of value relevance of quarterly reporting can help regulators from SEC and CSE when reviewing the disclosure regime of quarterly reporting. These findings should encourage regulators and standard setters to reform and develop disclosure regulations to increase the value relevance of quarterly reports. Thus, these findings have important implications for regulatory effectiveness in Sri Lanka.

In addition to the regulators and standard setters, our findings can guide financial report preparers and company management in refining their quarterly reporting models to improve disclosure quality. The finding of the value relevance of quarterly reporting is valuable for companies in redefining their quarterly reporting model to improve its quality. Companies may

consider reporting quality and provide value-creating company information and processes. This will be useful in improving the value relevance of quarterly reporting in Sri Lanka.

First phase of our study examines four key factors by sub-sample analysis to see the factors that affect the value relevance of book value and earnings. The factors are company size, audit company, auditor change and stages of the company's life cycle. The findings contribute to the literature. Rahman et al. (2007) highlighted that the effect of company size on quarterly reporting remains unanswered from their findings. In contrast to prior studies, our study's results demonstrate that small companies have higher value relevance than large companies. Prior studies found that large companies exhibit significantly higher value relevance than small ones (Bokpin, 2013; Alomair et al., 2022). Thus, these findings provide evidence that small companies have significantly higher value relevance in quarterly reporting than large companies in the Sri Lankan context.

Our results support Alomair et al. (2022) and extend their findings that quarterly financial reporting is value relevant for non-financial companies. The results support the literature on value relevance in annual financial disclosure and provide new evidence on how quarterly financial reporting explains variations in share returns based on industry type. Most previous studies argued higher value relevance of financial statement disclosure when BIG4 auditors audit financial statements than for non-BIG4 auditors (Francis & Wilson, 1988; Healy & Palepu, 2001; Boritz & Liu, 2006; Bokpin, 2013; Alomair et al., 2022). Consistent with earlier findings, we contribute to the literature that financial statements audited by BIG4 audit companies are value relevant. The results provide new evidence that quarterly reporting is value relevant for a company that does not change its auditor. These findings provide a positive signal that companies with no auditor change over a period have gained the trust of their financial information users.

We also examine how the value relevance of quarterly reporting changes through a company's life cycle and so expand the finance literature. Though previous studies find value relevance of financial statements based on a company's life cycle stage, our study's results do not find a significant relationship between share returns and earnings and book value based on company life cycle stage. It can therefore be used to support quarterly reporting rather than annual financial reporting. The results do support the argument of Debreceny and Rahman (2005) that there is no association between a company's life cycle stage and frequent financial reporting disclosure.

The second phase in our study examine how context variables moderate the value relevance of quarterly reporting. Though a previous study (Rahman et al. 2007) argued that company size is positively associated with quarterly reporting, we find that company size significantly negatively moderates the value relevance of quarterly reporting. Our results support Anthony and Ramesh (1992) and extend their findings in demonstrating that company life cycle stage moderates the value relevance of quarterly reporting in Sri Lanka. The results also support evidence in the literature that BIG4 audit companies moderate the value relevance of quarterly reporting (Francis & Wilson, 1988; Healy & Palepu, 2001; Boritz & Liu, 2006; Bokpin, 2013; Alomair et al., 2022). These findings contribute additional support to the literature in the context of the Sri Lankan stock market, which will be helpful to regulators, investors, and researchers with valuable empirical evidence available on how context variables moderate the value relevance of quarterly reporting.

Even though the research findings have a limited capacity for generalisability in developed market conditions, However, it is expected that, for developing countries with similarly placed stock exchanges and macroeconomic challenges, this information provides useful comparators

to assess the merits of the reporting system model most likely to serve an individual country's best interests.

Our study is limited to a Sri Lanka but as noted above, the opportunity to consider broader patterns for developing countries in what constitutes quality reporting for purposes of market transparency enhancement and consumer protection presents significant value potential. Future researchers are recommended to examine the value relevance of quarterly reporting in different jurisdictions with more context variables. Our study has conducted the study with a sample from 2012 to 2019. Data up to 2019 avoids the impact of the coronavirus (COVID 19) on share returns. Future research is encouraged to examine the value relevance of quarterly reporting after COVID's impact using more recent data. We examine the value relevance of quarterly reporting. It would be interesting to examine half yearly reporting and annual reporting to see whether the value relevance of accounting information changes over different time periods.

A final limitation is the impact during this work of the COVID 19 Pandemic and the subsequent 2022 technology leap around Artificial Intelligence and the potential use of large language models, such as Chat GPT, and related technology, to enhance both daily working efficiencies and, more broadly, around achieving more effective tracking and disclosure of company activities. Still in early days across the globe, like other markets, further research into engagement with this new technology presents a valuable opportunity.

Appendix

Dependent and independent variables

RETURN = share return on 60^{th} day from quarterly reporting disclosure date;

EPS = earnings per share reported in quarterly reports;

BVP = book value per share reported in quarterly reports;

Contextual variables

SIZE = log of total assets at quarter's end;

EARN = financial health, is the net income obtained from the income statement at financial quarterly-end a dummy variable equal to 1 for negative earnings, otherwise zero;

FINLEV = financial leverage measured using debt to equity ratio;

INTRODUCTION = negative operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for introduction, otherwise zero;

GROWTH = positive operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for growth, otherwise zero;

MATURE = positive operating cashflow, negative investment cashflow, negative financial cashflow at financial quarter-end, a dummy variable equal to 1 if mature, otherwise zero;

DECLINE = negative operating cashflow, positive investment cashflow, and positive/negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for decline, otherwise zero;

EARNVOL = earnings volatility is the variance of the most recent of the last eight quarterly earnings (including quarter t) for earnings scaled by total assets;

PRICEVOL = price volatility is the standard deviation of absolute daily returns for 60 days after quarterly earnings announcement date (including announcement date t);

BIG4 = a dummy variable equal to 1 for a BIG 4 auditor, otherwise zero;

AUDITCHA = a dummy variable for auditor changes during the sample period equal to 1, otherwise zero;

MARKETCAP = the logarithm of the market capitalization at quarter's end;

ZSCORE = companies with an Altman Z-Score of less than 1.80, a dummy variable equal to 1 for a Z-Score of less than 1.80, otherwise zero; and

CASHVOL = cash flow volatility, which is the variance of the most recent of the last eight quarterly (including quarter t) operating cash flows scaled by total assets.

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Table 1

The descriptive statistics of Sri Lankan listed companies from 2012 to 2019

Panel A: The Number of Companies	2012	2013	2014	2015	2016	2017	2018	2019	Total
Non-Financial Sector									
Energy	1	2	2	2	2	2	2	2	15
Materials	17	17	18	18	18	18	18	18	142
Capital Goods	29	30	30	30	30	30	30	30	239
Commercial & Professional Services	5	5	5	5	5	5	5	5	40
Transportation	2	2	2	2	2	2	2	2	16
Automobiles & Components	1	1	1	1	1	1	1	1	8
Consumer Durables & Apparel	11	11	12	12	12	12	12	12	94
Consumer Services	31	31	31	31	31	31	31	31	248
Retailing	10	10	10	10	10	10	11	11	82
Food & Staples Retailing	3	3	3	3	3	3	3	3	24
Food, Beverage & Tobacco	40	40	40	41	43	43	44	44	335
Household & Personal Products	1	1	1	1	2	2	2	2	12
Health Care Equipment & Services	6	6	6	7	7	7	7	7	53
Software and Services	-								
Telecommunication Services	2	2	2	2	2	2	2	2	16
Utilities	5	5	5	5	5	5	5	5	40
Real Estates	17	17	17	18	18	18	18	18	141
Total Non-financial Industries	**181**	**183**	**185**	**188**	**191**	**191**	**193**	**193**	**1505**

Table 1 (continued)

Panel B: Sample size

Variable	Mean	Median	SD
Total Assets (log)			
Big 4	8.630	8.515	1.440
Non-Big 4	7.157	6.978	1.225
Small Companies	7.236	7.417	0.886
Large Companies	9.628	9.441	0.922
Market Capitalization (log)			
Big 4	7.927	7.759	1.387
Non-Big 4	6.462	6.210	0.871
Small Companies	6.750	6.775	0.818
Large Companies	8.710	8.510	1.202

	Total Assets			Market Capitalization		
Firm Life Cycle	Mean	Median	SD	Mean	Median	SD
Introduction	8.580	8.526	1.479	7.496	7.426	1.215
Growth	8.914	8.723	1.414	8.102	7.991	1.409
Mature	8.351	8.343	1.427	7.790	7.535	1.416
Decline	7.632	7.465	1.516	7.115	6.847	1.410

Table 2

The summary Statistics for earnings, valuation model components and context model components

	Quarter One			Quarter Two			Quarter Three			Quarter Four			Average		
	Firm quarters														
Variable	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Mean	Median	Std. Dev
RETURN	0.192	0.015	0.052	-0.020	-0.024	0.050	-0.006	-0.008	0.049	0.043	0.044	0.055	0.009	0004	0.057
EPS	1.373	0.250	3.014	1.673	0.318	3.339	1.820	0.448	3.475	1.945	0.488	3.653	1.703	0.353	3.379
BVP	83.471	32.017	136.860	83.908	33.446	137.292	84.706	33.322	137.830	86.235	33.952	138.537	84.648	33.061	137.367
SIZE	8.403	8.371	1.500	8.419	8.364	1.501	8.437	8.396	1.505	8.469	8.412	1.503	8.432	8.399	1.500
EARN	120.814	18.961	248.217	130.788	27.711	246.132	155.567	39.176	274.418	165.761	45.436	292.180	143.233	30.923	266.029
FINLEV	0.540	0.367	0.543	0.562	0.350	0.567	0.571	0.353	0.577	0.577	0.376	0.578	0.563	0.364	0.566
EARNVOL	3.216	1.061	5.985	3.118	0.999	5.760	3.035	0.914	5.696	3.264	0.983	6.060	3.159	0.995	5.867
PRICEVOL	4.038	1.435	6.207	3.817	1.324	6.172	4.236	1.496	6.528	3.837	1.328	6.237	3.982	1.392	6.278
CASHVOL	13.748	5.110	18.103	13.650	5.143	17.988	13.361	4.865	17.824	13.634	5.524	18.027	13.596	5.126	17.951
ZSCORE	2.607	1.808	2.345	2.674	1.862	2.439	2.612	1.830	2.369	2.375	1.685	2.283	2.567	1.791	2.357
MARKETCAP	7.723	7.519	1.420	7.762	7.573	1.421	7.758	7.580	1.421	7.678	7.478	1.429	7.730	7.528	1.420

Variable definitions: RETURN = Quarterly share return two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports; SIZE = log of total assets at quarter end; EARN = poor financial health is the net income obtained from the income statement at financial quarter end – a dummy variable equal to 1 for negative earnings, otherwise zero; FINLEV = financial leverage measured by debt to equity ratio; EARNVOL = earnings volatility as the variance of the most recent of the last eight quarterly earnings (including quarter t) for earnings scaled by total assets; CASHVOL = cash flow volatility is the variance of the most recent of the last eight quarterly (including quarter t) operating cash flow, scaled by total assets; PRICEVOL = price volatility is the standard deviation of absolute daily returns for 60 days after the quarterly earnings announcement date (including announcement date t); ZSCORE = companies with an Altman Z Score of less than 1.80; and MARKETCAP = log of market capitalization at quarter end.

Table 3

The Pearson correlation coefficients for the independent variable, dependent variables, and context variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. *RETURN*	1.000																
2. EPS	**0.076**	1.000															
3. BVP	-0.029	**0.644**	1.000														
4. SIZE	-0.001	0.006	0.035	1.000													
5. EARN	**-0.137**	**-0.403**	**-0.176**	**-0.221**	1.000												
6. MARKETCAP	0.012	**0.163**	0.051	**0.869**	**-0.376**	1.000											
7. ZSCORE	-0.035	**-0.296**	**-0.170**	**0.325**	**0.266**	0.040	1.000										
8. FINLEV	-0.022	**-0.246**	**-0.093**	**0.214**	**0.368**	0.163	**0.559**	1.000									
9. DECLINE	**-0.109**	-0.004	0.037	**-0.227**	**0.114**	**-0.184**	**-0.124**	-0.051	1.000								
10. GROWTH	0.041	-0.004	-0.048	**0.200**	-0.034	**0.163**	**0.178**	**0.141**	**-0.264**	1.000							
11. INTRODUCTION	-0.006	**-0.142**	-0.034	0.041	**0.163**	-0.069	**0.144**	**0.199**	**-0.178**	**-0.260**	1.000						
12. MATURE	0.047	**0.110**	0.041	-0.046	**-0.170**	0.036	**-0.179**	**-0.235**	**-0.361**	**-0.528**	**-0.356**	1.000					
13. EARNVOL	0.020	**0.107**	-0.001	**0.304**	**-0.094**	**0.266**	**0.092**	0.033	**-0.072**	0.066	0.002	-0.010	1.000				
14. CASHVOL	0.009	**0.132**	**0.111**	**0.556**	**-0.126**	**0.535**	**0.107**	**0.185**	**-0.073**	0.069	**0.138**	**-0.106**	**0.413**	1.000			
15. PRICEVOL	0.018	**0.728**	**0.723**	**-0.071**	**-0.158**	**0.094**	**-0.269**	-0.056	0.053	-0.013	**-0.078**	0.029	**0.099**	**0.150**	1.000		
16. BIG4	0.067	**0.077**	0.056	**0.336**	**-0.289**	**0.353**	-0.048	**-0.077**	**-0.096**	0.034	-0.016	0.051	**0.126**	**0.161**	-0.012	1.000	
17. AUDITCHA	-0.029	**-0.088**	**-0.077**	**-0.122**	**0.184**	**-0.122**	**-0.104**	**-0.081**	0.063	**-0.100**	0.068	-0.005	0.058	0.041	0.009	**-0.131**	1.000

Significant pairwise correlations at the five percent level are identified in bold.

Variable definitions: RETURN = Share return for two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports; SIZE = log of total assets at quarter end; EARN = poor financial health is the net income obtained from the income statement at financial quarterly-end a dummy variable equal to 1 for negative earnings, otherwise zero; MARKETCAP = log of market capitalization at quarter end; ZSCORE = companies with an Altman Z-Score of less than 1.80; a dummy variable equal to 1 for a Z-Score less than 1.80, otherwise zero; FINLEV = financial leverage measured using debt to equity ratio; INTRODUCTION = negative operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end a dummy variable equal to 1 for introduction, otherwise zero; GROWTH = positive operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end a dummy variable equal to 1 for growth, otherwise zero; MATURE = positive operating cashflow, negative investment cashflow, negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for mature, otherwise zero; DECLINE = negative operating cashflow, positive investment cashflow, and positive/negative financial cashflow at financial quarter-end. a dummy variable equal to 1 for decline, otherwise zero; EARNVOL = earnings volatility is the variance of the most recent of the last eight quarterly earnings (including quarter t) for earnings scaled by total asset; CASHVOL = cash flow volatility is the variance of the most recent of the last eight quarterly (including quarter t) operating cash flow, scaled by total assets; PRICEVOL = price volatility is the standard deviation of absolute daily returns for 60 days after quarterly earnings announcement date (including announcement date t); BIG4 = a dummy variable equal to 1 for BIG4 auditor, otherwise zero ; and AUDITCHA = a dummy variable for auditor change during the sample period equal to 1, otherwise zero

Table 4

The value relevance of quarterly financial disclosure

Variables	RETURN	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EPS	0.003***	0.002	0.003**	0.003**	0.002
	(3.656)	(1.378)	(2.323)	(2.409)	(1.213)
BVP	-0.001***	-0.001*	-0.001	-0.001*	-0.001
	(-3.093)	(-1.801)	(-1.525)	(-1.691)	(-1.284)
Constant	0.009***	0.021***	-0.021***	-0.006	0.044***
	(4.334)	(4.854)	(-4.988)	(-1.509)	(9.334)
Observations	772	193	193	193	193
R-squared	0.018	0.018	0.028	0.030	0.010
Adj. R-squared	0.012	0.007	0.017	0.019	-0.001
Number of Quat	4	1	1	1	1

Column 2 presents the regression analysis with a fixed effect model. Columns 3,4, 5, and 6 report the regression analysis for each quarter with a fixed effect model. Variable definitions: RETURN = Share return for two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports. *** significant at 0.01, ** significant at 0.05, *significant at 0.10.

$$RETURN_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \varepsilon_{it}$$

Table 5

The mean differences for value relevance among quarters – H1

Panel A: Mean difference by quarter

Variable	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5
EPS	6.332***	6.967***	7.283***	7.422***
BVP	8.497***	8.487***	8.534***	8.643***

Columns 2, 3, 4 and 5 present the mean difference for individual variables in each quarter. Variable definitions: EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports

Panel B: Mean difference between quarters

Variable	Q1 vs Q2	Q1 vs Q3	Q1 vs Q4	Q2 vs Q3	Q2 vs Q4	Q3 vs Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
EPS	-2.039**	-3.239***	-1.619	-0.158	-0.451	-0.488
BVP	-0.502	2.076**	3.863***	1.552	3.145***	2.596**

Columns 1,2,3,4,5,6, and 7 report the mean differences across quarters. Variable definitions: EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports

*** significant at 0.01, ** significant at 0.05, *significant at 0.10.

Table 6

The value relevance of quarterly reporting with contextual variables

Variables	RETURN	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EPS	0.001	0.001	0.001	0.003*	0.002
	(1.488)	(0.019)	(0.024)	(1.812)	(0.864)
BVP	-0.001**	-0.001*	-0.001	-0.001	-0.001
	(-2.479)	(-1.710)	(-0.367)	(-1.601)	(-1.044)
SIZE	-0.003*	-0.006**	-0.004	0.001	-0.001
	(-1.773)	(-2.092)	(-1.421)	(0.271)	(-0.072)
EARN	-0.018***	-0.017*	-0.037***	-0.006	-0.009
	(-3.494)	(-1.778)	(-3.601)	(-0.569)	(-0.704)
FINLEV	0.005	0.013*	0.003	0.006	-0.001
	(1.357)	(1.679)	(0.396)	(0.890)	(-0.013)
INTRODUCTION	0.001	-	0.006	-	-
	(0.037)		(0.410)		
GROWTH	0.001	-0.008	0.017	-0.010	0.013
	(0.306)	(-0.688)	(1.428)	(-0.837)	(0.933)
MATURE	-	-0.010	0.017*	-0.004	0.007
		(-0.985)	(1.657)	(-0.337)	(0.502)
DECLINE	-0.010*	-0.015	-	-0.012	-0.001
	(-1.796)	(-1.087)		(-0.942)	(-0.059)
PRICEVOL	0.001	0.001	0.001	0.001	-0.001
	(0.433)	(0.790)	(0.139)	(0.058)	(-0.126)
EARNVOL	-0.001	0.001	0.001**	-0.001	-0.001*
	(-0.090)	(0.292)	(2.192)	(-0.951)	(-1.674)
BIG4	0.009	0.033***	0.012	-0.007	-0.001
	(1.506)	(2.810)	(1.107)	(-0.631)	(-0.071)
AUDITCHA	0.002	0.015	-0.005	-0.003	0.001
	(0.383)	(1.401)	(-0.448)	(-0.264)	(0.026)
Constant	0.027*	0.035	-0.001	0.004	0.047
	(1.870)	(1.174)	(-0.022)	(0.131)	(1.347)
Observations	766	191	191	191	193
R-squared	0.046	0.112	0.178	0.050	0.043
Number of Quat	4				
Adj. R-squared	0.0274	0.0525	0.122	-0.0143	-0.0204

Column 2 presents the regression analysis with a fixed effect model. Columns 3,4,5, and 6 report the regression analysis for each quarter with a fixed effect model. Variable definitions: RETURN = Share return for two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports; SIZE = log of total assets at quarter end; EARN = poor financial health is the net income obtained from the income statement at financial quarterly-end, a dummy variable equal to 1 for negative earnings, otherwise zero; FINLEV = financial leverage measured using debt to equity ratio; INTRODUCTION = negative operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for introduction, otherwise

zero; GROWTH = positive operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for growth, otherwise zero; MATURE = positive operating cashflow, negative investment cashflow, negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for mature otherwise zero; DECLINE = negative operating cashflow, positive investment cashflow, and positive/negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for decline, otherwise zero; EARNVOL = earnings volatility is the variance of the most recent of the last eight quarterly earnings (including quarter t) for earnings scaled by total asset; PRICEVOL = price volatility is the standard deviation of absolute daily returns for 60 days after quarterly earnings announcement date (including announcement date t); BIG4 = a dummy variable equal to 1 for BIG4 auditor, otherwise zero ; and AUDITCHA = a dummy variable for auditor change during the sample time period equal to 1, otherwise zero
*** significant at 0.01, ** significant at 0.05, *significant at 0.10.

$$RETURN_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \alpha_3 Size + \alpha_4 EARN + \alpha_5 FINLEV + \alpha_6 INTRODUCTION + \alpha_7 GROWTH + \alpha_8 MATURE + \alpha_9 DECLINE + \alpha_{10} EARNVOL + \alpha_{11} PRICEVOL + \alpha_{12} BIG4 + \alpha_{13} AUDITCHA + \varepsilon_{it}$$

Table 7

The mean differences for value relevance among quarters – H2

Panel A: Mean difference by quarter

Variable	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5
EPS	6.328***	6.963***	7.278***	7.406***
BVP	8.497***	8.487***	8.534***	8.643***

Columns 2, 3, 4 and 5 present the mean difference for individual variables in each quarter. Variable definitions: EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports

Panel B: Mean difference between quarters

Variable	Q1 vs Q2	Q1 vs Q3	Q1 vs Q4	Q2 vs Q3	Q2 vs Q4	Q3 vs Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
EPS	-2.039**	-3.239***	-1.619	-0.158	-0.451	-0.488
BVP	-0.502	2.076**	3.863***	1.552	3.145***	2.596**

Columns 1, 2, 3, 4, 5, 6 and 7 report the mean differences across quarters. Variable definitions: EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports

*** significant at 0.01, ** significant at 0.05, *significant at 0.10.

Table 8

The robustness of the dependent variable – Share Price H1

Variables	SHARE PRICE	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EPS	20.369***	23.137***	24.241***	22.315***	14.521***
	(17.078)	(9.607)	(9.951)	(9.657)	(6.092)
BVP	0.518***	0.558***	0.429***	0.458***	0.594***
	(17.703)	(10.526)	(7.244)	(7.870)	(9.450)
Constant	8.496**	9.436	9.881	6.690	8.199
	(2.337)	(1.341)	(1.426)	(0.962)	(1.030)
Observations	772	193	193	193	193
R-squared	0.690	0.712	0.715	0.717	0.640
Number of Quat	4				
Adj. R-squared	0.688	0.709	0.712	0.714	0.636
Number of Quat	4	1	1	1	1

Column 2 presents the regression analysis with a fixed effect model. Columns 3,4, 5, and 6 report the regression analysis for each quarter with a fixed effect model. Variable definitions: SHAREPRICE = Share price for two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports. *** significant at 0.01, ** significant at 0.05, *significant at 0.10.

$$SHAREPRICE_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \varepsilon_{it}$$

Table 9

The robustness of dependent variable – Share Price H2

Variable	SHARE PRICE	Q1	Q2	Q3	Q4
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EPS	2.596***	2.364*	3.769***	4.620***	0.769
	(4.050)	(1.692)	(2.930)	(3.088)	(0.682)
BVP	0.106***	0.107***	0.094***	0.111***	0.102***
	(7.435)	(3.852)	(3.503)	(3.487)	(3.440)
SIZE	4.912***	6.879***	7.024***	2.977	3.490
	(4.678)	(3.357)	(3.607)	(1.251)	(1.637)
EARN	-0.329	3.323	-5.378	4.503	1.268
	(-0.089)	(0.490)	(-0.756)	(0.548)	(0.161)
FINLEV	1.333	-1.483	-0.943	5.657	-0.671
	(0.491)	(-0.273)	(-0.188)	(0.986)	(-0.116)
INTRODUCTION	-7.573*	-	-2.261	-	-
	(-1.869)		(-0.234)		
GROWTH	-2.335	10.129	0.963	6.242	5.901
	(-0.720)	(1.237)	(0.119)	(0.680)	(0.684)
MATURE	-	4.208	-2.945	10.487	16.650*
		(0.571)	(-0.414)	(1.142)	(1.903)
DECLINE	1.105	2.394	-	14.170	15.710
	(0.280)	(0.256)		(1.402)	(1.471)
EARNVOL	0.319	0.390	-0.175	0.406	0.539
	(1.359)	(0.860)	(-0.387)	(0.746)	(1.189)
PRICEVOL	20.858***	21.547***	20.963***	18.893***	22.051***
	(58.187)	(28.429)	(30.352)	(24.087)	(32.159)
BIG4	11.707***	7.472	8.836	15.155*	14.831*
	(2.852)	(0.924)	(1.157)	(1.655)	(1.799)
AUDITCHA	-1.044	-4.850	-3.072	7.009	-2.597
	(-0.276)	(-0.651)	(-0.439)	(0.833)	(-0.342)
Constant	-59.841***	-76.014***	-67.228***	-71.714***	-58.956***
	(-6.023)	(-3.658)	(-3.669)	(-3.126)	(-2.665)
Observations	766	191	191	191	193
R-squared	0.948	0.952	0.957	0.940	0.950
Number of Quat	4				
Adj. R-squared	0.947	0.949	0.955	0.936	0.947

Column 2 presents the regression analysis with a fixed effect model. Columns 3,4,5, and 6 report the regression analysis for each quarter with a fixed effect model. Variable definitions: SHAREPRICE = Share price for two months (60 days) after quarterly reporting disclosure date; EPS = earnings per share reported in quarterly reports; BVP = book value per share reported in quarterly reports; SIZE = log of total assets at quarter end; EARN = poor financial health is the net income obtained from the income statement at financial quarterly-end, a dummy variable equal to 1 for negative earnings, otherwise zero; FINLEV = financial leverage measured using debt to equity ratio; INTRODUCTION = negative operating cashflow, negative

investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for introduction, otherwise zero; GROWTH = positive operating cashflow, negative investment cashflow, and positive financial cashflow at financial quarter-end, a dummy variable equal to 1 for growth, otherwise zero; MATURE = positive operating cashflow, negative investment cashflow, negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for mature otherwise zero; DECLINE = negative operating cashflow, positive investment cashflow, and positive/negative financial cashflow at financial quarter-end, a dummy variable equal to 1 for decline, otherwise zero; EARNVOL = earnings volatility is the variance of the most recent of the last eight quarterly earnings (including quarter t) for earnings scaled by total asset; PRICEVOL = price volatility is the standard deviation of absolute daily returns for 60 days after quarterly earnings announcement date (including announcement date t); BIG4 = a dummy variable equal to 1 for BIG4 auditor, otherwise zero ; and AUDITCHA = a dummy variable for auditor change during the sample time period equal to 1, otherwise zero
*** significant at 0.01, ** significant at 0.05, *significant at 0.10.

$$SHAREPRICE_{60DAYS} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVP_{it} + \alpha_3 Size + \alpha_4 EARN + \alpha_5 FINLEV + \alpha_6 INTRODUCTION + \alpha_7 GROWTH + \alpha_8 MATURE + \alpha_9 DECLINE + \alpha_{10} EARNVOL + \alpha_{11} PRICEVOL + +\alpha_{12} BIG4 + \alpha_{13} AUDITCHA + \varepsilon_{it}$$