



The Relationship between Book Value per Share, Earnings per Share, and Free Cash Flow per Share with the Stock Price of the Listed Financial Sector in the Stock Exchange of Thailand.

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Abstract

The purpose of this study was to examine the relationship between book value per share, earnings per share, and free cash flow per share with the stock price of the listed financial sector in the Stock Exchange of Thailand. The population used in this study was 413 companies listed on the Stock Exchange of Thailand in the financial industry group over a period of 6 years. The study was conducted between 2018 and 2023. Using panel data, the samples group was selected specifically based on the specified characteristics: 1) being a company listed on the Stock Exchange of Thailand in the financial industry group. The collected data are: 1) Stock price 2) Book Value per Share 3) Earnings per Share 4) Free Cash Flow per Share 5) Total Assets and 6) Debt to Equity Ratio. This study has executed the Multiple Regression Analysis. The results of the study found that book value per share, earnings per share, and free cash flow have a statistically significant positive relationship with stock prices.

Keywords: *Book Value per Share, Earnings per Share, Free Cash Flow per Share, Stock Price, Stock Exchange of Thailand*

1. Introduction

The financial sector in Thailand is of great importance to economic and social development. Financial businesses include banking, investment and securities, and insurance and life insurance. These businesses are the key drivers of the economy, acting as intermediaries in raising funds, allocating resources, and supporting and promoting business growth. In terms of banking and financial institutions, they are the main mechanisms for raising funds and providing credit to the business sector, helping to stimulate investment and economic expansion. The Bank of Thailand (2023) and financial institutions have an important role in driving the economy of the country, which will help reinforce the importance of the financial sector in the Thai Economic Framework (Rogers, 2018).

The world is changing and developing rapidly; the stock market is an important part of the financial system. In Thailand, the stock market is an important source of funds for the public and private sectors. Therefore, studying the impact on stock prices is essential for investors, regulators, and all stakeholders. One of the important factors that investors are interested in is financial variables, which can reflect the performance and financial position of the company. The development of the stock market is important for economic growth. The stock turnover ratio and the total value of traded shares are important indicators of economic performance, although the impact varies in the long term (Hamzah et al., 2020).

Studying the relationship between various financial indicators, such as Book Value per Share (BVS), Earnings per Share (EPS), and Free Cash Flow (FCF), are indicators that investors and analysts use to assess the value and growth potential of a company in making investment decisions. Therefore, understanding the relationship between these indicators and stock prices will help investors consider investing in stocks more effectively. Analysts use these variables to develop more accurate stock valuation models and provide useful investment advice to clients. The executives use this data to improve the company's



performance. It can be seen that increasing value to shareholders is very important in studying the relationship between book value per share, earnings per share, and free cash flow per share with the stock price of listed companies in the Stock Exchange of Thailand for the financial industry group because this data can be used as a guideline for predicting investment returns to indicate the financial health and growth potential of the company (Bodie, Kane, & Marcus, 2018; Fama & French, 1992).

2. Objectives

1. To study the relationship between book value per share and earnings per share with the stock price of listed companies in the Stock Exchange of Thailand: Financial Industry Group.
2. To study the relationship between earnings per share and the stock price of listed companies in the Stock Exchange of Thailand, Financial Industry Group.
3. To study the relationship between free cash flow per share and the stock price of listed companies in the Stock Exchange of Thailand, Financial Industry Group.

3. Literature Review and Theories Related to the Research

The concept of efficient capital markets

An Efficient Capital Market (EMH) is important for economic growth and financial stability. It serves as an important source of funds for the economy, facilitating risk allocation and promoting investment (Naurizbaev, 2022). The efficiency of a capital market is always determined by its ability to reflect all relevant information in the price of a security, ensuring that prices quickly adapt to new information, which increases the opportunity for investors to gain information to use in making investment decisions in order to gain profits from publicly available information (Mishra, 2011). This concept, also known as the efficiency of information, is central to the efficient market hypothesis, which states that stock prices reflect all available information (Białas-Szymańska, 2022). This concept or theory was developed by Eugene Fama in the 1970s, and is divided into three main forms: Weak Form, Semi-Strong Form, and Strong Form, each of which has a different level of information reflected in the price of securities. An efficient capital market requires a strong environment characterized by macroeconomic stability, market independence, a solid legal framework, and an effective regulatory system (Naurizbaev, 2022). In summary, the efficiency and effectiveness of capital markets are important for promoting innovation and economic development, as they are the capital required for long-term investment (Mishra, 2011). In addition, Thongplod (2023) explored the impact of earnings announcements on market responses at different levels based on the EMH of the proportion of minority shareholders (Free Float). It was found that earnings/profit announcements affect stock prices and the efficiency of the capital market in Thailand.

Literature Review

Book value per share (BVS), earnings per share (EPS), and free cash flow (FCF) with the price of securities in the financial industry group listed on the Stock Exchange of Thailand (SET) are diverse and significant. The study indicates that BVS and EPS have a positive relationship with stock prices, indicating that these accounting measures are valuable indicators for investors in valuing stock prices. Research using the Ohlson model shows that both earnings and book value are significantly related to stock prices, emphasizing their relevance in valuing stocks. Earnings per share (EPS), book value per share (BV), and free cash flow (FCF), it is an important indicator that influences stock prices in the finance industry group. Research indicates that EPS and BVS have a significant positive relationship with stock prices, especially in financial and financial institutions listed on the stock exchange. For example, a study on the Bank of Indonesia found that EPS and BVS together explained 94.2% of the volatility of stock prices, with EPS being more relevant to value than BVS (Siagian et al., 2020) (Hadinata, 2023). In the research of Masky (2016) to test which form of cash flow is related to stock prices by using data from companies in the information technology group between 1998 and 2012, it was found that free cash flow is related to stock prices, which is in the same direction as the research of Suwannaphurk, et al., 2014 who studied the relationship pattern of free cash flow



that affects stock prices. Using data from listed companies in the Stock Exchange of Thailand in the SET100 group between 2008 and 2012, it was found that free cash flow is consistent with stock prices. It was also found that earnings and book value are positively related to stock prices. This reinforces their relevance in stock valuation (Janglani et al., 2012). It also highlights the importance of cash flow, as it complements earnings and book value in assessing a company's financial health and stock valuation (Makrani & Abdi, 2014). Overall, these metrics serve as important tools for investors in assessing the financial performance and market value of companies in the financial sector.

Development of a research hypothesis

The study of the relationship between accounting information and stock prices is a topic of great interest in the field of financial research. Important financial indicators such as book value per share, earnings per share, and free cash flow are often used to evaluate the value of a company and help investors to make decisions.

Book value per share (BVS) is an indicator that represents the book value of a company per share, which can reflect the financial position of the company. Many researches have shown that book value per share has a positive relationship with stock prices (Fama & French, 1992; Penman, 1996) because investors tend to view companies with high book values as stable and having growth potential. For example, a study by Fama and French (1992) found that companies with high book values tend to have higher returns on investment.

Earnings per Share (EPS) is an important indicator in assessing the performance of a company. Previous research has found that EPS is positively related to the price of securities (Ball & Brown, 1968; Easton & Harris, 1991) because high profits indicate the company's ability to generate profits, which is a factor that investors consider important. Ball and Brown (1968) found that the announcement of a company's earnings has a significant impact on the price of securities, while Easton and Harris (1991) found that EPS can significantly explain the change in the stock price.

Free Cash Flow (FCF) is an indicator showing the cash that a company can generate after deducting various expenses, including cash that needs to be invested and debt repayment or increases from debt. Previous research has found that free cash flow is related to the price of securities (Jensen, 1986; Dechow, 1994) because high free cash flow indicates the company's ability to generate cash, which is a factor that investors consider important. Jensen (1986) proposed the theory of agency costs resulting from free cash flow, and Dechow (1994) found that free cash flow can be used as an indicator of the company's performance.

From the above, can be identified the research hypotheses as follows:

H1: Book value per share has a positive relationship with the stock price.

H2: Earnings per share has a positive relationship with the stock price.

H3: Free cash flow has a positive relationship with the stock price.

Research Conceptual Framework

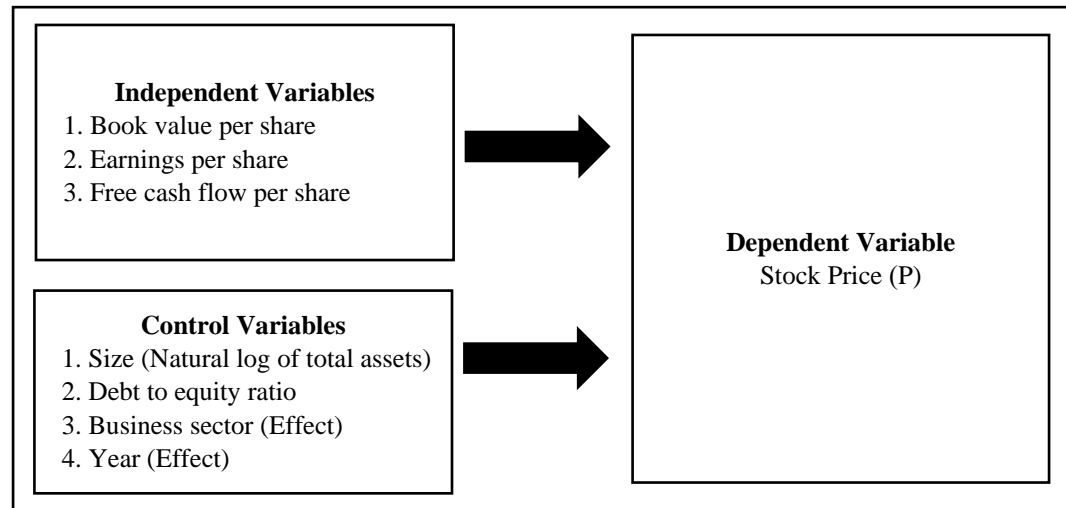


Figure 1 Research Conceptual Framework

4. Materials and Methods

4.1 Data Collection

This study is empirical research using secondary data from financial reports from 2018 to 2023, a total of 6 years, using data sources from the SETSMART database and the Bloomberg database at the Maruey Library, Stock Exchange of Thailand. The collected data are: 1) Stock Price, 2) Book Value per Share, 3) Earnings per Share, 4) Free Cash Flow per Share, 5) Total Assets, and 6) Debt to Equity Ratio.

4.2 Population and Sample

The population used in this study was 413 companies listed on the Stock Exchange of Thailand in the financial industry group over a period of 6 years. The study was conducted between 2018 and 2023. The sample group was selected specifically based on the specified characteristics: 1) being a company listed on the Stock Exchange of Thailand in the financial industry group only; 2) being a company with a non-negative book value; 3) being a company that closed its financial statements on December 31; 4) being a company with complete data within the study year; and 5) not being a company with abnormal data values (outliers). This is shown in Table 1.

Table1 Selection of sample groups according to specified characteristics

Firms' Characteristics	Number of samples
	Example (6 Years)
Companies listed on the Stock Exchange of Thailand	413
<u>Less</u> Companies with a negative book value	(0)
Companies with a reporting period other than December 31	(6)
Companies with incomplete data throughout the study period	(99)
Companies with abnormal data	(47)
Sample group used in the study	261

4.3 Scope and Delimitations in Research

This research is quantitative research that studies the relationship between book value, accounting profit, and free cash flow with the securities prices of listed companies in the Stock Exchange of Thailand, specifically in the financial industry group, studying between 2018 and 2023. Data will be collected



annually. Only companies with accounting periods ending on December 31 will be studied, and they must be companies with complete data for the entire 6-year period.

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 FCF_{it} + \beta_4 Size_{it} + \beta_5 DE_{it} + \beta_{6-7} ST_i + \beta_{8-12} Year_t + \varepsilon_{it}$$

Where P_{it} is the price of the security of company i at time t after 3 months, BVS_{it} is the book value per share of company i at time t , EPS_{it} is the earnings per share of company i at time t , FCF_{it} is the free cash flow per share of company i at time t , $Size_{it}$ is the size of the firm measured by the natural logarithm of the total assets of company i at time t , DE_{it} is the debt-to-equity ratio of company i at time t , ST_i is the business category, set to 1 to represent the banking or finance and securities or insurance and life insurance business categories, and set to 0 to represent other business categories, and $Year_t$ is the year effect.

4.4 Scope and Delimitations in Research

This research applied Ohlson's (1995) model and improved the study model according to the research of Phakdee and Srijunpetch (2020). The independent variable of interest, free cash flow (FCF), was added to the study model to perform multiple regression analysis and test the research hypothesis. The study model can be defined as follows:

4.5 Data Analysis

Data analysis for this study consisted of descriptive statistics to describe the characteristics of the sample group studied, correlation analysis to test for problems of multicollinearity between independent variables, where the calculated correlation coefficient should not exceed 0.800, which indicates that the relationship between the independent variables will not have problems of multicollinearity (Kumari, 2008), and multiple regression analysis. The results of the analysis will consider the significance level of the regression coefficients of the various independent variables and the adjusted R^2 coefficient.

5. Results and Discussion

5.1 Results of descriptive statistical analysis

Descriptive statistical analysis shows the basic characteristics of the studied variable data by measuring the central tendency of the data, which is a measure of the spread of data. The descriptive statistics used include the mean, median, standard deviation, minimum, and maximum values, which can show the analysis results, as shown in Table 2.

Table 2 Summary Statistics (n = 261)

Variable	Mean	Median	S.D.	Min	Max
P (baht)	17.3	6.6	20.6	0.42	91.5
BVS (baht)	13.4	7.15	17.7	0.74	91.7
EPS (baht)	1.08	0.34	1.86	-3.97	10
FCF (baht)	84.3	50.4	92.6	0.0001	360
DE (time)	2.43	1.48	2.41	0.03	9.83
Total assets (million baht)	169,650	10,100	493,062	787	2,768,294

From Table 2, it was found that the stock price (P) had an average of 17.3 baht, and the median was 6.6 baht, indicating that some companies had very high stock prices. The highest stock price was 91.5 baht (Muang Thai Insurance PCL), meanwhile, the lowest price was 0.42 baht (CIMB Thai Bank PCL). The standard deviation was quite high (20.6), indicating that the stock price was very volatile.

Book value per share (BVS) had an average of 13.4 baht, the median was 7.15 baht, and the distribution was similar to the stock price; i.e., the highest value was very high at 91.7 baht (Muang Thai



Insurance PCL), while the lowest price was 0.74 baht (Thai Reinsurance PCL). Companies with high BVS reflect the company's good financial position, indicating that the company has assets remaining after paying off all debts or has a lot of net assets. BVS also helps assess the company's asset management efficiency.

Earnings per share (EPS) has an average of 1.08 baht and a median of 0.34 baht. The standard deviation of 1.86 shows that the profits per share of various companies are very different. Some companies have very high profits. The maximum value being 10 baht (Muang Thai Insurance PCL), while some companies make a loss. And the lowest value is at -3.97 baht (Thai Group Holdings PCL). A company with a high EPS indicates that shareholders have the opportunity to receive more dividends. Or securities prices may increase and reflect the company's management efficiency in creating profits.

Free Cash Flow Per Share (FCF) has an average of 84.3 baht, a median of 50.4 baht, and a maximum of 360 baht (Muang Thai Insurance PCL), which means that some companies have very high independent cash flow, while the minimum value is 0.0001 baht (11 companies). In the case of high FCF, it indicates that the company has enough cash to be used to invest in the business, pay dividends, buy back shares, or reduce debt, and shows continuous growth. It is a good sign that the company has the potential to grow in the future, including flexibility in business operations and the ability to deal with unexpected situations or better to seize new investment opportunities.

Debt to equity ratio (Ratio for Liabilities over Capital): average 2.43 times the median value of 1.48 times, indicating that, on average, the company has more debt than capital. The maximum value is 9.83 times (CIMB Thai Bank PCL) due to financial business groups, such as banks and insurance, having more liabilities than other business models, such as liabilities from bank business deposits or liabilities from insurance business contracts. While the lowest value is 0.03 times (Tong Hua Holding PCL)

Total assets are an average of 169,650 million baht, with a median of 10,100 million baht, indicating that the company size is very different. There are large companies that have more assets, the maximum value is 2,768,294 million baht (Bank of Ayudhya PCL) and the lowest value is 787 million baht (Charan Insurance PCL).

5.2 Results of descriptive statistical analysis

Table 3 Correlation Analysis and VIF Results (n = 261)

Variable		BVS	EPS	FCF	SIZE	DE	VIF
BVS	Correlation	1					2.515
	Sig. (2-tailed)						
EPS	Correlation	.738***	1				2.806
	Sig. (2-tailed)	.000					
FCF	Correlation	-.134**	.026	1			1.179
	Sig. (2-tailed)	.034	.684				
SIZE	Correlation	.301***	.390***	.170***	1		3.704
	Sig. (2-tailed)	.000	.000	.007			
DE	Correlation	.212***	.282***	.284***	.831***	1	3.549
	Sig. (2-tailed)	.001	.000	.000	.000		

***. Correlation is significant at the 0.01 level (2-tailed).

**. Correlation is significant at the 0.05 level (2-tailed).

From Table 3, it was found that the correlation between every pair of independent variables was not more than 0.800. Besides, the researcher displayed the VIF value, which was found to be not more



than 10. Therefore, from the correlation and VIF values, it was shown that there was no problem of relationship among the independent variables. (Multicollinearity)

5.3 Results of multiple regression analysis

The results of the multiple regression analysis to test the research hypotheses are shown in Table 4.

Table 4 Multiple regression analysis results (n = 261)

Variable	Coefficient	Std. Error	t-ratio	p-value
const	-93.038	11.928	-7.800	0.001 ***
BVS	0.417	0.068	6.116	0.001 ***
EPS	5.320	0.626	8.500	0.001 ***
FCF	0.025	0.010	2.661	0.001 ***
SIZE	5.141	0.709	7.256	0.001 ***
DE	-1.992	0.653	-3.050	0.001 ***
ST	Yes			
Year	Yes			
R-squared	0.725		Adjusted R-squared	0.712
F (12, 248)	54.630		P-value (F)	0.001***
Durbin-Watson	1.747		using (observations)	261

Note: *** for significant level at 0.01; ** for significant level at 0.05;

* for significant level at 0.10 (for two-tailed test)

The research results found that Book Value per Share (BVS), Earnings per Share (EPS), and Free Cash Flow (FCF) are related in the same direction to stock prices with statistical significance at the 0.01 level because the p-value < 0.01. Book Value per Share has a regression coefficient is positive equal to 0.417, therefore, research hypothesis 1 is accepted: Earnings per Share has a regression coefficient is positive equal to 5.320, therefore research hypothesis 2 is accepted and free cash flow has a regression coefficient is positive equal to 0.025, therefore research hypothesis 3 is accepted. In addition, it was found that the control variables were significantly related to stock prices at the 0.01 level, including business size (positive) and debt-to-equity ratio (negative). When considering the overall picture of the study model, it was found that the F-test was equal to 54.630 (p-value < 0.01) and the adjusted R-squared was equal to 0.712. It shows that all independent variables can explain the dependent variable 71.20%

In this regard, the results of the preliminary agreement test of the multiple regression analysis for every model studied found that the VIF value was not more than 10, indicating that there was no problem with the relationship between the independent variables. (Multicollinearity) Durbin-Watson value is between 1.5 and 2.5 It has been shown that the error values are not related to each other (Tabachnick, Fidell & Ullman, 2013; Hair, Black, Babin & Anderson, 2014). This research has used a method to solve the problem of the relationship between the random variables and the error (Autocorrelation), and the problem of instability of variance in random variables (Heteroscedasticity) using Heteroskedasticity and Autocorrelation Consistent (HAC) (Rangkakulnuwat, 2015) in all study models (Kobkanjanapued, Tripattanasit & Doungkaew, 2023).

6. Conclusion

This research aims to 1) study the relationship between book value per share and earnings per share with stock price, and 2) study the relationship between free cash flow and stock price of listed companies in the Stock Exchange of Thailand, Financial Industry Group, between 2018 and 2023, a total period of 6 years, the study sample consisted of 261 samples, consisting of independent variables: book value



per share, earnings per share, and free cash flow; and the dependent variable: security price. Multiple Regression Analysis was used to study the relationship between the two variables.

The results of the study found that book value per share, earnings per share, and free cash flow have a statistically significant positive relationship with stock prices. In other words, when a company's book value per share, earnings per share, or free cash flow increases, the stock price will increase. All three accounting points data mentioned can explain stock prices in the same direction.

The results of this study reveal that book value per share, earnings per share, and free cash flow all have a statistically significant and positive relationship with stock prices among listed companies in the Financial Industry Group on the Stock Exchange of Thailand during the period 2018-2023. This suggests that these accounting-based financial indicators are important determinants of stock price behavior and are relied upon by investors when making investment decisions.

Book value per share reflects the net asset value of a firm on a per-share basis and is considered a measure of the company's intrinsic worth. When the BVS increases, it indicates a stronger financial foundation and higher tangible value of the firm, which can lead investors to believe that the stock is undervalued or financially secure. This is consistent with the value investing approach, which emphasizes the importance of a company's book value in determining its true worth (Penman, 2012).

Earnings per share is widely regarded as a key indicator of a company's profitability. Higher EPS signifies strong earnings performance, which typically boosts investor confidence. It also implies a greater capacity to pay dividends or reinvest in the business, both of which contribute positively to shareholder value. According to Damodaran (2012), EPS is one of the most frequently used metrics in equity valuation and is positively associated with stock price performance.

Free cash flow represents the cash generated by a company that is available for distribution to investors after capital expenditures. A higher FCF indicates financial flexibility, the ability to reduce debt, pay dividends, or invest in growth opportunities — all factors that are positively perceived by the market. As stated by White, Sondhi, and Fried (2003), free cash flow is a strong indicator of a firm's ability to create value over time.

The findings of this research are in line with fundamental valuation theories, which propose that a firm's intrinsic value and thus, its stock price are a function of its financial fundamentals, including profitability, asset strength, and cash flow generation (Damodaran, 2012; Penman, 2012). These results also reaffirm the reliability of financial statement analysis as a basis for informed investment decision-making.

Overall, the results support the notion that fundamental financial indicators BVS, EPS, and FCF are reliable predictors of stock price movements. These findings align with valuation theories and empirical evidence in the finance literature, emphasizing that investors rely heavily on financial statements when making investment decisions.

7. Acknowledgements

Research on the relationship between book value per share, earnings per share, and free cash flow with the price of securities in the financial industry group listed on the Stock Exchange of Thailand, using data from 413 listed companies in the financial industry group listed on the Stock Exchange of Thailand over a 6-year period from 2018 to 2023. The sample group was selected specifically according to the specified characteristics: 1) being a company registered in the Stock Exchange of Thailand in the financial industry group only; 2) being a company with a non-negative book value; 3) being a company that closed its financial statements on December 31; 4) being a company with complete information within the year studied; and 5) not being a company with unusual data values (outliers).

It resulted from the development of applied research using Ohlson's (1995) model and improving the study model according to the research of Phakdee and Srijunpetch (2020), which found that book value per share, earnings per share, and free cash flow are related to the stock price, which is consistent with past research. Research by Thooltaisong and Boonmunewai (2019) found that book value per share has a positive relationship with stock price. Alali and Foote (2012) found that earnings per share and book value



per share have a positive relationship with stock price. Research by TECHAHUASINGH (2019), Masky (2016) and Suwannaphurk, et., (2014) found that free cash flow is positively aligned with stock price.

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