

Incremental Content of Accounting Information when Local Options of IFRS are Applied: Empirical Evidence from an Emerging Economy

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Abstract: - This study aims to assess the incremental useful information provided by accounting data when Thai listed companies were temporarily exempted from certain TFRS standards due to the COVID-19 pandemic. The analysis covers 2,504 observations of the companies listed on the Stock Exchange Thailand from 2018 to 2021, spanning two years before and after the pandemic. The study uses market-based performance including Tobin's Q, book value per share, market value per share, and price per book as proxies to gauge the information value. Descriptive statistics and multiple regression are used to analyze the data, and the study employs IQR and Boxcox techniques to validate the data. The overall results suggest that accounting information provides incremental value on market-based performance both pre and post-the-temporary exemption from TFRS. Earnings per share emerged as the most significant factor influencing market-based performance, followed by cash flows of investing activities, both before and after the relief. Market value per share was perceived by investors as the most crucial measure of incremental information from accounting data, followed by book value per share. Companies that paid dividends showed a significant relationship with all firm values post the relief period. Finally, fair value accounting is one of the vital topics being scrutinized when there are signs of economic turmoil. These findings are particularly beneficial for stock markets in emerging economies.

Key-Words: - accounting standards, value relevance, EPS, cash flow, COVID-19, SET, Thailand.

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1 Introduction

The recent COVID-19 pandemic is considered one of the world's most serious economic downturns in history. The pandemic hugely affected businesses' financial performance and prospects for surviving well into the future. Government lockdowns and widespread shutdowns of economic activities led to massive changes in financial reporting and the accuracy of financial records still had to be accurate. A local accounting standard board often issued guidance on how to address COVID-19-related issues in financial statements, including disclosure requirements related to risks, uncertainties, and the impact on financial position and operational results. Like other central banks, the Bank of Thailand

(BOT) announced the measures designed to cope with specific problems arising during the development phases of the pandemic in Thailand. The measures included loan payment holidays and reducing the contribution rate to the Financial Institutions Development Fund (FIDF) which supported financial institutions to help debtors and maintain sufficient liquidity for retail debtors. These helped to maintain the stability of the Thai finance industry. Also, the BOT with the cooperation of the Thailand Federation of Accounting Professions (TFAC) supported commercial activities by allowing commercial banks to set aside possible loan losses for their clients who faced financial difficulties, [1], [2], [3]. As a result, the banks' operations results

were not severely affected by the COVID-19 pandemic. Like other countries, TFAC announced “Thailand’s COVID-19 relief measures for accounting treatments. The measures impacted on listed companies’ financial statements, mainly postponing the consideration of the impairment of assets, especially property, plant and equipment, and investments for two years (2020-2021), [2] . These two temporary relief measures introduce an opportunity to research an important issue during the COVID-19 pandemic; the measures of the BOT and TFAC result in local options for accounting practices in Thailand. These relief measures or local options in applying IFRS lead to the question of whether accounting information still provides informative value.

In addition, previous studies have been carried out on the issue of global standardization accounting principles. On the one hand, the international financial market prefers a global cooperative approach. Alternatively, domestic accounting standard setters call for local options in applying IFRS, [4] . However, empirical research in this area is limited to emerging economies. Furthermore, as Thailand had already experienced a regional financial crisis in 1997-98, severe financial difficulty took some time to restore the Thai economy. One of the IMF’s requirements was to improve the country’s accounting standards, especially asset impairment. This is because asset impairment played a crucial role in reflecting the true financial condition of banks and financial institutions, which were significantly impacted by non-performing loans and deteriorating asset quality. The IMF, along with other international financial institutions, emphasized the importance of accurately assessing and provisioning for impaired assets to restore confidence in the finance system. However, after implementing the asset impairment rules, the Thai economy was still in danger. This is mainly because the banking sector was weak. Impaired assets, particularly non-performing loans (NPLs), weaken the balance sheets of banks and financial institutions. Consequently, listed companies and commercial banks devalued their assets significantly. Later, those assets were purchased back at unreasonable prices by special vehicle entities. The question is whether asset devaluation is the proper way to solve economic turmoil, or if this aggravates the economy. This also leads to the question that when countries are experiencing economic turmoil, local accounting standard setters should consider

local options in applying IFRS or if the full adoption of IFRS is still required.

One of the IMF’s requirements was to improve the country’s accounting standards, especially asset impairment. This is because asset impairment played a crucial role in reflecting the true financial condition of banks and financial institutions, which were significantly impacted by non-performing loans and deteriorating asset quality. The IMF, along with other international financial institutions, emphasized the importance of accurately assessing and provisioning for impaired assets to restore confidence in the finance system. However, after implementing the asset impairment rules, the Thai economy was still in danger. This is mainly because the banking sector was weak. Impaired assets, particularly non-performing loans (NPLs), weaken the balance sheets of banks and financial institutions. Consequently, listed companies and commercial banks devalued their assets significantly. Later, those assets were purchased back at unreasonable prices by special vehicle entities. The question is whether asset devaluation is the proper way to solve economic turmoil, or if this aggravates the economy. This also leads to the question that when countries are experiencing economic turmoil, local accounting standard setters should consider local options in applying IFRS or if the full adoption of IFRS is still required. The study employs Thai-listed companies as an indicator of what happens in a developing economy. All of these listed companies had applied temporary relief measures or local options in applying IFRS during the COVID-19 pandemic as announced by [2] . The dataset is divided into two periods: before (2018-2019) and after (2020-2021) the relief measures were introduced. The study finds significant contributions. Firstly, the earnings per share significantly relate to all four firm values positively both before and after the temporary relief for additional accounting options. Secondly, the empirical results point out that during economic turmoil, the listed companies are more likely to pay dividends. Thirdly, the D/E ratio negatively relates to Tobin’s Q both before and after the temporary relief for additional accounting options. Fourthly and lastly, the analysis points out that financing cash flows is less likely to reflect firm value both before and after the temporary relief for additional accounting options.

The remaining part of this study is divided into the following sections. In Section 2, a review and explanation of the significant terms is explained. In Section 3, accounting regulations and practices in Thailand are described as the background to the analysis, followed by Section 4 which describes the temporary relief of TFRS during the pandemic. Sections 5 and 6 briefly explain the independent variables and dependent variables, respectively. Section 7 explains the research methodology employed in this study. The descriptive statistics, correlation analysis, and regression results are noted in Section 8. Section 9 provides discussions and implications. Finally, the conclusions are delivered in Section 10.

2 Research Paradigm and Literature Review

2.1 Economic Value of Accounting Information

To recognize why accounting information furnished incremental value to society, accounting history should be stated here. [5], [6], stated that as far as the 11th century AD, early accounting information was mainly about charge and discharge functions. Accounting information was considered as paying dividend-related information. Later, accounting data was adjusted to an accrual basis and became an income measurement function, [7], [8]. By the 12th century, a fundamental period of accounting was marked by the increasing standardization of financial activities, which made it possible to offer a more widely accepted accounting framework, [9], [10], [11], [12], [13]. Later, the accounting framework was changed continuously, [14], [15].

Later, the question arose as to what measures should be employed to value accounting information. [16], stated that the term “information economics” should be used for this purpose. This was because accounting information was a communication approach to state what had already happened, but it can be used to forecast expected future financial events. Accounting information was modeled under the idea of resource allocation and as economic information that focuses on an analysis of resource allocation rather than a prescription. The economic function contributed to decision-making, and the information would also motivate which actions to

choose. [17], conducted further investigation into accounting information was useful in information economics. They endeavored to examine the relationship between accounting earnings, stock price fluctuations, and trading volume before and at the time of accounting earnings release. Their study discovered that share prices changed significantly and statistically at the time of the accounting earnings release. This means that accounting information offered clues as to what decisions had to be made, [17]. In the late 20th century, the development of accounting information was mainly considered information economics because accounting information is not only for decision-making but also for practical strategies for future organizational business requirements. Figure 1 summarizes the historical development of accounting information.

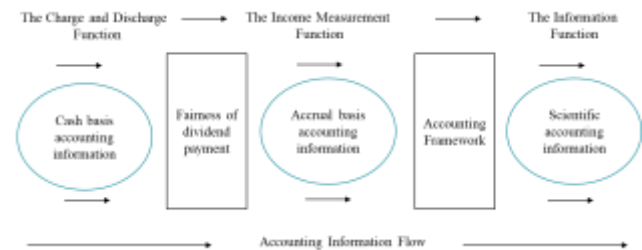


Fig. 1: Functions of accounting data, [18]

Previous research has been conducted to observe the value relevance of accounting information. It assesses whether financial reporting, including items on the financial position (balance sheet) and income statement, provides useful information to investors in making decisions about buying, holding, or selling a company's shares. Researchers have extensively examined value relevance to understand how accounting data impacts investors' perceptions and, consequently, stock prices. Early studies on value relevance were primarily driven by observing the correlation between accounting earnings and stock prices. [19], investigated this relationship revealing a substantial positive association between earnings and stock price establishing the foundation for further research in this area. Later, numerous studies continued to explore the correlation between accounting earnings and stock prices in various scenarios. Research has generally found there is a positive association suggesting that earnings have value relevance. Later, other accounting information such as the book value of equity became another

critical component of accounting information. Researchers have expanded their focus beyond traditional financial data to explore the value relevance of accounting information in events and situations such as sustainability and financial distress.

Numerous scholars have conducted studies on the value relevance of accounting information and its relationship with firm value and firm performance. [20], summarize that the studies of value relevance of accounting information literature are classified as: (i) informative value of earnings and book values, (ii) other accounting information informative value, and (iii) informative value of accounting information in situations such as financial distress or trying to achieve sustainability. Notable studies include [21] who stated that accounting accruals motivated the increase in short-term performance. The greater the working capital and financing activity investment, the longer operation cycles lasted. [22], found that dividends reduced current book value but did not impact present earnings. [23], explores the value relevance of financial reporting in the venture capital investment context. The study found that financial reporting had high informative value in venture capital markets and indicated the association signals between equity values and financial statement data. [24], examined the role of accounting information that triggered the 2008 United States financial crisis that then became a global one. They found that accounting information may not be an indicator of financial crisis. The disaster was due to the wrong incentives regarding compensations and fair value accounting standards.

[25], revealed that earnings and book value of equity had a positive and significant relationship with stock price. Earnings explained the higher deviation in stock values compared to the book value of equity. [26], found that the book value of equity has the highest impact on increasing firm value, including accounting earnings and operating income. In addition, operating cash flow hurt corporate value. [27], investigated the relationship between accounting information and market valuation data of publicly listed nonfinancial firms in Asia for the years 2000 to 2016. The study found inconsistencies in the accounting informative value of Asian firms during the global financial crisis (GFC). [28], discovered that accounting earnings provided more informative value than cash flows. The study also found earnings changes negatively related to stock returns. [29], employed multiple proxies of

accounting information. The study reported that accounting information positively impacted the market value per share. In addition, the study documented that book value provides the most value relevance of all the other accounting data including earnings, dividends, and operating cash flows. [30], observed COVID-19 pandemic effects on the quality of financial statements. The results demonstrated that the quality of financial statements differed from those in the pre-pandemic period. Lower earnings conservatism was evident during the pandemic period compared to the pre-pandemic period, resulting in a reduction in the informative value of the book value of equity.

In summary, the existing literature on accounting value relevance is extensive and continually evolving. It reflects the ongoing efforts of researchers to understand how accounting information impacts financial markets and investors' decision-making. While there is a general consensus that accounting data, particularly earnings and book value, provides value-relevant, ongoing changes in the business environment and advances in research methods continue to shape this field. Researchers are also exploring new areas.

2.2 Accounting Regulations and Practices in Thailand

It is mandatory for Thai limited companies, both public and private, to prepare financial statements. The Thai accounting standards are classified into two versions: Publicly Accountable Entities (PAEs) and Non-Publicly Accountable Entities (NPAEs). Under the Accounting Professions Act B.E. 2547 (2004), listed companies are required to prepare financial reports using PAEs, the so-called Thai Financial Reporting Standards (TFRS), while SMEs (small and medium-sized businesses) can select either PAE or NPAE. Listed companies are required to be public companies and must use PAE, and their financial reports are required to be audited by a certified public auditor, approved by the Securities and Exchange Commission (SEC). Meanwhile, SMEs can be audited by either a general certified public auditor or an approved certified public auditor.

TFAC has the authority to develop and issue Thai accounting standards with the approval of the Accounting Professions Regulatory Commission, Ministry of Commerce. The standards are published in the Royal Gazette. TFRS are International Financial Reporting Standards (IFRS) translated into

Thai with a one-year delay from the equivalent IFRS Standard's effective date, [31] . In addition, the regulators who are monitoring the accounting practices in Thailand include the SEC, BOT, and the Office of Insurance Commission (OIC). They are also the agencies that regulate the Thai capital market.

2.3 Temporary Relief of TFRS during the COVID-19 Pandemic

TFAC with the approval of the Accounting Professions Regulatory Commission on 16 April 2020 announced the regulations titled "Temporary relief for additional accounting options in supporting the outcomes affected by the outbreak situation of COVID-19 pandemic", [2]. This set out to reduce the impact of compliance-related matters with Financial Reporting Standards No. 9, Financial Instruments, Financial Reporting Standards No. 13, Fair Value Measurement, Financial Reporting Standards No. 16, Leases, Financial Reporting Standards No. 12, Income Taxes, Financial Reporting Standards No. 36, Impairment of Assets, Financial Reporting Standard No. 37, Provisions for Contingent Liabilities and Contingent assets and accounting practices regarding financial instruments and disclosure of information for insurance business. The most important points are as follows:

1. If an entity chooses to use a simpler method to measure expected credit losses, it can choose not to use forward-looking information. An entity can use historical credit loss data or other methods that provide similar results, along with management's judgment in estimating expected losses from available and freely available information that costs much and much effort in setting up reserves.
2. Entities can choose to measure non-marketable equity investments at fair value as of January 1, 2020 (the first year of the COVID-19 pandemic).
3. For specific financial assets that are debt instruments according to the definition of debt instruments specified in Accounting Standard No. 32, Financial Instruments. During the COVID-19 situation, in measuring fair value information, businesses can consider giving low priority to information during the COVID-19 pandemic about the fair value technique.

4. For fair value measurement of non-financial assets such as PPE and property investments, businesses can choose not to use information related to the COVID-19 pandemic that may distress future financial predictions for use in related fair value measurement techniques.
5. Businesses can choose not to use information related to the COVID-19 pandemic that may impact the estimation of future tax profits that will occur.
6. Businesses can choose not to count the COVID-19 pandemic as a cause of asset impairment by Accounting Standard No. 36, Impairment of Assets.
7. In testing for goodwill impairment of intangible assets with an indefinite useful life or intangible assets that are not yet available for use on an annual basis which the business may operate at any time of the year, businesses can choose not to use information from the COVID-19 pandemic that may affect future financial predictions.

In addition to the above temporary relief measures, businesses can choose not to consider the COVID-19 pandemic as causing their current problems. Companies are required to disclose information about the exercise of such alternatives, giving the facts and circumstances in which the entity complies with this accounting guidance in the notes to reporting of relevant financial standards. This accounting guideline is a temporary relief measure for additional accounting options in financial reporting preparations affected by the COVID-19 pandemic with reporting periods ending in the period between January 1, 2020, and 31 December 2020 with the extension lasting till 31 December 2021.

2.4 Dependent Variables: Firm Value

This study intends to explore the informative value of various firm value measurements. These include Tobin's Q, book value per share, market value per share, and price to book value. Brief explanations of the independent variables are as follows:

Tobin's Q provides the firm value of common shares to the replacement cost associated with assets. The Q ratio has extensive macroeconomic significance and usefulness in financial markets, [32].

Book value per share represents shareholders' equity value over the number of outstanding common

shares. The book value per share provides information on the book value of the firm, [33].

Market value per share is determined by the collective actions and perceptions of investors and traders in the stock market. It represents the current stock price of a common share, [34], [35].

Price to book value is a market price per share divided by its book value per share. This serves to evaluate the correlation between the market value and its accounting value, [36], [37].

2.5 Independent Variables

This section explains why this study employs these independent variables and previous studies have been using them to investigate the informative value of these variables on firm value. The study used well-known financial ratios to represent companies' financial positions and operating results, [38], [39], [40]. The independent variables are as follows: cash dividend paid, current assets to current liabilities, debt to equity ratio, retained earnings to total assets, earnings per share, cash flow from operation to total assets, cash flow from investing activities to total assets, and cash flow from financing activities to total assets. Each dependent variable is explained in more detail below:

A cash dividend paid (CDP) is a cash payment made by a company out of its earnings to investors instead of the company using the money for operations. Companies that consistently pay dividends may attract a broader range of investors. Investors prefer to invest in dividend-paying stocks because they offer a predictable income stream in addition to the potential for capital appreciation. Also, paying cash dividends can offer a hint to investors that a company is healthy enough to generate profits distributed to shareholders.

Previous studies have researched incremental value of dividend payout on firm value and continuously introduced new theories, and models that resulted in updated empirical studies. It is important to consult the latest academic literature to gain a comprehensive understanding of the subject. [41], found that a dividend payment had a positive and significant relationship with firm value. [42], found that dividend payout, profitability, and corporate sizes positively and significantly influenced corporate value but leverage hurt corporate value. [43], found dividend payment negatively affected firm value measured by accounting-based performance. Firms offering small

dividends positively impacted accounting-based performance but exerted a negative influence on market expectations. [44], found continuous cash dividends positively influenced firm value. As well, enterprise value increased when companies paid continuous cash dividends rather than companies that discontinued paying dividends. [45], found that dividend policy is positively and significantly associated with firm value. In addition, the association strengthened following IFRS adoption, indicating that accounting information prepared under IFRS increased value relevance. [46], found that the COVID-19 crisis caused financial difficulty and resulted in very poor or no dividend payments.

Liquidity ratios (current ratio and quick ratio) measure a company's ability to meet its current assets with its liabilities. The ratio shows immediate financial needs without disrupting its operations or facing financial distress. The association between liquidity ratios and firm value can be understood in several key points. Numerous scholarly studies have investigated the association between liquidity ratios and firm value. These studies have utilized various methodologies and data from different industries and geographical regions. For example, [47], found that the acid test ratio and current ratio significantly affected firm value. In addition, the current ratio had a positive relationship with firm value, while the acid test ratio had a negative relationship with firm value. [48], noted that liquidity was insignificantly related to firm value. As well, the dividend policy did not significantly moderate the effect of liquidity.

[49], found that liquidity had a significant and negative relationship with ROE. [50], found liquidity affected the capital structure, but not firm value. However, when mediated by capital structure, liquidity is significantly related to firm value. [51], found that profitability and firm size significantly influenced capital structure, while the latter mediated the effect of firm size on firm value. However, liquidity did not play a mediating role for any financial indicators on firm value. [52], reported that liquidity significantly and negatively affected firm value, while profitability significantly and positively affected firm value. Furthermore, the dividend policy does not mediate the relationship between liquidity and firm value. According to [53], both illiquidity factors significantly and negatively affected firm performance. [54], found that liquidity enhanced and strengthened sustainability expenses. Furthermore, greater leverage with less liquidity negatively

affected the level of spending on sustainability. [55], stated that liquidity hurt capital structure, and it cannot mediate the association between liquidity and firm value.

Retained earnings to total assets (RETA) can be a symbol of financial sustainability and strength because it indicates that companies have accumulated profits over time, and they have not overly diluted their equity with dividends or engaged in excessive expenditure. The ratio can also help assess financial leverage. If the ratio is high, it may indicate companies have relied on internally generated funds (retained earnings) to finance a significant portion of their assets, rather than taking on additional debt or issuing more equity. A lower ratio, on the other hand, may suggest that companies have dispersed a significant portion of their profits as dividends or have invested heavily in assets to support growth. This could indicate a poorer capacity for financial flexibility.

The correlation between retained earnings to total assets and firm value has been the subject of extensive research in finance and economics. Numerous scholars have conducted studies exploring this relationship from various perspectives. The following are a few notable contributions to this field. [56], found an insignificant association among retained earnings, cash dividend per share, and capital gain yield. [57], found that retained earnings, dividend payout, and net total assets per share had a positive and significant influence on stock prices. Furthermore, dividend payout revealed a strong association with stock price when compared to retained earnings. Retained earnings, dividend payout, and net total assets per share are positively and significantly related to firm value. [58], found retained earnings, earnings per share and dividend pay-out are positively and significantly associated with firm value. [59], believed that retained earnings per share indicated a negative significant effect on the market value of common stocks. [60], found that corporate governance index, retained earnings per share, and earnings per share positively and significantly related to the market to book value.

Equity debt (D/E) helps assess the financial risks of companies. A high D/E ratio shows that sources of funds come from debt. Investors and creditors use it to gauge the possibility of financial distress or defaulting on its debt obligations. Companies can use the ratio to evaluate and optimize their capital structure. Modifying the D/E ratio offers

a company the potential to reduce its capital costs, thereby enhancing its profitability. Striking a balance between debt and equity can also assist a company in establishing a stable financial framework conducive to its expansion and ongoing activities. Lenders and bondholders utilize the D/E to evaluate creditworthiness when contemplating loans or investments in corporate bonds.

Extensive research has examined the connection between the D/E ratio and firm value. Scholars have conducted numerous studies investigating this relationship from different angles. For instance, [61], identified a noteworthy correlation between leverage, liquidity, size (total assets), and firm value. [62], found a U-shaped correlation between debt and Tobin's Q mediated by the per capita income of the country. [63], discovered that capital-related decisions are negatively associated with corporate performance. [64], found that a higher D/E ratio produced a higher net present value for firms. [65], noted that capital structure affected the competitiveness of enterprises in a reverse U-shape. At the same time, the debt ratio affected the competitiveness of enterprises in the form of a U-shaped and reverse U-shaped function in various industries. [66], found borrowings in both the long-term and short-term had significant and negative impacts on market value. Further, the study found that firm size significantly moderated the correlation between debt financing and firm value.

[67], documented that the best possible capital structure selection reflected an appropriate proportion of debt and equity enhancing a firm's value. [68], found that the D/E ratio and firm size both had a substantially negative impact on business performance; however, liquidity and tangible assets had a substantially positive impact on company performance. [69], revealed that the impact of capital structure on performance was inconclusive according to the evidence. [70], found that firm value was affected not only by the D/E ratio and firm size but also by the mediating effect of ROA. [71], reported that the D/E ratio demonstrated a positive influence on ROE, ROA, and Tobin's Q, with Tobin's Q displaying the most marked impact. In the work by [72] capital structure was negatively related to firm performance.

Earnings per share (EPS) evaluates the profitability of companies. It represents a company's earnings allocated to each outstanding common share. Companies with higher EPS generally indicate

better operating results which is attractive to investors. Investors use EPS to compare the earnings performance of different companies and assess which ones are generating higher profits relative to their outstanding shares. Investors often use EPS as a basis for evaluating the attractiveness of a stock. Increasing EPS over several periods is a positive indication, meaning that companies are becoming more profitable or expanding their operations.

The correlation between EPS and firm value is interesting in financial research. Many scholars have studied this relationship from various perspectives, considering factors like profitability, market sentiment, and financial performance. [73], detected a significant positive relationship existed between EPS and last-day share price. [74], found that EPS was a fundamental aspect of company strategy aiming at internal and external factors to increase firm value. [75], found a negative relationship between net profit and stock price, but a positive association between EPS and share price. [76], affirmed there was a positive relationship between EPS and market price, but on the other hand EPS did not insignificantly influence the price-to-earnings ratio. [77], revealed that earnings surprise and its interaction with book value per share had a negative but insignificant impact on share prices. [78], revealed that earnings and book value of equity positively and significantly affected stock prices. In addition, earnings explained the higher variation in security values compared to the book value of equity.

Cash flow from operation activities to total assets (CFOTA) helps assess how efficiently companies generate cash from their core operation activities when compared to total assets. A strong operating cash flow to total assets ratio indicates that the company can generate sufficient cash flow to cover its operational needs, and potentially invest in growth opportunities without relying too much on outside financing or sales of assets.

The association between operations cash flows (CFO) and firm value has been a subject of interest for scholars and researchers in finance and accounting. [79], revealed that operating and financing cash flows are significantly and positively related to firm performance. [80], found that cash flows for operations positively correlated with future profitability. In addition, cash flows from investments can classify the most profitable companies in the medium-long term, while cash flows from operations reflect corporate profitability

in the short term. [81], found a strong relationship between operating cash flows and earnings per share. [82], found that the joint earnings and cash flow were significantly and positively related to firm value. [83], discovered that cash flow growth was positively associated with stock returns. In addition, operating activities explained more than investment activities of stock return. [84], revealed that companies with cash holding levels negatively affected the firm value, while firms with a smaller cash holding level have a higher value. [85], found that the operating and financing cash flows were negatively related to financial distress. However, investigating cash flows positively relates to financial distress. [86], contended that earnings and cash flows had firm value relevance. [87], suggested that performance improvement levers using cash flow measurement were more pronounced in low-leverage firms.

Cash flow from investing activities to total assets (CFITA) helps assess how efficiently a company allocates capital for investments in assets such as property, plant, equipment, and acquisitions. A higher ratio implies that the company is successfully using its assets to create cash flows. This ratio also indicates a company's investment strategy. It can reveal whether the company is making prudent investments that contribute positively to cash flow or if it is engaging in excessive, unproductive, or high-risk investments, especially if the investments do not yield the expected returns.

The association between investing cash flows and firm value is a vital subject of financial analysis and valuation. Scholars have explored various aspects of investing cash flows within the broader context of firm value and financial performance. [88], found that the investing cash flows of high-growth firms significantly explained unexpected stock returns, whereas the investing cash flows of low-growth firms were considered over investments. [83], noted that cash flow growth was positively associated with stock returns. Furthermore, operating activities explained the investment activities of the firm. [89], found that investing cash flows added value to both firm value and performance. However, investing cash flows did not serve as effective and clear indicators of the correlation between firm value and firm performance. [90], found that the higher the investing cash flows, the higher the stock return. However, the positive change in the financing cash flow tended to reduce this return. Nonetheless, this return was not affected by operating cash flows.

Cash flow from financing activities to total assets (CFFTA) helps assess a company's capital structure and how it funds its operations and growth. It indicates that the company relies on external financing (e.g., debt and equity issuance) to support its asset base and to gauge a company's financial risk.

The correlation between cash flows from financial activities and firm value has also been explored in academic literature, although it may not be as extensively studied as much as other aspects of cash flows. Researchers and scholars have investigated how cash flows from financial activities, such as debt issuance, equity financing, and dividend payments, can affect a firm's value. [91], indicated that financing cash flows significantly and negatively affected ROA and ROE. [92], found that firms with higher capital budgeting enhanced their firm value, resulting in financing cash inflows and outflows to investing activities. [93], revealed that the operating cash flow had a statistically significant positive effect on profitability. In addition, financing cash flows were negatively but significantly related to corporate profitability.

In summary, this study has explained both theoretical concepts and how previous studies used independent variables. The next section explains the research methodology.

3 Research Methodology

3.1 Dataset and Statistical Analysis

The population includes all listed companies on the SET during 2018 – 2021 and in total the number of listed companies is 626, 2,504 observations. This study is based on a quantitative methodology using archival data collected from the SETSMART database (Stock Exchange of Thailand Market Analysis and Reporting Tool). Table 1 summarizes the total population of this study.

Table 1. Dataset

Population	3,408
Irrelevant samples (Finance and securities, banking, and insurance)	156
Initial samples	3,252
Excluding	
Missing financial data	284
Outlier data	464
Final samples (firm years)	2,504
Final samples (firms)	626

Descriptive statistics are employed to summarize the variables and to provide a general overview of the data and the nature of the basic statistical distribution. After data collection is completed, the study uses the spread of the middle half of the data which is called the interquartile range (IQR). This is to assess the variability where most of values lie to identify outliers, and to test whether data are normally distributed, [94], [95]. Also, Box-Cox transformation is typically applied to non-normal data or data with heteroscedasticity (unequal variances) to make it more suitable for various statistical techniques and assumptions that require normally distributed and homoscedastic data, [96], [97], [98].

3.2 Regression Model and Definitions of Variables

Table 2 (Appendix) provides detailed information about the variables used in the study, including how each variable is measured and references to previous studies that have used these variables. The table is divided into two sections: dependent variables and independent variables.

For the dependent variables, Tobin's Q (TQ) is measured as the sum of the equity market value and liabilities market value, divided by the sum of the equity book value and liabilities book value. This measurement is based on the method used in a previous study, referenced as [32]. The book value per share (BVPS) is calculated by subtracting preferred stock from stockholder's equity and dividing the result by the total number of shares outstanding, as indicated in reference [33]. The market value per share (MVPS) is obtained by dividing the total market value by the total number of shares outstanding, with the methodology supported by references [34] and [35]. The price per book value (PB) is determined by dividing the market capitalization by the book value of equity, as referenced in studies [36] and [37].

In terms of independent variables, cash dividend payment (CDP) is a binary variable where a value of 1 indicates that the company pays a cash dividend, and a value of 0 otherwise, as seen in references [43], [44] and [45]. The liquidity ratio (CACL) is calculated by dividing current assets by current liabilities, following the approach in references [53],

[54] and [55]. The financial policy variable (DE) is represented by the ratio of total liabilities to total equity, with supporting references [70], [71] and [72]. Retained earnings (RETA) are measured as the ratio of retained earnings to total assets, based on studies [58], [59] and [60]. Earnings per share (EPS) are calculated by dividing net income available to common stockholders by the number of shares outstanding, as shown in references [76], [77] and [78]. Cash flows from operations (CFOTA) are measured by dividing cash flow from operations by total assets, supported by references [85], [86] and [87]. Cash flows from investing (CFITA) are determined by dividing cash flow from investing by total assets, as indicated in references [83], [89] and [90]. Finally, cash flows from financing (CFFTA) are measured by dividing cash flow from financing by total assets, as described in references [91], [92] and [93].

3.3 Model Specifications

The model specifications for the study are designed to meet the study's objectives by setting out the following model:

$$\begin{array}{l}
 \text{Model 1 } TQ_i \\
 \text{Model 2 } BVPS_i \\
 \text{Model 3 } MVPS_i \\
 \text{Model 4 } PB_i
 \end{array}
 \left. \vphantom{\begin{array}{l} TQ_i \\ BVPS_i \\ MVPS_i \\ PB_i \end{array}} \right\} = \beta_0 + \beta_1 CDP + \beta_2 CACL + \beta_3 DE + \beta_4 RETA + \beta_5 EPS + \beta_6 CFOTA + \beta_7 ICFITA + \beta_8 CFFTA + \varepsilon$$

In this model, TQ_i represents Tobin's Q for company i . The term β_0 is the intercept, and β_1 through β_8 are the coefficients for the independent variables. The error term is denoted by ε . This model aims to analyze the relationship between Tobin's Q and various independent variables, including cash dividend payment, liquidity ratio, financial policy, retained earnings, earnings per share, and different types of cash flows.

4 Outcomes

4.1 Descriptive Analysis

Table 3 (Appendix) presents the descriptive statistics: mean, standard deviation (SD), minimum, and maximum. The table also includes skewness and kurtosis of all variables. For the dependent variables, the mean of Q (TQ) is 1.07 (SD = 1.78), ranging

from 0.02 – 59.54. In addition, the range of book value per share (BVPS) ranges from -58.98 to 521.56, with a mean of 12.12 and SD equals 36.5. With a mean value of 17.4 and an SD of 47.28, the market value per share (MVPS) ranges from 0.01 to 486. The mean price to book value (PB) is 2.58 and the standard deviation is 24.7, ranging from -11.64 to 1,206.90. For the independent variables, the mean of current assets to current liabilities (CACL) is 2.27 (SD = 2.13), ranging from 0.07 – 14.85. Moreover, the range of debt to equity (DE) lies between -31.17 and 29.52, with a mean of 1.18 and an SD equal to 2.16. With an average value of 0.53 and an SD of 13.93, the retained earnings to total assets (RETA) runs from -445.28 to 426.09. The average earnings per share (EPS) is 0.76 and an SD of 3.91, ranging from -64.68 to 50.42. In addition, the range of cash flows from operations to total assets (CFOTA) is between -1.57 and 2.74, with a mean of 0.06 and an SD of 0.13. With an average value of 0.02 and an SD of 0.06, the cash flow from investing to total assets (CFITA) runs from -0.13 to 0.18. Lastly, with an average value of -0.01 and an SD of 0.08, the cash flows from financing to total assets (CFFTA) run from -0.21 to 0.15.

The Skewness and Kurtosis are shown in Table 3 (Appendix). It is noted that the raw data indicates outlier concerns. However, after taking IQA and Boxcox, the value is not above 3, [99]. Therefore, no outlier will affect the analysis.

4.2 Data Validity and Reliability

The data sources for this study comprised companies' financial data stored in the SET database. SETSMART is a reliable source of information that meets the accuracy requirements for companies listed on the SET. Therefore, the study had content validity. After data collection is completed the regression assumption tests are executed. First of all, the study uses the IQR to assess the variability where most of the values lie and to identify outliers, and test whether the data are normally distributed, [94]. Also, Box-Cox transformation is typically applied to non-normal data or data with heteroscedasticity (unequal variances) to make it more suitable for various statistical techniques and assumptions that require normally distributed and homoscedastic data, [96]. To overcome the problem of multicollinearity, it is essential to ensure that no correlation between the independent variables exists. This can be checked by analyzing the statistical values of the variance

inflation factor (VIF). Indicated here is the absence of multicollinearity issues of all independent variables having tolerance values above 0.5 or VIF values below 10, [100]. Moreover, the direct terms were transformed into mean-centered to avoid multicollinearity problems. After those techniques were employed, it emerged that the VIF value < 10 and the Pearson correlation among all predictor variables is lower than 0.8, [101] as shown in Table 4 (Appendix). Therefore, all assumptions tests indicate there are no problems in the multivariate regression analysis assumptions.

4.3 Empirical Results

The regression analysis results are divided into three outcomes: two years (2018 – 2019) before allowing the temporary relief for additional accounting options; two years (2020 – 2021) after allowing the temporary relief for additional accounting options; and lastly, the combination of four years is analyzed. Table 5 (Appendix) demonstrates the regression results of the four dependent variables including Tobin's Q (Model 1), book value per share (Model 2), market to book per share (Model 3) and price to book (Model 4) before allowing the temporary relief for additional accounting options.

Model 1 reveals that current assets to current liabilities (CACL), D/E ratio, earnings per share (EPS) relate to Tobin's Q at the significance level of .01, while retained earnings to total assets (RETA), operating cash flows, and investing cash flows relate to Tobin's Q at the significant level of .05. The adjusted R^2 equals 24.30%. Model 2 reveals that earnings per share (EPS), which relates to book value per share at the significance level of .01. The adjusted R^2 equals 32.90%. Model 3 reveals that current assets to current liabilities (CACL), retained earnings to total assets (RETA), earnings per share (EPS), cash flows from investing activities relate to market value per share at the significance level of .01, while cash dividend payout ratio and cash flows from operation activities relate to Tobin's Q at the significance level of .05. The adjusted R^2 equals 55.30%. Model 4 reveals that current assets to current liabilities (CACL), earnings per share (EPS) and operating cash flows relate to price to book at the significance level of .01, while cash flows from investing activities relate to price to book at the significance level of .05. The adjusted R^2 equals 14.50%.

Table 6 (Appendix) summarizes the regression results of the four dependent variables including Tobin's Q (Model 1), book value per share (Model 2), per share (Model 3), and price to book (Model 4) after allowing the temporary relief for additional accounting options. Model 1 reveals that the model shows a goodness of fit as indicated by the coefficient of determination adjusted R^2 with a value of 45.20%. Debt to equity (DE) and retained earnings to total assets (RETA) negatively relate to Tobin's Q, $\beta = -0.394$ ($p < .01$), -0.119 ($p < .01$), respectively. However, cash dividend payout ratio (CDP), earnings per share (EPS) and cash flows from investing activities (CFI) positively related to Tobin's Q, $\beta = 0.290$ ($p < .01$), 0.046 ($p < .01$), 1.513 ($p < .1$), respectively.

Model 2 reveals that the model shows a goodness of fit as indicated by the coefficient of determination adjusted R^2 with a value of 42.80%. Current assets to current liabilities (CACL), debt to equity (DE), cash flows from financing activities (CFO) negative relate to book value per share, $\beta = -0.103$ ($p < .05$), -0.110 ($p < .05$), -1.419 ($p < .05$), respectively. However, cash dividend payout ratio (CDP), retained earnings to total assets (RETA) and earnings per share (EPS) relate to book value per share, $\beta = 0.213$ ($p < .05$), 0.111 ($p < .01$), 0.269 ($p < .01$), respectively.

Model 3 reveals that the model shows a goodness of fit as indicated by the coefficient of determination adjusted R^2 with a value of 50.50%. Debt to equity (DE) negatively relates to market value per share, $\beta = -0.092$ ($p < .1$). However, cash dividend payout ratio (CDP), earnings per share (EPS), and cash flows from investing activities (CFI) positive relate to market value per share, $\beta = 0.324$ ($p < .01$), 0.347 ($p < .01$), 2.092 ($p < .01$), respectively.

Model 4 reveals that the model shows a goodness of fit as indicated by the coefficient of determination adjusted R^2 with a value of 12.80%. Retained earnings to total assets (RETA) and cash flows from financing activities negatively relate to price to book, $\beta = -0.144$ ($p < .01$), -1.431 ($p < .05$), respectively. However, cash dividend payout ratio (CDP), earnings per share (EPS) and cash flows from investing activities (CFI) positively relate to price to book, $\beta = 0.248$ ($p < .01$), 0.060 ($p < .01$), 1.788 ($p < .05$), respectively.

5 Discussion

The objective of this study is to explore the value relevance of accounting information on market-based performance. To undertake a thorough check of the informative value, this study employs 4 firm value proxies for the dependent variables, these being Tobin's Q, market value per share, book value per share, and price to book value. In addition, the well-known dependent variables are used for the analysis. The significant findings are summarized in Table 7 (Appendix).

Firstly, the earnings per share significantly relate to all four firm values positively both before and after the temporary relief for additional accounting options. This outcome agrees with previous studies, [76], [78]. A similar result showing cash flows from investing activities significantly relate to firm values positively, except book value per share both before and after the temporary relief for additional accounting options. It agrees with previous studies [89], [90] and it means that with or without temporary relief for additional accounting options, earnings per share have been considered as one of the good indicators of firm value.

Secondly, the empirical results confirm that during Thailand's economic turmoil, the listed companies are more likely to pay dividends, [41], [44]. This is because companies will pay them to reassure investors that the company remains stable and financially sound, which can help maintain or even increase the company's stock price. Furthermore, dividends can attract investors seeking extra income, especially during uncertain economic times when other investments may be less attractive or riskier. In addition, not paying dividends during times of economic turmoil could send a signal to investors that the company is in financial distress, which could lead to further stock price declines and loss of market share.

Third, the D/E ratio negatively relates to Tobin's Q both before and after the temporary relief for additional accounting options, [66], [68]. This means that the increase in the D/E ratio is more likely to decrease firm value both before and after the temporary relief for additional accounting options.

Finally, the results suggest that cash flows from financing activities may not reliably reflect firm value, even when accounting options are temporarily expanded. This discrepancy could stem from market factors like investor attitude or trends, which may not consistently align with the firm value. Consequently,

fluctuations in cash flows from financing activities might occur without corresponding changes in firm value. Moreover, financing cash flows often involve long-term liabilities, common stocks, and treasury stock, which may not accurately reflect the ongoing value of the firm's activities.

6 Theoretical Contributions

This research suggests that accounting information offers valuable insights to users of financial statements. This supports the concept of the economic value of accounting information, [16], [66]. Numerous regulatory bodies mandate entities to prepare and reveal financial statements adhering to accounting standards. Adhering to these rules bolsters the dependability and trustworthiness of the data, thereby amplifying its worth for decision-making. Moreover, these standards necessitate entities to divulge pertinent details in their financial statements, such as contingent liabilities, related party transactions, and key accounting policies, all of which are crucial for decision-making. Additionally, accounting information fosters transparency and accountability within organizations by offering a comprehensive view of financial operations and outcomes, thereby cultivating stakeholder trust.

7 Practical Implications

For regulators like security exchange commissions, central banks, and accounting standard setters, when there is signaling of economic instability, these regulators should carefully consider what are accounting measures to stabilize economic conditions. This study indicates that after the temporary relief of TFRS during the COVID-19 pandemic, severe damage is not considered to have happened. One of the reasons is the overall financial asset value of listed companies, which are deemed fundamental to the Thai economy, so it is a situation of "business as usual". This result indicates the Temporary relief of TFRS during COVID-19, especially asset impairment is considered a proper measurement of a local option of applying full TFRS. Therefore, fair value accounting is one of vital topics being scrutinized when there are signs of economic turmoil. However, as long as the assets can be used in regular businesses, for example properties are still in use, machinery and equipment continuously

produce goods and services on a regular basis, inventories can be sold for local customers, and asset impairment may not be considered necessary, [102], [103], [104], [105].

For investors, even in economic instability, accounting information still aids investors in evaluating a company's financial well-being. Financial ratios and performance metrics still gauge the company's profitability, liquidity, and solvency. This analysis helps them assess the company's investment potential, including its growth prospects, risk profile, and future cash flow potential, crucial for making well-informed investment decisions. Additionally, accounting information enables investors to compare investment options by evaluating the financial performance and position of various companies within the same industry or sector, helping them identify the most appealing investment opportunities. In essence, accounting information serves as a fundamental tool for investors in their decision-making process. This empirical study indicates that earnings per share, cash flows from investing activities, and debt to equity ratios provide incremental information value to investors.

For management teams, financial statements serve as a means of communication with investors and other stakeholders, allowing management to showcase the company's financial health and performance, potentially attracting investment and bolstering market-based performance. Adherence to accounting standards and regulations is mandatory for companies in preparing financial statements, ensuring transparency and accountability. Furthermore, these statements offer crucial insights into the company's financial status and performance, aiding in the formulation of strategic plans and initiatives.

8 Limitations

This study is based on a sample of Thai publicly listed companies. The Thai economy has unique characteristics. More studies on this issue should be conducted in different dataset environments in the future. This will help to generate more knowledge about the informative value of the relevance of accounting information. Several new aspects should be introduced into future analyses, including GDP, stock exchange index, and companies' external environments. Longitudinal data should be seriously

considered when new research is conducted on this topic.

9 Conclusion

This study is mainly motivated by the lack of studies on the lack of value relevance on the Thai capital market as well as the pressure to fully adopt IFRS in this emerging economy. The study aims to examine the extent to which accounting information explains variations in firm value in the Thai capital market during the temporary relief measurement of TFRS during the COVID-19 pandemic. The population includes the listed companies on the SET during 2018-2021 covering two years before and after the COVID-19 pandemic. Overall, the study finds that accounting information provides value relevance even in unstable economic conditions. The empirical finding indicates that accounting information correlates to market-based performance at high levels of significance. In more detail, the earnings per share and cash flow from investing activities significantly relate to market-based performance positively even in unstable economic conditions. In addition, the debt to equity ratio negatively relates to Tobin's Q. Moreover, financing cash flows are less likely to reflect market-based performance. Crucially, fair value accounting is one of the vital topics being scrutinized when there are signs of economic turmoil.

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the authors used ChatGPT in order to have language refinement and get idea generation. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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APPENDIX

Table 2. Variable measurements

Variable	Measurement	Previous studies
Dependent variables		
TQ (Tobin's Q)	$\frac{(\text{Equity Market Value} + \text{Liabilities Market value})}{(\text{Equity Book Value} + \text{Liabilities Book value})}$	[32]
BVPS ([1])	$\frac{\text{Stockholder's Equity} - \text{Preferred Stock}}{\text{Total Share Outstanding}}$	[33]
MVPS (Market value per share)	$\frac{\text{Total Market Value}}{\text{Total Share Outstanding}}$	[34], [35]
PB (Price per book value)	$\frac{\text{Market capitalization}}{\text{Book Value of Equity}}$	[36], [37]
Independent variables		
CDP (Cash Dividend payment)	1 if the company pay cash dividend; otherwise, 0	[43], [44], [45]
CACL (Liquidity ratio)	Current assets to current liabilities	[53], [54], [55]
DE (Financial policy)	Total liabilities to total equity	[70], [71], [72]
RETA (Retained earnings)	Retained earnings to total assets	[58], [59], [60]
EPS (Earnings per share)	Net income available to common stockholders to the number of shares outstanding	[76], [77], [78]
CFOTA (Cash flows from operations)	Cash flow from operations to total assets	[85], [86], [87]
CFITA (Cash flows from investing)	Cash flow from investing to total assets	[83], [89], [90]
CFFTA (Cash flows from financing)	Cash flow from financing to total assets	[91], [92], [93]

Table 3. Descriptive Statistics

	Mean	SD	Max	Min	Raw data		After IQR		After IQR and Boxcox	
					Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
TQ	1.07	1.78	59.54	0.02	16.957	492.40	11.94	3.22	1.14	0.61
BVPS	12.12	36.5	521.56	-58.98	7.34	71.51	24.46	21.14	1.69	2.9
MVPS	17.4	47.28	486.00	0.01	5.66	37.97	18.35	13.32	1.59	2.30
PB	2.58	24.7	1,206.90	-11.64	46.89	2,278.71	12.92	4.34	1.13	0.76
CACL	2.27	2.13	14.85	0.07	2.16	5.35	13.03	5.27	1.14	0.92
DE	1.18	2.16	29.52	-31.17	1.65	66.44	11.22	2.83	0.97	0.06
RETA	0.53	13.93	426.09	-445.28	0.35	791.25	2.38	7.69	0.45	1.07
EPS	0.76	3.91	50.42	-64.68	1.00	73.46	5.56	3.52	0.93	1.06
CFOTA	0.06	0.13	2.74	-1.57	1.88	90.15	-0.66	1.43	-0.06	0.10
CFITA	0.02	0.06	-0.13	0.18	-8.62	223.98	-0.02	2.09	0.01	0.27
CFFTA	-0.01	0.08	-0.21	0.15	-4.68	118.17	3.23	0.37	0.20	0.01

Table 4. Pearson Correlation after Boxcox transformation

	BCTQ	BCBVPS	BCMVPS	BCPB	BCCDP	BCCACL	BCDE	BCRETA	BCEPS	BCCFOTA	BCCFITA	BCCFFTA
BCTQ	1											
BCBVPS	-0.012	1										
BCMVPS	-0.023	0.027	1									
BCPB	-0.101	-0.010	-0.046	1								
BCCDP	0.267**	-0.053	0.030	0.029	1							
BCCACL	0.181**	0.054	-0.027	0.019	0.182**	1						
BCDE	-0.410**	-0.094	-0.028	0.100	-0.172**	-0.398**	1					
BCRETA	0.045	-0.033	-0.030	-0.122*	0.170**	0.230**	-0.429**	1				
BCEPS	0.168**	-0.015	-0.086	0.074	0.206**	0.174**	-0.044	0.335**	1			
BCCFOTA	0.318**	-0.002	0.003	0.065	0.242**	0.142**	-0.275**	0.148**	0.159**	1		
BCCFITA	0.112*	-0.104	-0.125*	0.036	0.213**	0.213**	0.075	0.051	-0.148**	0.272**	1	
BCCFFTA	0.243**	-0.056	-0.005	0.020	-0.097	-0.097	0.316**	-0.147**	-0.049	-0.622	0.301**	1

Note: significant at *p<.05, **p<.01, BC = Boxcox transformation

Table 5. Regressions analysis of accounting information on firm value: two years before the relief measures

Variables	Model 1 <i>Tobin's Q</i>		Model 2 <i>BVPS</i>		Model 3 <i>MVPS</i>		Model 4 <i>PB</i>	
	B(t)	p	B(t)	p	B(t)	p	B(t)	p
Constant	0.098* (1.668)	0.096	2.077*** (6.372)	0.000	8.872*** (3.861)	0.000	4.018* (1.855)	0.065
BCCDP	0.061 (0.624)	0.533	0.065 (0.567)	0.571	0.221** (2.221)	0.027	0.136 (1.481)	0.140
BCCACL	-0.145*** (-2.645)	0.009	-0.034 (-0.518)	0.605	-0.193*** (3.335)	0.001	-0.145*** (-2.626)	0.009
BCDE	-0.387*** (-6.601)	0.000	-0.098 (-1.439)	0.151	-0.038 (0.621)	0.535	0.026 (0.452)	0.651
BCRETA	-0.040** (-1.966)	0.050	0.011 (0.474)	0.636	-0.062*** (-2.952)	0.003	-0.035* (-1.803)	0.072
BCEPS	0.061*** (3.193)	0.002	0.276*** (12.747)	0.000	0.351*** (18.003)	0.000	0.056*** (3.115)	0.002
BCCFOTA	1.119** (2.035)	0.043	-0.620 (-0.946)	0.345	1.292** (2.232)	0.026	2.019*** (3.620)	0.000
BCCFITA	1.368** (2.179)	0.030	-0.413 (-0.571)	0.569	2.008*** (3.117)	0.002	1.255** (1.987)	0.048
BCCFFTA	-1.148 (-1.636)	0.103	1.286 (1.536)	0.125	-0.430 (-0.578)	0.564	-0.433 (-0.612)	0.541
R Square	26.30%		34.40%		56.30%		16.50%	
Adjusted R ²	24.30%		32.90%		55.30%		14.50%	
Durbin-Watson	1.866		1.631		1.690		1.763	
VIF	1.048-2.892		1.025-2.957		1.065-2.919		1.058-2.871	
F-statistic	12.899***		22.940***		56.438***		8.280***	
Notes: Significant at *p<.10, **p<.05 and ***p<.01; 1) TBQ: Tobin's Q, 2) BVPS: Book value per share, 3) MVPS: Market value per share, 4) PB: Price to book value, 5) CDP: Cash dividend payout ratio, 6) CACL: Current assets to current liabilities, 7) DE: Debt to equity, 8) RETA: Retained earnings to total assets, 9) EPS: Earnings per share, 10) CFOTA: Cash flows from operation activities to total assets, 11) CFITA: Cash flows from investing activities to total assets, and 8) CFFTA: Cash flows from financing activities to total assets.								

Table 6. Regressions analysis of accounting information on firm value: two years after the relief measures

Variables	Model 1 <i>Tobin's Q</i>		Model 2 <i>BVPS</i>		Model 3 <i>MVPS</i>		Model 4 <i>PB</i>	
	B(t)	p	B(t)	p	B(t)	p	B(t)	p
Constant			3.302*** (0.9850)	0.000	0.330 (0.119)	0.905	12.310*** (4.964)	0.000
BCCDP	0.290*** (3.462)	0.001	0.213** (2.433)	0.015	0.324*** (3.658)	0.000	0.248*** (3.143)	0.002
BCCACL	-0.007 (-0.153)	0.878	-0.103** (-2.071)	0.039	-0.045 (-0.872)	0.384	0.017 (0.373)	0.710
BCDE	-0.394*** (-7.914)	0.000	-0.110** (-2.182)	0.030	-0.092* (-1.755)	0.080	-0.023 (-0.488)	0.625
BCRETA	-0.119*** (-4.695)	0.000	0.111*** (4.657)	0.000	0.017 (0.645)	0.519	-0.144*** (-4.950)	0.000
BCEPS	0.046*** (10.130)	0.000	0.269*** (13.858)	0.000	0.347*** (16.915)	0.000	0.060*** (3.356)	0.001
BCCFOTA	0.683 (0.971)	0.332	-1.419** (-2.052)	0.041	-0.011 (-0.016)	0.988	0.278 (0.422)	0.673
BCCFITA	1.513* (1.821)	0.070	0.619 (0.759)	0.448	2.092*** (2.419)	0.016	1.788** (2.272)	0.024
BCCFFTA	-0.923 (-1.277)	0.202	-0.050 (-0.069)	0.945	-0.804 (-1.047)	0.296	-1.431** (-2.082)	0.038
R Square	46.40%		43.80%		51.40%		14.50%	
Adjusted R ²	45.20%		42.80%		50.50%		12.80%	
Durbin-Watson	2.066		2.101		1.961		1.872	
VIF	1.654-16.925		1.177-3.084		1.161-3.077		1.122-3.007	
F-statistic	37.022***		55.678***		56.400***		8.885***	

Notes: Significant at *p<.10, **p<.05 and ***p<.01; 1) TBQ: Tobin's Q, 2) BVPS: Book value per share, 3) MVPS: Market value per share, 4) PB: Price to book value, 5) CDP: Cash dividend payout ratio, 6) CACL: Current assets to current liabilities, 7) DE: Debt to equity, 8) RETA: Retained earnings to total assets, 9) EPS: Earnings per share, 10) Cash flows from operation activities to total assets, 11) CFITA: Cash flows from investing activities to total assets, and 8) CFFTA: Cash flows from financing activities to total assets.

Table 7. Summary of the significant findings

Variable	Two years before the relief measures				Two years after the relief measures			
	TQ	BVPS	MVPS	PB	TQ	BVPS	MVPS	PB
CDP			+**		+***	+**	+***	+***
CACL	***		***	***		**		
DE	***				***	**	*	
RETA	**		***	*	***	***		***
EPS	***	***	***	***	***	***	***	***
CFOTA	***		**	***		**		
CFITA	***		***	**	+		***	**
CFFTA								**

Note: - = -coefficient, + = + coefficient, Significant at *p<.10, **p<.05, ***p<.01

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

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Conflict of Interest

The authors have no conflict of interest to declare.

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