THE RELATINOSHIP OF FINANCIAL RATIOS ON STOCK PRICES IN THE TRANSPORT AND LOGISTICS SECTOR OF THE STOCK

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## EXCHANGE OF THAILAND



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# This Independent Study has been approved by the Graduate School Bangkok University 

## Title: THE RELATIONSHIP OF FINANCIAL RATIOS ON STOCK PRICES IN THE TRANSPORT AND LOGISTICS SECTOR OF THE STOCK EXCHANGE OF THAILAND

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#### Abstract

This study will be investigating the relationship between financial ratios and the price of stocks listed in SET (The Stock Exchange of Thailand) in the Transport and Logistics Sector. Five Financial Ratios are used which are Current Ratio (CR), Total Assets Turnover Ratio (TAT), Debt to Equity Ratio (D/E), Return on Assets Ratio (ROA) and Price per Book Value Ratio (P/BV). Quarterly Data was retrieved from the first quarter of 2008 to the last quarter of 2018 . From the twenty-one companies in the Trans \& Logistics Sector ten companies fit the criteria, where all their data are available for analysis and these are the ten companies that have been chosen in the study. The Companies are: AOT, ASIMAR, B, BTS, JUTHA, KWC, PSL, THAI, TSTE and TTA. To find the relationship between financial ratios and stock prices multiple regression model was used for the methodology part of the study.


Keywords: Financial Ratios, Stock Prices, The Stock Exchange of Thailand,

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## CHAPTER 1

## INTRODUCTION

### 1.1 Background of Study

There are a lot of papers that have been written on Financial Ratios and Sectors of Thai Stock Exchange (in Thai). A previous study called "The Relationships Between Financial Ratios and the Largest Capitalized Companies' Stock Prices:

Evidence from Stock Exchange of Thailand's all sector Indices" states that financial ratios that are correlated with stock prices are Return on Equity (ROE), Price to Book Value Ratio (P/BV), Net Profit Margin (NP) Dividend Yield Ratio (DIY0 and Debt to Equity Ratio (D/E).

### 1.1.1 Current Ratio

The Current Ratio is a measure of the liquidity ratios. The ratio measures the financial strength of a company in relation to its current liabilities. It is calculated by dividing the firm's current assets by its current liabilities. It shows the capability of a business to meet its short-term obligations that is settle its debts and payables. A higher current ratio, preferably $2: 1$, indicates a good performance measurement of the company (Gallo, 2015).

### 1.1.2 Total Asset Turnover

Asset turnover ratio is an indicator of a firm's efficiency showing how efficiently a firm can use its assets to generate revenue. The ratio is calculated by dividing Total revenue/sales by average assets. A higher ratio is usually favourable as it indicates a higher utilization of assets. A low asset turnover ratio indicates lower
utilization of assets thus poor management, large amounts of inventory, overall poor performance of the company (Besley, \& Brigham, n.d.).

### 1.1.3 Debt to Equity Ratio

The ratio is a leverage ratio which is used to evaluate a company's financial leverage. It is an indicator of a firm's long-term future as it shows how much of the operations carried out by the firm is funded by creditors compared to that by its shareholders. It is calculated by dividing the total liabilities of the firm by its shareholder's equity. Although, different industries have different Debt to Equity ratio industry norms, a higher value is generally a negative indicator for investors as this indicates higher liabilities that the firm needs to meet, while indicating the firm is able to borrow less money which might affect future operations (Gallo, 2015).

### 1.1.4 Return on Assets

Calculated by dividing the firm's net income by its total assets, this ratio shows the firm's profitability in comparison to its total assets. It indicates how well and efficiently are the assets being used to generate profits for the firm. Average investors generally take ROA as one of the primary ratios of deciding whether to invest in the company or not as it directly looks at the profits being made by the firm (Hargrave, 2019).

### 1.1.5 Price to Book Ratio

The ratio compares the firm's current market price to its book value price. With time, a good performing company would reflect its performance through an increase in its share price. Hence, a lower $\mathrm{P} / \mathrm{B}$ ratio would mean that the firm is undervalued, that is something is wrong with the company which reflects through its
low market price. A P/B ratio above 1 generally indicates that investors are willing to pay more for the share indicating good future profit projections (Hayes, 2019).

### 1.1.6 Price of Stock

The price of the stock is the current market price of a single stock/share at which it is being traded. The fundamental function of any firm is to maximize the firm's value that is its shareholder's value which is increasing the firm's stock prices. The increase in price the share from the amount the share is bought for is the capital gain that a firm earned.
1.1.7 Price of Stock and Current Ratio, Total Asset Turnover, Debt to Equity, Return on Assets, Price to Book Ratio

Historical studies show that Current Ratio, Total Asset Turnover, Debt to Equity, Return on Assets, Price to Book Ratio has had significant and partial impacts on the price of stocks varying from industry to industry. Fernando, Rivai, and Suharto (2018) found out in their research through Kolmogorov-Smirnov test that current ratio has significant impact on the stock prices. With increase in current assets, stock prices have increased as well. Stationary tests performed by Herawati, and Putra (2018) show significance of current ratio, debt to equity ratio, return on assets and total asset turnover on price of stock. Using a sample from the Turkish stock market over a period of 2000-2009 have found positive significance in their tastes on market share.

Wijaya (2015) with his sample of 20 major manufacturing companies in Indonesia from 2008 to 2013 show positive significance of return on asset and price to book ratio on price of stock.

### 1.1.8 Stock Exchange of Thailand (SET)

The Stock Exchange of Thailand came into existence after the failure of the Bangkok Stock Exchange. Following Thailand's Second National Economic and Social Development Plan and recommendations by the World Bank, the government of Thailand enacted Securities Exchange of Thailand (SET) in 1974 based on the report of Professor Sidney M. Robbins "A Capital Market in Thailand". Trading started officially on 30 April 1975, the Securities Exchange of Thailand (SET). The name was finally changed to Stock Exchange of Thailand (SET) on 1 January 1991. With a market cap of $\$ 560$ billion, SET has 777 companies listed divided into 8 industry and 25 sectorial indices. SET acts as the national stock exchange of Thailand and oversees both the primary and secondary market which involves operations such as securities listing, supervision of listed companies, trading, market surveillance and, information dissemination, and investor education.

### 1.2 Research Problem

Efficient market hypothesis (EMH), that states all known information is reflected in the market price, is disputed by many. People have different perspectives through which they value stocks, hence they contradict with the EMH theory as they have different fair market value assessments of the same stock. Again, EMH theory suggests that two people investing the same amount would get similar returns because they have similar information available. However, in reality, the case is quite different as people seem to come out with different levels of returns. Hence, it is necessary that proper research be done to evaluate the price of stocks. Past researches have shown mixed results about how Current Ratio, Total Asset Turnover, Debt to Equity, Return
on Assets and Price to Book Ratio impact on the price of stocks. Different security exchanges have shown different degrees of impact of these ratios on stock prices. While research has been conducted in the past using different ratios on securities of the Stock Exchange of Thailand, the combination of a study on financial ratios, in the Transport and Logistics Sector of the Stock Exchange of Thailand written in English is rare.

### 1.3 Research Objectives

General Objective: To analyze the five financial ratios and the prices of stocks in the Transport and Logistics sector of the Stock Exchange of Thailand.

Specific Objective: To find how each of the five chosen financial parameters impact on the prices of stocks in the Transport and Logistics sector of the Stock Exchange of Thailand.

### 1.4 Value of the Study

This study will provide a greater depth to researches that have been conducted on the Stock Exchange of Thailand. The study would show the impact that the 5 ratios have on the stock prices of securities in the Transport and Logistics Sector, a sector which is still quite rather untouched for research. The 5 ratios would work as a guideline for investors to research on before buying any stock, if the study shows significance of the 5 ratios. This would also allow investors, who are not familiar with Thai language; a better understanding of the Stock Exchange of Thailand as researches on this stock exchange has rarely been published in English.

## CHAPTER 2

## LITERATURE REVIEW

### 2.1 Introduction

This chapter reviewed the theories relevant to this study and a review of relevant studies that have been conducted. The chapter was organized in such a way that it begun with a discussion of the relevant theories followed by an empirical review, concluding by a summary of the literature.

### 2.2 Theoretical Review

Several theories have been advanced to explain the relationship between stock returns and stock characteristics and how information concerning the stocks relates to returns. The efficient market hypothesis explains how stock prices should behave in the market, what has been regarded as the norm but a number of other theories explains the deviations from the norm. Capital asset pricing model measure a stock returns in equilibrium.

### 2.2.1 Efficient Market Hypothesis

Fama (1970) and Malkiel (2003) suggests that the efficient market hypothesis influences that prices demonstrate all the available knowledge for the investor. It is a common practice to differentiate information in respect of underlying and nonunderlying information (Bollerslev, \& Hodrick, 1992).

Malkiel (2003) and Fama (1970) simply states that the efficient market as a market where the participants of the market are supposed to display rational profit maximization characteristics and the prices at all times completely reflect all available
information. Malkiel (2003) states that information that influences the efficient market hypothesis spreads into asset valuation immediately. Therefore, this results into no opportunities of arbitrage which allows excess returns without excess risks (Malkiel, 2005). Therefore, he suggests that in an efficient market, competition mean that opportunities for excessive risk adjusted returns will not hold. However, this does not mean that the hypothesis imply market rates will always be exact and all market participants will always exhibit rational profit maximization behaviour.

A fundamental argument often set against efficient market hypothesis is that erratically asset prices diverge from the fundamental value as insinuated by many including (Thaler, \& Barberis, 2003). In addition, these deviations can be long-lived and substantial. Another issue amplified by Hong, and Stein (1999) is that the market participants may not have entry to all the information. And even if they do have access, as recommended by Daniel, Hirshleifer, and Subrahmanyam (1998) they may have distinct sentiment about the information.

A basic assumption used in efficient market hypothesis is the actuality of wellinformed wealthy sensible arbitrageurs who shove the asset price back to its own fundamental value (Fama, 1965). As Hong, and Stein (1999) illustrate the existence of these arbitrageurs does not counter the effect of other market participants and Abreu, and Brunnermeier (2003) argue that these arbitrageurs sometimes like to take benefit from the circumstances, therefore shoving the price further from fundamental value.

### 2.2.2 Capital Asset Pricing Model

Capaul, Rowley, and Sharpe (1993) contributed their efforts to develop CAPM as an equilibrium asset pricing model for pricing risky assets. CAPM is a template for pricing risky security concerning risk and expected return of security. The model
states that the expected return of an underlying security or a portfolio is equal to the rate on a risk-free security plus a risk premium. CAPM provides a tool on how to measure the risk and the relation between the expected return and associated risk of a particular security. The model is used to determine the required rate of return of an underlying security if the underlying asset is subject to a portfolio and the assets systematic risk is given. Systematic risk of a security is measured by the beta coefficient. Beta is a measure of the volatility or sensitivity of returns on a security to the returns on the market portfolio.

Since Capaul, Rowley, and Sharpe (1993) formulated the Capital Asset Pricing Model (CAPM), it has become one of the most used in financial modelling either by academics and practitioners. However, some anomalies in the stock market have emerged where the return characteristics of stocks seem to contradict the CAPM principle that risk beta is able solely to explain the cross-section of expected return.

Fama, and French (1992) showed that beta could not explain neither alone nor joined with other fundamental variables- the differences between stock returns for NYSE and AMEX stocks during the period 1963-1990. The firm size and book to market ratio were statistically considered instead.

### 2.2.3 Asset Pricing Theory

In order to disentangle the concept of asset pricing, it requires to give a snap of the literature and a brief overview of views in the field in addition to describe what it is meant by an asset. Pricing of an asset is the present value of the cash flows discounted for the risk and associated time lags. Nonetheless, the difficulties coming from the discounting process is to determine relevant factors that influence the pay offs. Asset Pricing navigates the market signals and infers their impacts on the cash
flows as well as provides strategic implications. It is highly important in decision making process at the firm level and also at the macro level. When we observe "asset" pricing, we often have in mind the stock prices. Regardless, asset pricing in general also affects other financial assets, for example, bonds and derivatives, to non-financial assets like gold, real estate. Models that are happened in the field of asset pricing divide the positive versus normative tension which is present in the rest of economics. When considering a model for predicting the future, heavy reliance is given on the underlining assumptions behind it. If the assumptions are correct after the evaluation of normative tests, the predictions should also be correct which can then be examined through positives tests.

In the neoclassical finance, models can be bunched into the absolute and relative asset pricing models. We signify by absolute pricing that each of the assets is priced by the reference to its exposure to the core sources of macroeconomic risks. Consumption-based model and General Equilibrium model are two examples of this approach. The absolute approach is the most regular in academic settings, where asset pricing theory is used positively to give economic clarification to explain why the prices are as such, or predict how prices might change if the policy or economic structure changed.

### 2.3 Determinants of Stock Returns

Many studies have been conducted to examine the relationships between financial ratios and stock prices or stock returns, mainly on Asia. But limitations to such studies still exist especially for most stock markets of South East Asian countries. The limitations involve:
(1) Insufficient number of literatures on South East Asian countries due to the rather late development of capital markets
(2) Many companies became listed recently, and some stock exchanges still low number of listed companies
(3) Availability of data is still a concern

Pinto, Robinson, and Stowe (2015) suggest that stock prices are affected by macroeconomic factors as well as fundamental factors. For bearing these risks associated factors, investors require an additional return. The macroeconomic factors affect macroeconomic variables in a way that significantly explain equity returns. Such factors include anticipated inflation rate, interest rates, gross domestic product, market indices, yield curves, exchange rates.

Fundamental factors are attributes of a company that are important in explaining return on stock. Commonly used fundamental factors include market capitalization, book to market value, financial leverage, dividends, price to earnings ratio, liquidity and firm size (Bodie, Kane, \& Marcus, 2013).

Sivaprasad, and Muradoglu (2009) examined the effect of firm's leverage on stock returns. The results showed that leverage has a negative relationship with stock returns after evaluating over 700 non-financial companies listed on the London Stock Exchange for the period 1980 - 2008.

Dzikevičius, and Šaranda (2011) studied the relationship between several financial ratios and stock prices of companies listed on the Lithuanian stock exchange. They used 5 companies and a few financial ratios to their analysis. Their study results show that there is a negative impact of Debt Equity on stock prices, while ROA showed a positive impact.

Arkan (2016) investigated the relationship between the importance of financial ratios to predict the price of stocks. Data were collected for a period of 2005-2014 from 15 companies in the Kuwaiti Financial Market. His study suggests that while ROA have a significant positive impact on the behaviour of stock prices, current ratio's positive significance suggest the ratio is quite low to steer the stock price. However, debt-equity ratio, total asset turnover ratio, book value ratio provides enough significance to bring changes to stock prices.

### 2.4 Research Gaps in the previous studies on SET

Previous studies covered a large portion of companies listed in SET. However, research on the Transportation and Logistic sector in particular has hardly been explored individually against financial ratios, that too in English. This paper aims to fill this void and be a stepping stone for further future research in this sector of industry.

### 2.5 Empirical Review

The Primary aim of financial reporting is to provide information about the financial position and performance of companies provided by numbers disclosed in financial statements which was considered to be a guide for their decisions. Accounting information is used to evaluate and forecast the profitability, equity growth, cash flow and dividends of corporates' economic etc. Numbers in the financial reporting could influence investor confidence in the financial markets. Investors are looking for opportunities to invest additional resources in the most
efficient capital markets and one of the main factors that every investor has in making his/her decision is to give special attention to "stock price".

Financial ratios are one of the simplest tools to evaluate performance of companies. Both Internal and External users use financial ratios for making their economic decisions; including investing, and performance evaluation decisions.

The use of accounting data and financial ratios to explain changes in stock prices is frequently referred to in the literature, using a financial ratio analysis can be largely attributed to changes in the stock prices has often been addressed by academics and financial analysts. (Benninga, 2014) in his book states that stock prices seem to change randomly over time.

Studies suggest variables such as dividend yield, price to earnings ratio; bookto market ratio, return on equity, current ratio, and return on assets are commonly tested to predict stock prices and returns. However, the evidence of significance on stock prices are mixed.

Torpedo (2001) in his experiment identified the predictability of profitability of companies in Stock Exchange using financial ratios. In his own study, he deduces that a financial ratio analysis usually has a high correlation with the profitability and the predictability by multiple regression financial ratios.

### 2.6 Summary

Stock market price fluctuations can be caused by both internal and external factors, which in turn can aggravate the fragilities of the domestic financial market and financial systems. Also, only one financial market fluctuation can influence another market. This paper focuses on whether the volatility in Thailand's stock
market is influenced by the sampled factors or not, and whether the Thailand stock market is decoupled from other stock markets in the region or not. These questions are answerable by identifying the linkages between the Thai stock market returns and the sample examined factors. Testing the contagion effect in equity markets includes Thailand's stock market returns and other stock market returns in the region.

## CHAPTER 3

## RESEARCH METHODOLOGY

### 3.1 Introduction

The chapter describes the research design and the methods used to conduct the research. It also states where and how the data was collected.

### 3.2 Research Design

The research follows a descriptive research design describing the current market conditions of the companies through the various financial ratios followed by a correlational study to show the relationship of these financial ratios with the stock prices.

### 3.3 Population of the Study

There are 777 listed companies in the Stock Exchange of Thailand of which 22 companies belong to the Transportation and Logistics Sector. 10 companies of the 22 listed companies in the sector were selected as adequate data were available which reflected the whole sectors behaviour.

### 3.4 Data Collection and List of Variables

The research is completely conducted with secondary data. Share prices were collected from the Stock Exchange of Thailand (SET) and other data were collected through websites of SETSMART - SET Market Analysis and Reporting Tool, SETTRADE. Data were collected for a total of 11 years divided into quarterly data.

Different variables have been used in this study to find the impact of these ratios on the stock prices.

## Dependent Variable

- Price of Stock


## Independent Variable(s)

- Current Ratio (CR)
- Total Asset Turnover (TAT)
- Debt to Equity Ratio (D/E)
- $\quad$ Return on Assets (ROA)
- Price to Book Value (P/BV)

Companies being studied are:

- AIRPORTS OF THAILAND PUBLIC COMPANY LIMITED (AOT)
- ASIAN MARINE SERVICES PUBLIC COMPANY LIMITED (ASIMAR)
- BEGISTICS PUBLIC COMPANY LIMITED (B)
- BTS GROUP HOLDINGS PUBLIC COMPANY LIMITED (BTS)
- JUTHA MARITIME PUBLIC COMPANY LIMITED (JUTHA)
- KRUNGDHEP SOPHON PUBLIC COMPANY LIMITED (KWC)
- PRECIOUS SHIPPING PUBLIC COMPANY LIMITED (PSL)
- THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED (THAI)
- THAI SUGAR TERMINAL PUBLIC COMPANY LIMITED (TSTE)
- THORESEN THAI AGENCIES PUBLIC COMPANY LIMITED (TTA)


### 3.5 Hypotheses Development

To properly meet the requirements of the research objectives the following hypotheses are set:

## Hypothesis 1

H0: There is no positive association between the dependent variable price of stock and the independent variable current ratio (CR).

H1: There is a relationship between the dependent variable price of stock and the independent variable current ratio (CR)

## Hypothesis 2

H 0 : There is no positive association between the dependent variable price of stock and the independent variable total asset turnover (TAT).

H1: There is a relationship between the dependent variable price of stock and the independent variable total asset turnover (TAT).

## Hypothesis 3

H0: There is no positive association between the dependent variable price of stock and the independent variable Debt to Equity Ratio (D/E).

H1: There is a relationship between the dependent variable price of stock and the independent variable Debt to Equity Ratio (D/E).

## Hypothesis 4

H0: There is no positive association between the dependent variable price of stock and the independent variable Return on Assets (ROA).

H1: There is a relationship between the dependent variable price of stock and the independent variable Return on Assets (ROA).

## Hypothesis 5

H 0 : There is no positive association between the dependent variable price of stock and the independent variable Price to Book Value (P/BV).

H 1 : There is a relationship between the dependent variable price of stock and the independent variable Price to Book Value (P/BV).

### 3.6 Data Analysis

A multiple regression analysis was used to determine the relationship the price of stock and 5 different financial ratios. The 5 financial ratios were chosen to be: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, and Return on Asset and Price to Book Ratio. The market price of the stock was recorded at quarterly intervals for a period of 11 years along with the 5 financial ratios for the same period. Following, the price of stock was regressed against Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset and Price to Book Ratio using the following model:

$$
P t=\alpha+\beta i C R t^{* *}+\beta i T A T t+\beta i D E t+\beta i R O A t^{* * *}+\beta i P B V t+E t
$$

where,

$$
\begin{array}{ll}
\mathrm{Pt} & =\text { price of stock in period } \mathrm{t} \\
\mathrm{CRt} & =\text { current ratio in period } \mathrm{t} \\
\mathrm{TATt} & =\text { Total Asset Turnover in period } \mathrm{t} \\
\mathrm{ROAt} & =\text { Return on Asset in period } \mathrm{t} \\
\mathrm{PBVt} & =\text { Price to book value in period } \mathrm{t} \\
\alpha, \beta \mathrm{~B} & =\text { regression coefficients } \\
\mathrm{Et} & =\text { residual term }
\end{array}
$$

## CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

### 4.1 Introduction

The chapter involves the analysis of the data that has been collected and discusses about the findings. The data were collected from secondary sources such as SETSMART - SET Market Analysis and Reporting Tool, SETTRADE Website and SET - The Stock Exchange of Thailand websites. The study covered 10 firms that fit the criteria and of whom data were found. Data of 11 years were, from 2008 to 2018 was analysed using Microsoft Excel. In order to analyse the relationship between the price of stock and financial ratios, a multiple regression model was used using Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value as the independent variables.

### 4.2 Multiple Regression Analysis

Table 4.1 : Multiple Regression Analysis of AIRPORTS OF THAILAND PUBLIC COMPANY LIMITED (AOT)

## Dependent Variable: P

Method: Least Squares
Date: 07/08/19 Time: 15:03
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| CR | 3.959629 | 1.595894 | 2.481135 | 0.0175 |
| TAT | 172.7301 | 55.32781 | 3.121939 | 0.0034 |
| DE | 12.85116 | 9.514106 | 1.350748 | 0.1846 |
| ROA | -2.103649 | 0.55657 | -3.779667 | 0.0005 |
| PBV | 10.12252 | 0.955186 | 10.59743 | 0 |
| C | -48.68338 | 14.29742 | -3.405047 | 0.0015 |
| R-squared | $\mathbf{0 . 9 8 2 8 7 6}$ | Mean dependent var | 23.66711 |  |

Table 4.1 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was taken into consideration during the regression of Price of stock of Airports off Thailand Public Company Limited (AOT). The result gave a R-square coefficient
of 0.982876 which means, the variables jointly explain a very high percentage of $98.2876 \%$ of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective corresponding levels of significance, the p-value.

Current Ratio has a coefficient of 3.959629 , a positive value meaning it has positive effect on the Price of Stock. It also has a P-value of 0.0175 , which is less than 0.05 , meaning the positive effect it has on the price of stock is significant. From the regression analysis, we can infer that if Current Ratio increases by 1 point then Price of Stock increases by 3.96 Baht

Total Asset Turnover has a coefficient of 172.7301 , a positive value meaning it has a positive effect on the price of stock. The P -value is also 0.0034 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Total Asset Turnover increases by 1 point then Price increases by 172.73 Baht

Debt-Equity Ratio has a coefficient of 12.85116 , meaning a positive effect on the price of stock. However, the P-value is 0.1846 , which is more than 0.05 , meaning the effect it has on the price of stock is insignificant.

Return on Asset has a coefficient of -2.103649 , which gives a negative effect on the price of stock. The P -value is 0.0005 , meaning the negative effect on the price of stock is significant. From the regression analysis, we can infer that if Return on Asset increases by 1 point then Price decreases by 2.10 Baht

Price to Book Ratio has a coefficient of 10.12252 , resulting in a positive effect on the price of stock. The p -value is 0.00 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we
can infer that if Price to Book Ratio increases by 1 point then Price increases by 10.12 Baht
which results in the regression model of
$\mathrm{Pt}=-48.68+3.96 \mathrm{CRt}^{* *}+172.73 \mathrm{TATt}+12.85 \mathrm{DEt}-2.10 \mathrm{ROAt}^{*} * *+$ 10.12 PBVt + Et

Table 4.2 : Multiple Regression Analysis of ASIAN MARINE SERVICES PUBLIC COMPANY LIMITED (ASIMAR)

## Dependent Variable: $\mathbf{P}$

Method: Least Squares
Date: 07/08/19 Time: 15:58
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| CR | 0.760205 | 0.122148 | 6.223614 | 0 |
| TAT | 0.050025 | 0.252465 | 0.198148 | 0.844 |
| DE | -0.263545 | 0.063804 | -4.130529 | 0.0002 |
| ROA | -0.011085 | 0.009881 | -1.121928 | 0.2688 |
| PBV | 1.199744 | 0.131267 | 9.13973 | 0 |
| C | -0.190861 | 0.363809 | -0.524619 | 0.6028 |
| R-squared | $\mathbf{0 . 9 5 0 1 1 1}$ | Mean dependent var | 1.850222 |  |

Table 4.2 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was taken into consideration during the regression of Price of stock of Asian Marine Services Public Company Limited (ASIMAR). The result gave a R-square coefficient of 0.950111 which means, the variables jointly explain $95.0111 \%$ of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective corresponding levels of significance, the p-value.

Current Ratio has a coefficient of 0.760205 , a positive value meaning it has positive effect on the Price of Stock. It also has a P-value of 0 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Current Ratio increases by 1 point, price of the stock will increase by 0.76 Baht

Total Asset Turnover has a coefficient of 0.050025 , meaning it has a positive effect on the price of stock. However, the P-value is 0.844 , which is more than 0.05 , meaning the positive effect on the price of stock is insignificant.

Debt-Equity Ratio has a coefficient of -0.263545 , meaning the ratio has a negative effect on the price of stock. It has a P-value of 0.0002 , which is less than 0.05 , meaning the negative effect it has on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point price will decrease by 0.26 Baht.

Return on Asset has a coefficient of -0.011085 , which indicates that it has a negative effect on the price of stock. The P -value is 0.2688 , meaning the negative
effect on the price of stock is significant. From the regression analysis, we can infer that if Return on Asset increases by 1-point, price will decrease by 0.01 Baht.

Price to Book Ratio has a coefficient of 1.199744 , which results in a positive effect on the price of stock. The p-value is 0.00 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Price to Book Ratio increases by 1 point, price will increase by 1.2 Baht.
which results in the regression model of

$$
\begin{aligned}
& \mathrm{Pt}=-0.19+0.76 \mathrm{CRt}^{* * *}+0.05 \mathrm{TATt}-0.26 \mathrm{DEt} * * *-0.01 \mathrm{ROAt}+ \\
& 1.20 \mathrm{PBVt} * * *+\mathrm{Et}
\end{aligned}
$$

Table 4.3 : Multiple Regression Analysis of BEGISTICS PUBLIC COMPANY
LIMITED (B)

## Dependent Variable: P

Method: Least Squares
Date: 07/08/19 Time: 16:46
Sample: 145
Included observations: 41

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| CR | 0.582367 | 0.128125 | 4.545301 | 0.0001 |
| TAT | -5.205232 | 1.131957 | -4.598435 | 0.0001 |

Table 4.3 (Continued) : Multiple Regression Analysis of BEGISTICS PUBLIC COMPANY LIMITED (B)

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| DE | 0.105708 | 0.035206 | 3.002542 | 0.0049 |
| ROA | -0.004418 | 0.009055 | -0.487928 | 0.6286 |
| PBV | 0.026216 | 0.013361 | 1.962143 | 0.0577 |
| C | 1.828817 | 0.297681 | 6.143545 | 0 |
| R-squared | $\mathbf{0 . 5 9 1 6 1 2}$ | Mean dependent var |  |  |

Table 4.3 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was taken into consideration during the regression of Price of stock of Begistics Public Company Limited (B). The result gave a R-square coefficient of 0.591612 meaning only about $59.1512 \%$ of the variation in the price of stock can be explained by the variables jointly.

The table also represents the coefficients of the all the ratios and their respective significance values, the p -value.

Current Ratio has a coefficient of 0.582367 , a positive value meaning it has positive effect on the Price of Stock. It also has a P-value of 0.0001 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Current Ratio increases by 1 point, price is going to increase by 0.58 baht.

Total Asset Turnover has a coefficient of -5.205232 , giving a negative effect on the price of stock. The P-value is also 0.0001 , which is less than 0.05 , meaning the
negative effect on the price of stock is significant. From the regression analysis, we can infer that if Total Asset Turnover Ratio increases by 1 point, price is going to decrease by 5.205 baht.

Debt-Equity Ratio has a coefficient of 0.105708 , meaning the ratio has a positive effect on the price of stock. The P-value of 0.0049 , which is less than 0.05 , means the positive effect it has on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point, price will increase by 0.105 Baht.

Return on Asset has a coefficient of -0.004418 , which indicates that it has a negative effect on the price of stock. But it has p -value of 0.6286 , meaning the effect on the price of stock is insignificant.

Price to Book Ratio has a coefficient of 0.026216 , which results in a positive effect on the price of stock. The $p$-value is 0.0577 , which is more than 0.05 , meaning the positive effect on the price of stock is insignificant.
which results in the regression model of

$$
\begin{aligned}
\mathrm{Pt}=1.83+0.59 \mathrm{CRt}^{* * *}- & 5.21 \mathrm{TATt}^{* * *}+0.11 \mathrm{DEt}^{* * *}-0.00 \mathrm{ROAt}+ \\
& 0.03 \mathrm{PBVt}^{*}+\mathrm{Et}
\end{aligned}
$$

Even though the results show ratios which show significant impact on the price of stock of Begistics Public Company Limited (B), since only $59.1512 \%$ can be explained, there remains an uncertainty between the relationship of the financial ratios and the stock price of the company.

Table 4.4 : Multiple Regression Analysis of BTS GROUP HOLDINGS PUBLIC COMPANY LIMITED (BTS)

## Dependent Variable: $\mathbf{P}$

Method: Least Squares
Date: 07/09/19 Time: 12:57
Sample (adjusted): 144
Included observations: 43 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| CR | 0.237227 | 0.063249 | 3.750695 | 0.0006 |
| TAT | -1.253824 | 1.755645 | -0.714167 | 0.4796 |
| DE | -0.964553 | 0.242145 | -3.983365 | 0.0003 |
| ROA | 0.040057 | 0.02211 | 1.811731 | 0.0782 |
| PBV | 3.754703 | 0.129455 | 29.00388 | 0 |
| C | 0.575178 | 0.307617 | 1.869788 | 0.0694 |
| R-squared | $\mathbf{0 . 9 7 3 8 9 6}$ | Mean dependent var | 6.82814 |  |

Table 4.4 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of BTS Group Holdings Public Company Limited (BTS). The result gave a R-square coefficient of 0.973896 meaning $97.3896 \%$ of the variation in the price of stock can be explained by the variables jointly.

The table also represents the coefficients of the all the ratios and their respective significance values, the p-value.

Current Ratio has a coefficient of 0.237227 , a positive value meaning it has a positive effect on the Price of Stock. A P-value of 0.0006 , which is less than 0.05 , means the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Current Ratio increases by 1 point, price is going to increase by 0.24 baht.

Total Asset Turnover has a coefficient of -1.253824 , resulting in a negative effect on the price of stock. However, with a P-value of 0.4796 , which is more than 0.05 , the negative effect on the price of stock insignificant.

Debt-Equity Ratio has a coefficient of -0.964553 , meaning the ratio has a negative effect on the price of stock. The P-value of 0.0003 , which is less than 0.05 , means the negative effect it has on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point, price will decrease by 0.96 Baht.

Return on Asset has a coefficient of 0.040057 , indicating a positive effect on the price of stock. But it has a $p$-value of 0.0782 , meaning the effect on the price of stock is insignificant.

Price to Book Ratio has a coefficient of 3.754703 , which results in a positive effect on the price of stock. It has a p-value is 0.00 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 3.75 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=0.58+0.24 \mathrm{CRt}^{* * *}-1.25 \mathrm{TATt}-0.96 \mathrm{DEt}^{* * *}+0.04 \mathrm{ROAt}^{* *}+ \\
3.75 \mathrm{PBVt}^{* * *}+\mathrm{Et}
\end{gathered}
$$

Table 4.5 : Multiple Regression Analysis of JUTHA MARITIME PUBLIC COMPANY LIMITED (JUTHA)

| Dependent Variable: P |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Method: Least Squares |  |  |  |  |
| Date: 07/09/19 Time: 13:33 |  |  |  |  |
| Sample (adjusted): 144 |  |  |  |  |
| Included observations: 44 after adjustments |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| CR | -8.613735 | 2.056211 | -4.18913 | 0.0002 |
| TAT | -0.962137 | 1.91007 | -0.503718 | 0.6174 |
| DE | -0.297446 | 0.084437 | -3.522721 | 0.0011 |
| ROA | 0.165689 | 0.04124 | 4.017713 | 0.0003 |
| PBV | 2.536269 | 0.355361 | 7.137162 | 0 |
| C | 3.341449 | 0.422201 | 7.914364 | 0 |
| R-squared | 0.857862 | Mean depe | t var | 3.724091 |

Table 4.5 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Jutha Maritime Public Company

Limited (JUTHA). The result gave a R-square coefficient of 0.857862 meaning the variables jointly explain $85.7862 \%$ of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective significance values, the p-value.

Current Ratio has a coefficient of -8.613735 , meaning it has a negative effect on the Price of Stock. The P-value of 0.0002 , which is less than 0.05 , means the negative effect on the price of stock is significant. From the regression analysis, we can infer that if Current Ratio increases by 1 point, price will decrease by 8.61 baht.

Total Asset Turnover has a coefficient of -0.962137 , resulting in a negative effect on the price of stock. However, a P-value of 0.6174 , which is more than 0.05 , means the negative effect on the price of stock insignificant.

Debt-Equity Ratio has a coefficient of -0.297446 , meaning the ratio has a negative effect on the price of stock. The P-value of 0.0011 , which is less than 0.05 , means the negative effect it has on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point, price will decrease by 0.30 baht.

Return on Asset has a coefficient of 0.165689 , indicating a positive effect on the price of stock. With a p-value of 0.0003 , the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Return on Asset increases by 1 point, price will increase by 0.17 Baht.

Price to Book Ratio has a coefficient of 2.536269 , which results in a positive effect on the price of stock. It has a p-value of 0.00 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we
can infer that if price to book ratio increases by 1 point, price will increase by 2.54 baht.

Which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=3.34-8.6 \mathrm{CRt}{ }^{* * *}-0.96 \mathrm{TATt}-0.30 \mathrm{DEt} * * *+0.17 \mathrm{ROAt}^{* * *}+ \\
2.54 \mathrm{PBVt}^{* * *}+\mathrm{Et}
\end{gathered}
$$

Table 4.6 : Multiple Regression Analysis of KRUNGDHEP SOPHON PUBLIC COMPANY LIMITED (KWC)

## Dependent Variable: $\mathbf{P}$

Method: Least Squares
Date: 07/09/19 Time: 14:26
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| CR | 1.2835 | 1.665769 | 0.770515 | 0.4456 |
| TAT | -418.9737 | 125.0155 | -3.351373 | 0.0018 |
| DE | -14.01966 | 38.7924 | -0.361402 | 0.7197 |
| ROA | 4.094884 | 1.765564 | 2.319306 | 0.0257 |
| PBV | 103.4881 | 6.137377 | 16.86195 | 0 |
| C | 77.43369 | 52.10091 | 1.486225 | 0.1453 |
| R-squared | $\mathbf{0 . 9 7 1 9 5 6}$ | Mean dependent var | 141.8778 |  |

Table 4.6 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Krungdhep Sophon Public Company Limited (KWC). The result gave a R-square coefficient of 0.971956 meaning the variables jointly explain $97.1956 \%$ of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective corresponding levels of significance.

Current Ratio has a coefficient of 1.2835 , meaning it has a positive effect but the P-value of 0.4456 , which is less than 0.05 , means the effect on the price of stock is insignificant.

Total Asset Turnover has a coefficient of -418.9737, resulting in a negative effect on the price of stock. As the P-value is 0.0018 , which is more than 0.05 , means that Total Asset Turnover has a negative effect on the price of stock which is significant. Hence, from the regression analysis, we can infer that if Total Asset Turnover ratio increases by 1 point, price will decrease by 418.97 Baht.

Debt-Equity Ratio has a coefficient of -14.01966 , meaning the ratio has a negative effect on the price of stock. But since the P -value is 0.7197 , which is more than 0.05 , the negative effect on the price of stock is insignificant.

Return on Asset has a coefficient of 4.094884 , indicating a positive effect on the price of stock. With a p-value of 0.0257 , the positive effect on the price of stock is significant. From the regression analysis, we can infer that if Return on Asset increases by 1 point, price will increase by 4.09 baht.

Price to Book Ratio has a coefficient of 103.4881 , meaning a positive effect on the price of stock. It has a p-value is 0.00 , which is less than 0.05 , meaning the
positive effect on the price of stock is significant. From the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 103.49 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=77.43+1.28 \mathrm{CRt}-418.97 \mathrm{TATt} * * *-14.02 \mathrm{DEt}+4.10 \mathrm{ROAt} * *+ \\
103.49 \mathrm{PBVt}^{* * *}+\mathrm{Et}
\end{gathered}
$$

Table 4.7 : Multiple Regression Analysis of PRECIOUS SHIPPING PUBLIC
COMPANY LIMITED (PSL)

## Dependent Variable: $\mathbf{P}$

Method: Least Squares
Date: 07/09/19 Time: 15:04
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| CR | 0.17042 | 0.051449 | 3.312414 | 0.002 |
| TAT | 7.369932 | 3.392299 | 2.172548 | 0.036 |
| DE | -4.216374 | 0.51163 | -8.241057 | 0 |
| ROA | -0.186944 | 0.045761 | -4.085199 | 0.0002 |
| PBV | 10.22351 | 0.402455 | 25.40285 | 0 |
| C | 2.176739 | 1.014944 | 2.144689 | 0.0383 |
| R-squared | $\mathbf{0 . 9 5 5 1 1 4}$ | Mean dependent var |  |  |
| 11.88311 |  |  |  |  |

Table 4.7 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Precious Shipping Public Company Limited (PSL). The result gave a R-square coefficient of 0.955114 meaning the variables jointly explain 95.5114 \% of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective corresponding levels of significance.

Current Ratio's coefficient of 0.17042 indicates it has a positive significant effect on the price of stock with a P-value of 0.002 , which is less than 0.05 . This means if Current Ratio increases by 1 point, price will increase by 0.17 baht.

Total Asset Turnover has a coefficient of 7.369932 , meaning there is a positive effect on the price of stock. The P -value of 0.036 , which is less than 0.05 , means the effect of Total Asset Turnover on the price of stock is significant. From the regression analysis, we can infer that if Total Asset Turnover ratio increases by 1 point, price will increase by 7.37 baht.

Debt-Equity Ratio has a coefficient of -4.216374 , meaning the ratio has a negative effect on the price of stock. The P-value is 0.00 , which is less than 0.05 , meaning the negative effect on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point, price will decrease by 4.21 baht.

Return on Asset has a coefficient of -0.186944 , indicating a negative effect on the price of stock. With a p-value of 0.0002 , the negative effect on the price of stock is significant. From the regression analysis, we can infer that if Return on Asset increases by 1 point, price will decrease by 0.19 baht.

Price to Book Ratio has a coefficient of 10.22351 , meaning a positive effect. It has a $p$-value is 0.00 , which is less than 0.05 , meaning the positive effect on the price of stock is significant. From the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 10.22 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=2.18+0.17 \mathrm{CRt} * * *+7.37 \mathrm{TATt} * *-4.22 \mathrm{DEt} * * *-0.19^{* * *}+ \\
10.22 \mathrm{PBVt}+\mathrm{Et}
\end{gathered}
$$

Table 4.8 : Multiple Regression Analysis of THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED (THAI)

## Dependent Variable: P

Method: Least Squares
Date: 07/09/19 Time: 15:28
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| CR | 10.57949 | 4.243017 | 2.493389 | 0.017 |
| TAT | -8.715105 | 13.68326 | -0.636917 | 0.5279 |
| DE | -1.432155 | 0.36457 | -3.928339 | 0.0003 |
| ROA | 0.717789 | 0.253228 | 2.834558 | 0.0072 |

Table 4.8 (Continued) : Multiple Regression Analysis of THAI AIRWAYS

## INTERNATIONAL PUBLIC COMPANY LIMITED (THAI)

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
| PBV | 10.92103 | 3.278073 | 3.331539 | 0.0019 |
| $\mathbf{C}$ | 16.71434 | 11.09561 | 1.506392 | 0.14 |
| R-squared | $\mathbf{0 . 8 0 6 9 6}$ | Mean dependent var | 19.81111 |  |

Table 4.8 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Thai Airways International Public Company Limited (THAI). The result gave a comparatively lower R -square coefficient of 0.80696 meaning the variables jointly only explain $80.696 \%$ of the variation in the price of stock.

The table also represents the coefficients of the all the ratios and their respective p-values.

The company's Current Ratio coefficient is 10.57949 indicating a positive effect on the price of stock. The P-value of 0.017 , which is less than 0.05 , means the effect is significant. Hence, if Current Ratio increases by 1 point, price will increase by 10.58 baht.

Total Asset Turnover has a coefficient of -8.715105. This shows a negative effect on the price of stock. But the P -value is 0.5279 , which is more than 0.05 . Hence, the effect on price of stock is insignificant.

Debt-Equity Ratio has a coefficient of -1.432155 , meaning the ratio has a negative effect on the price of stock. The P-value is 0.0003 , which is less than 0.05 ,
meaning the negative effect on the price of stock is significant. From the regression analysis, we can infer that if Debt-Equity ratio increases by 1 point, price will decrease by 1.43 baht.

Return on Asset has a coefficient of 0.717789 , indicating a positive effect on the price of stock. With a p-value of 0.0072 , the positive effect on the price of stock is significant. Therefore, regression analysis suggests that, if Return on Asset increases by 1 point, price will increase by 0.72 baht.

Price to Book Ratio has a coefficient of 10.92103 , meaning a positive effect. The p -value of 0.0019 , which is less than 0.05 , means that the positive effect on the price of stock is significant. From the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 10.92 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=16.71+10.58 \mathrm{CRt} * *-8.72 \mathrm{TATt}^{*}-1.43 \mathrm{DEt} * * *+0.72 \mathrm{ROAt} * * *+ \\
10.92 \mathrm{PBVt} * * *+\mathrm{Et}
\end{gathered}
$$

Table 4.9 : Multiple Regression Analysis of THAI SUGAR TERMINAL PUBLIC COMPANY LIMITED (TSTE)

## Dependent Variable: P

Method: Least Squares
Date: 07/09/19 Time: 15:42
Sample: 145
Included observations: 45

Table 4.9 (Continued) : Multiple Regression Analysis of THAI SUGAR TERMINAL PUBLIC COMPANY LIMITED (TSTE)

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| CR | 4.379347 | 1.724153 | 2.539999 | 0.0152 |
| TAT | -4.420872 | 0.734399 | -6.019714 | 0 |
| DE | 0.017798 | 0.795097 | 0.022384 | 0.9823 |
| ROA | -0.165675 | 0.049502 | -3.346799 | 0.0018 |
| PBV | 4.325088 | 0.333828 | 12.95604 | 0 |
| C | -0.482785 | 2.032081 | -0.237582 | 0.8134 |
| R-squared | $\mathbf{0 . 8 9 6 5 8 8}$ | Mean dependent var | 4.833556 |  |

Table 4.9 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Thai Sugar Terminal Public Company Limited (TSTE). The result gave a R-square coefficient of 0.896588 meaning the variables jointly explain $89.6588 \%$ of the variation in the price of stock. The table also represents the coefficients of the all the ratios and their respective corresponding significance values.

Current Ratio has a coefficient of 4.379347 meaning there is a positive effect on the price of stock. The P-value of 0.0152 , which is less than 0.05 , means the effect is significant. Hence, if Current Ratio increases by 1 point, price will increase by 4.38 baht.

Total Asset Turnover has a coefficient of -4.420872. This shows a negative effect on the price of stock. The P-value is 0.00 , which is less than 0.05 , means the effect on price of stock is significant. Therefore, if Total Asset Turnover increase by 1 point, price will decrease by 4.42 baht.

Debt-Equity Ratio has a coefficient of 0.017798 , meaning the ratio has a positive effect on the price of stock. However, the P-value of 0.9823 , which is more than 0.05 , means the effect is insignificant.

Return on Asset has a coefficient of -0.165675 , indicating a negative effect on the price of stock. With a p-value of 0.0018 , the negative effect on the price of stock is significant. Therefore, if Return on Asset increases by 1 point, price will decrease by 0.17 baht.

Price to Book Ratio has a coefficient of 4.325088 , which shows a positive effect on the price of stock. The p-value of 0.00 , which is less than 0.05 , means that the positive effect on the price of stock is significant. Hence, from the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 4.33 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=-0.48+4.38 \mathrm{CRt} * *-4.42 \mathrm{TATt} * * *+0.02 \mathrm{DEt}-0.17 \mathrm{ROAt} * * *+ \\
4.33 \mathrm{PBVt}^{* * *}+\mathrm{Et}
\end{gathered}
$$

Table 4.10 : Multiple Regression Analysis of THORESEN THAI AGENCIES

## PUBLIC COMPANY LIMITED (TTA)

## Dependent Variable: $\mathbf{P}$

## Method: Least Squares

Date: 07/09/19 Time: 15:58
Sample: 145
Included observations: 45

| Variable | Coefficient | Std. Error | t-Statistic | P-Value |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| CR | -2.03814 | 1.830489 | -1.11344 | 0.2723 |
| TAT | 16.55709 | 7.782196 | 2.127559 | 0.0398 |
| DE | 8.71777 | 7.59796 | 1.147383 | 0.2582 |
| ROA | 0.210911 | 0.089693 | 2.351474 | 0.0238 |
| PBV | 9.419197 | 2.786704 | 3.38005 | 0.0017 |
| C | -1.198627 | 6.706359 | -0.17873 | 0.8591 |
| R-squared | $\mathbf{0 . 5 4 1 7 4}$ | Mean dependent var |  |  |

Table 4.10 shows the regression analysis obtained when all the ratios: Current Ratio, Total Asset Turnover, Debt-Equity Ratio, Return on Asset, Price to Book Value was regressed against the price of stock of Thoresen Thai Agencies Public Company Limited (TTA). The result gave a R-square coefficient of 0.54174 meaning the variables jointly explain only $54.174 \%$ of the variation in the price of stock. The table also represents the coefficients of the all the ratios and their respective corresponding significance values.

The Current Ratio has a coefficient of -2.03814 , which means there is a negative effect on the price of stock. The P -value of 0.2723 , which is more than 0.05 , indicates that the effect is insignificant.

Total Asset Turnover has a coefficient of 16.55709 . which shows a positive effect on the price of stock. The P-value is 0.0398 , which is less than 0.05 , means the effect on price of stock is significant. Therefore, if Total Asset Turnover increase by 1 point, price will increase by 16.56 baht.

Debt-Equity Ratio has a coefficient of 8.71777 , meaning the ratio has a positive effect. However, the P -value is 0.2582 , which is more than 0.05 , meaning the effect is insignificant.

Return on Asset has a coefficient of 0.210911 , indicating a positive effect on the price of stock. With a p-value of 0.0238 , this suggests that effect on the price of stock is significant. Therefore, if Return on Asset increases by 1 point, price will decrease by 0.21 baht.

Price to Book Ratio has a coefficient of 9.419197 , which shows a positive effect on the price of stock. The p-value of 0.0017 , which is less than 0.05 , means that the positive effect on the price of stock is significant. Hence, from the regression analysis, we can infer that if price to book ratio increases by 1 point, price will increase by 9.42 baht.
which results in the regression model of

$$
\begin{gathered}
\mathrm{Pt}=-1.20-2.04 \mathrm{CRt}+16.56 \mathrm{TATt} * *+8.72 \mathrm{DEt}+0.22 \mathrm{ROAt} * *+ \\
9.42 \mathrm{PBVt} * * *
\end{gathered}
$$

Even though the results show ratios which show significant impact on the price of stock of Begistics Public Company Limited (B), since only 54.174\% can be
explained, there remains an uncertainty between the relationship of the financial ratios and the stock price of the company.

### 4.3 Discussion

Hypothesis 1: For regression tests between cash ratio and price of stocks, a significant result can be seen. Current Ratio except for Krungdhep Sophon Public Company Limited (KWC) and Thoresen Thai Agencies Public Company Limited (TTA) has had a positive effect on the prices of stock. However, there lies an exception that the negative impact of Thoresen Thai Agencies Public Company Limited (TTA) has an insignificant impact. Hence, it can be assumed that on a normal course, current ratio has a significant positive impact on the prices of stock.

Thus, as only 2 companies out of 10 companies had a $p$ value lesser than 0.05 , in this case the null hypothesis will be rejected. It will be expressed that a positive relation between cash ratio and price of stock has been identified.

Hypothesis 2: Analysis of Total Asset Turnover show mixed results where 4 companies seem to have a positive effect whereas the rest 6 show a negative effect on the prices of stock. Out of these 10 companies, only 6 companies show that these effects are significant. Out of these 6,3 of the companies show positive effect whereas the other 3 show negative effect. Hence, Total Asset Turnover have come up with mixed results and hence, does not necessarily prove that it has significant effect on price of stock.

Due to the mixed results concerning the significance of the result, it can be finalized that total asset turnover is not impactful enough on the prices of stocks.

Here, null hypothesis will be accepted stating no relationship between the two variables.

Hypothesis 3: Debt Equity ratio show 4 of the companies are have positive effect on the stock prices and 6 have negative effect. Of the 4 positive effect companies, 2 of them are insignificant. Hence, even though there is a mixture, it can be said to a certain significance that Debt Equity ratio has a negative effect on the price of stock.

Here, the p value results show insignificant results for 4 companies. Here, null hypothesis will be accepted stating no relationship between the two variables.

Hypothesis 4:3 of the companies show that ROA has insignificant effect whereas the rest show significance. Of the 7 that show significance, 4 show positive effect while 3 show negative effect. Hence, ROA is not a very ratio to judge on the significance and impact it has on stock price.

As in most cases the results show significant results, alternative hypothesis will be accepted as relation between ROA and the price of stocks have been identified.

Hypothesis 4: Regression Analysis of all the 10 companies show that Price to Book ratio has a positive significant impact on the stock price of each of the 10 companies. Hence, Price to book ratio show a strong significant positive impact on the stock prices of the companies.

In this case, stock prices of all companies show significant relation with all the independent variables. Thus, the alternate hypothesis will be accepted to state there is a strong impact between the two variables.

## CHAPTER 5

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Introduction

The chapter includes a summary of the findings from the research, the conclusion and the limitations of the study. Recommendations are also presented in this chapter.

### 5.2 Summary of the Findings

This paper intended to find the relationship between financial ratios and stock prices amongst the Transportation and Logistics Sector companies enlisted in the Stock Exchange of Thailand. Using multiple variable regression model, a relationship has been established.

Table 5.1 : The results of the hypothesis testing

| Stock | CR | TAT | DE | ROA | PBV |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AOT | + | + | No | - | + |
| ASIMAR | + | No | Significance |  |  |
| B | + | - | + | No | + |

Table 5.1 (Continued) : The results of the hypothesis testing

| Stock | CR | TAT | DE | ROA | PBV |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BTS | + | No | - | No | + |
| JUTHA | - | Significance |  | Significance | + |
| KWC | + | - | No | + | + |
| PSL | + | + | No | + | + |
| THAI | + | No |  |  |  |
| TSTE |  | Significance | Significance |  | + |

The above table indicates that CR and PBV mostly have a positive impact on the dependent variable price of stock. TAT and DE are not significant for most of the stocks. Even though, result of ROA is positive in most cases, it is not significant enough.

The study found out that current ratio generally is a good variable to determine stock price as it in most cases have a positive effect on the price.

On the other hand, debt equity ratio while it shows a mixture of both significance and insignificance with more being significant, they usually tend to have a negative effect on stocks prices.

Total asset turnover along with return on assets provide a mixture of results. Both these variables show a mixture of both significance and insignificance for different companies, as well as a mixture of both positive and negative effect on different companies which provide an inconsistency of outcomes to consider it as a variable to determine stock prices.

Price to Book ratio show a complete positive significance on stock prices for which it can be considered as a good variable to determine the positive impact on stock prices.

### 5.3 Conclusions

The study determines the relationship between stock prices and 5 independent financial ratios. Multiple regression analysis indicates that current ratio, price to book ratio have a significant positive impact on stock prices whereas debt-equity ratio has significant negative impact on stock prices.

Total Asset Turnover and Return on Asset have different effect on stock prices from company to company and hence, do not produce similar types of results.

### 5.4 Limitations of the Study

The study is completely based on secondary data from the year 2008 to 2018 from different website sources. Also, a major part of the data that were available was in Thai language which required prolonged hours to have them converted into

English. Another key limitation was the use of only 5 variables to determine effect on stock prices while not taking important variables such as dividend offered.

### 5.5 Scope for further study

The relationship of financial ratios with stock prices is quite a common research topic. However, such researches have hardly been done on the Stock Exchange of Thailand, especially taking the companies from Transportation and Logistics sector. Hence, further study can be done in the future on companies from this sector and using different variables. Another scope for study is a research being done on the Stock Exchange of Thailand in English as most researches that have been done and are available is in different languages.

## BIBLIOGRAPHY

Abreu, D., \& Brunnermeier, M. K. (2003). Bubbles and Crashes. Econometrica, 71 (1), 173-204.

Arkan, T. (2016). The Importance of Financial Ratios in Predicting Stock Price Trends: A Case Study in Emerging Markets. Finanse, Rynki Finansowe, Ubezpieczenia, 13-26. Retrieved from https://pdfs.semanticscholar.org/e27e/bd57dc467ecb3507f399df9becda8de93e 0b.pdf.

Benninga, S. (2014). Financial Modeling. United States: MIT.
Besley, S., \& Brigham, E. (n.d.). Principles of Finance. Cengage Learning.
Bodie, Z., Kane, A., \& Marcus, A. J. (2013). Investments (10th Edition). New York: McGraw-Hill Education.

Bollerslev, T., \& Hodrick, R. J. (1992). Financial Market Efficiency Tests. Cambridge, Massachusetts: National Bureau of Economic Research.

Capaul, C., Rowley, I., \& Sharpe, W. F. (1993). International Value and Growth Stock Returns. Financial Analysts Journal, 49 (1), 27-36.

Daniel, K., Hirshleifer, D., \& Subrahmanyam, A. (1998). Investor Psychology and Security Market Under- and Overreactions. The Journal of Finance, 53 (6), 1839-1885.

Dzikevičius, A., \& Šaranda, S. (2011). Can financial ratios help to forecast stock prices. Journal of Security and Sustainability Issues, 1 (2), 147-157.

Fama, E. F. (1965). The Behavior of Stock-Market Prices. The Journal of Business, 38 (1), 34-105.

Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. The Journal of Finance, 25 (2), 383-417.

Fama, E. F., \& French, K. R. (1992). The Cross-Section of Expected Stock Returns. The Journal of Finance, 47 (2), 427-465.

Fernando, R., Rivai, A., \& Suharto. (2018). Effect of Current Ratio, Debt Ratio, Return of Asset Ratio And Exchange Rates on Stock Price PT Indofood Sukses Makmur Tbk. The International Journal of Engineering and Science, 7 (10), 70-83.

Gallo, A. (2015, September 14). A Refresher on Current Ratio. Retrieved from https://hbr.org/2015/09/a-refresher-on-current-ratio

Gallo, A. (2015, July 13). A Refresher on Debt-to-Equity Ratio. Retrieved from https://hbr.org/2015/07/a-refresher-on-debt-to-equity-ratio

Hargrave, M. (2019). Return on Assets-ROA. Retrieved from https://www.investopedia.com/terms/r/returnonassets.asp

Hayes, A. (2019). Price-To-Book - P/B Ratio. Retrieved from https://www.investopedia.com/terms/p/price-to-bookratio.asp

Herawati, A., \& Putra, A. S. (2018). The Influence of Fundamental Analysis on Stock Prices: The. European Research Studies Journal, 0 (3), 316-326.

Hong, H., \& Stein, J. C. (1999). A Unified Theory of Underreaction, Momentum Trading and Overreaction in Asset Markets. Journal of Finance, LIV (6), 2143-2184.

Malkiel, B. G. (2003). The Effcient Market Hypothesis and Its Critics. Journal of Economic Perspectives, 17 (1), 59 - 82.

Malkiel, B. G. (2005). Reflections on the Efficient Market Hypothesis: 30 Years Later. The Financial Review, 40 (2005), 1-9.

Phakularn, S. (2015). The Relationships Between Financial Ratios and the Largest Market Capitalized Companies' Stock Prices: Evidence from Stock Exchange of Thailand's All Sector Indices. Bangkok: Bangkok University.

Pinto, J. E., Robinson, T. R., \& Stowe, J. D. (2015). Equity Valuation: A Survey of Professional Practice. Charlottesville, VA: CFA Institute.

Sivaprasad, S., \& Muradoglu, G. (2009). Leverage, Stock Returns, Taxes and Industry Concentration [Electronic version]. SSRN Electronic Journal, Retrieved from SSRN database.

Thaler, R. H., \& Barberis, N. (2003). A Survey of Behavioral Finance. In G. M. Constantinides, M. Harris, \& R. M. Stulz, Handbook of the Economics of Finance (pp. 1051-1121). Amsterdam: North Holland.

Wijaya, J. (2015). The effect of financial ratios toward stock returns among Indonesian manufacturing companies. International Business and Management, 3 (2), 261-271.

Zeytinoglu, E., Akarim, Y., \& Çelik, S. (2012). The impact of market-based ratios on stock returns: The evidence from insurance sector in Turkey. International Research Journal of Finance and Economic, 84 (2012), 41-48.

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