The Relationship between Lease Liabilities under TFRS 16 and the Stock Price of a Listed Company on the Stock Exchange of Thailand

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Abstract

The purpose of this study was to examine the relationship between lease liabilities with the stock prices of listed companies on the Stock Exchange of Thailand in 2020, the first year that TFRS 16 was adopted. The study period was from the 1st to the 4th quarter of 2020. The sample consisted of 1,048 firms-quarter. The quantitative data were analyzed using descriptive statistics, correlation analysis, and multiple regression analysis. The results of the study revealed that there was a significant negative relationship between lease liabilities and stock prices. The analysis also indicated a negative correlation between per-share lease liabilities and stock prices, suggesting that the categorization of lease liabilities as interest-bearing obligations under TFRS 16 might lead investors to view these as future financial liabilities, potentially negatively influencing stock valuations.

***Keywords*:** *Lease Liability, Stock Price, Stock Exchange of Thailand*

1. Introduction

On January 1, 2020, the new Financial Reporting Standards on Leases or TFRS 16 (translated from IFRS 16 and applied in the Thai context) was announced for the first time in Thailand. As a result, Accounting Standard No. 17 regarding lease agreements had to be canceled Under TFRS 16. Thus, there were changes made to accounting methods on the lessee side, which meant the only way to recognize a lease was to classify it as a capital lease and recognize rights of use assets and lease liabilities according to lease agreements. However, the lease contract must have a rental period of more than 12 months unless the underlying asset has a low value. While the accounting method for the lessor has not changed significantly from TAS 17, Hansson Brusewitz and Pettersson (2020) stated that IFRS would help increase the reliability of information in financial reports. This change caused companies to recognize rights of use assets and lease liabilities under lease agreements in the statement of financial position. In the income statement, a company must recognize depreciation on right-of-use assets and interest expense on lease liabilities instead of recognizing rent. On the cash flow statement, cash payments for the principal portion of lease liabilities are classified as financing activities. Several studies stated that companies' financial statements may be affected to varying degrees by IFRS 16 depending on the amount of leases recognized in the financial statements (Aktas, Kargin & Arici, 2017; Sacarin, 2017; Morales Díaz & Zamora Ramírez, 2018). Therefore, accounting items arising from TFRS 16, including right-of-use assets and lease liabilities, may affect the securities valuation model according to Ohlson's (1995) model, which is a model that can explain the relationship between prices, securities, and accounting information. Chancharat, Sektrakul & Chancharat (2009) examined the efficiency of the Thai capital market using SUE, P/E, and B/M Anomalies during the period from 1992 to 2000 and

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found that the Stock Exchange of Thailand was an efficient moderate market (Semi-Strong Form Efficient Market).

Previous research has applied Ohlson's (1995) model to study the explanatory relevance of accounting information under lease standards. Lindsey (2006) and Giner and Pardo (2018) found that liabilities under finance leases and operating leases are negatively related to the equity value of companies in the United States and Spain. The research of Lindsey (2006) was a study under Financial Accounting Standards No.13 (SFAS 13), and the research of Giner and Pardo (2018), was a study under Accounting Standards No. 17 (IAS 17). From that research, the study before IFRS 16 was implemented. Later, Kobkanjanapued and Changlaw (2021) studied the relationship between stock prices and right-of-use assets and lease liabilities under IFRS 16. The study was conducted with listed companies on the Singapore Stock Exchange, which found that right-of-use assets and lease liabilities had a positive relationship with the stock prices of listed companies on the Singapore Stock Exchange.

This research is interested in studying the listed companies in Thailand by testing the relationship of lease liabilities under TFRS 16 with the stock price of listed companies on the Stock Exchange of Thailand in 2020, which is the first year that TFRS 16 became effective. Therefore, this research is interested in studying listed companies in Thailand by testing the relationship of lease liabilities under TFRS 16 with the stock price of listed companies on the Stock Exchange of Thailand in 2020, which is the first year that TFRS 16 was effective and enforced.

2. Objectives

To study the relationship between liabilities under lease agreements (Items recognized from the implementation of TFRS 16) and the stock prices of companies listed on the Stock Exchange of Thailand in 2020, which was the first year that TFRS 16 became effective.

3. Literature Review and Theories Related to the Research

The model of Ohlson (1995) by Supattarakul (2003) stated that the method of valuing securities according to the Ohlson Model was developed from the Dividend Discount Model (DDM). The DDM method will make the security price equal to the sum of the present value (Present Value) of future dividends and the business value on the last day of business (Terminal Value). The development of the DDM method will result in the ability to evaluate the value of securities without using past dividends to evaluate the security, that is, the Ohlson method of stock valuation by using the principles of Residual Income. The Ohlson Model method is a valuation of stocks that uses accounting information from the statement of financial position, namely the book value of net assets, and the income statement is net profit.

The Efficient Capital Market Hypothesis Theory by Fama (1970) divides the hypotheses regarding market efficiency into 3 levels. The first level is a market with a low level of efficiency (Weak Form Efficient Market Hypothesis), which is a market where current stock prices reflect market information regarding past prices and trading data for all securities. The second level is a Semi-Strong Form Efficient Market Hypothesis, which is a market with current security prices adjusted instantly to all public information. The third level is a Strong Form Efficient Market Hypothesis, which is a market in which current security prices fully reflect both public and non-public information. Chancharat, Sektrakul & Chancharat (2009) examined the efficiency of the Thai capital market using SUE, P/E, and B/M Anomalies during the period from 1992 to 2000 and found that the Stock Exchange of Thailand was an efficient moderate market (Semi-Strong Form Efficient Market).

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Financial Reporting Standard No. 16 (TFRS 16) became effective in Thailand for the accounting period starting from 1 January 2020. TFRS 16 has been used to replace TFRS 17 on the contract lease (TAS 17), the original version. Under TFRS 16, there was a change in accounting methods on the lessee's side, causing the lease to be reclassified as a capital lease. The term of the contract must be more than 12 months unless the underlying asset has a low value, and causes the company to recognize assets, rights of use, and liabilities under the lease in the statement of financial position. In the income statement, the company must recognize depreciation and interest expense under the lease contract instead of rent, and TFRS 16 helps prevent differences between operating leases and financial leases (Öztürk & Serçemeli, 2016). This results in lease transactions being classified as capital leases and thus no longer trigger off-balance sheet financing for long-term leases (Sari, Altintas & Taş, 2016). Therefore, under IFRS 16, the lessee side will use a single accounting method to recognize the lease, requiring the lease to be classified as a capital lease and recognize assets, rights of use and liabilities according to lease agreements. However, the lease contract must have a rental period of more than 12 months, unless the underlying asset has a low value. While the lessor accounting method has not changed significantly from IAS 17, past research by Lindsey (2006) studied the relationship between the capital lease liabilities and operating lease liabilities of U.S. companies under Financial Accounting Standards No. 13 (SFAS 13). The research results found that Capital lease liabilities and operating lease liabilities are negatively related to the market value of securities. Giner and Pardo (2018) studied the relevance of operating lease liabilities as a result of the adoption of IFRS 16 by listed companies in Spain. This is a study under Accounting Standards No. 17 (IAS 17) using operating lease information disclosed in the notes to the financial statements and adjusting the items to be liabilities under IFRS16 to test the relationship with the market value of the securities. The results show that the value of operating leases adjusted to debt is negatively related to the market value of securities. More recently, Kobkanjanapued and Changlaw (2021) studied the relationship between securities price and rights-of-use assets and contractual lease liabilities under IFRS 16 by studying companies listed on the Singapore Stock Exchange. The study found that right-of-use assets and lease liabilities had a positive relationship with the stock prices of companies listed on the Singapore Stock Exchange.

From the literature review, the researcher was able to formulate the following research hypotheses.

H1: Lease liabilities per share are related to stock prices.

Research Conceptual Framework

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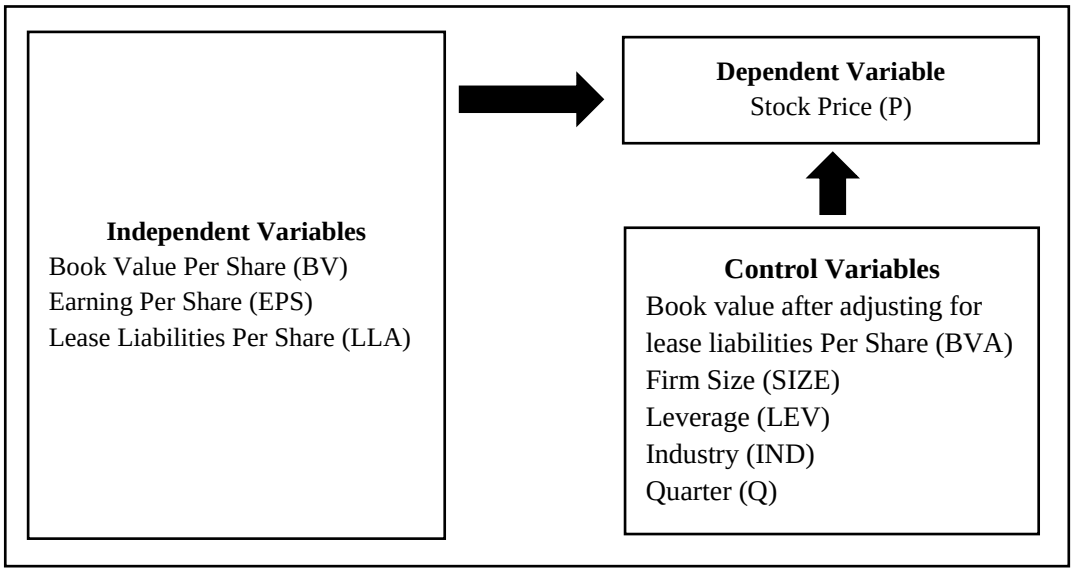

Figure 1. Conceptual Framework of Research

4. Research Methodology

4.1 Data Collection

This research uses data from the financial statements and stock prices of companies listed on the Stock Exchange of Thailand, which was collected quarterly from the first quarter to the fourth quarter of 2020, the year in which TFRS 16 was implemented in Thailand for the first time. Data collection was derived from the online database (www.set.or.th) of the Stock Exchange of Thailand.

4.2 Population and sample

The population used in the study was drawn from companies listed on the Stock Exchange of Thailand in 2020 with a specific sample selection method based on specified characteristics: 1) being a company listed on the Stock Exchange of Thailand for all industry groups, except the financial business industry group, which included mutual funds and trusts; 2) being a company with a non-negative book value; 3) being a company that closed its financial statements on December 31, 2020; 4) being a company that had not adopted TFRS 16 into practice before 1 January 2020; 5) being a company with a list of rights of use assets and lease liabilities according to capital lease agreements; 6) It must be a company with complete information by 2020, and 7) must not be a company with abnormal data values (Outliers) for selecting the sample, as shown in Table 1.

Table 1. Selection of sample groups according to specified characteristics

Firms' Characteristics	Number of samples	
	Company	Example (4 quarters)
Companies listed on the Stock Exchange of Thailand	674	2,696

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Firms' Characteristics		Number of samples	
		Company	Example (4 quarters)
Less	Financial industry groups, mutual funds, and trusts, companies with negative book value, companies that have adopted TFRS 16 before 1 January 2020, companies whose financial statements are not dated 31 December 2020, companies that do not have a list of assets, rights of use and liabilities according to capital lease agreements, companies that have incomplete information throughout the study period, and companies with abnormal data values	(412)	(1,648)
Final number of samples		**262**	**1,048**

From Table 1, it was found that 674 companies from the total population were eligible according to the specified characteristics, with the remaining samples used in the study equal to 262 companies or 1,048 samples used in the analysis of the study results.

4.3 Hypothesis Testing and Variables in Research

The variables used in the study include the dependent variable: stock price (P) after two months for quarters 1 to 3 and after three months for the fourth quarter, independent variables include book value per share (BV), earnings per share (EPS), lease liabilities per share (LLA) and control variables including book value after adjustment for lease per share (BVA), business size (SIZE), risk (LEV), industry group (IND) and quarter (Q).

$$P_{it\text{-}2 \text{ and } 3 \text{ months}} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \sum_{n=5}^{n=10} \beta_n IND_i + \sum_{k=11}^{k=13} \beta_k Q_t + \varepsilon_{it} \quad (1)$$

$$P_{it\text{-}2 \text{ and } 3 \text{ months}} = \beta_0 + \beta_1 LLA_{it} + \beta_2 EPS_{it} + \beta_3 BVA_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \sum_{n=6}^{n=11} \beta_n IND_i + \sum_{k=12}^{k=14} \beta_k Q_t + \varepsilon_{it} \quad (2)$$

$P_{it\text{-}2 \text{ and } 3 \text{ months}}$	=	stock price of firm i for year t after two months for quarters 1 to 3 and after three months for quarter 4
BV_{it}	=	book value per share of firm i for year t
EPS_{it}	=	earnings per share of firm i for year t
LLA_{it}	=	lease liabilities per share of firm i for year t
BVA_{it}	=	book value after adjusting for lease liabilities per share of firm i for year t
$SIZE_{it}$	=	size of firm i for year t (measured by the log of total assets)
LEV_{it}	=	leverage of firm i for year t (measured by total debt to total asset ratio)
IND_i	=	1 for that industry group and 0 for others
Q_t	=	1, representing the quarter at time t
β	=	the parameter estimator of the partial coefficients of the regression equation
ε	=	error term

4.4 Data Analysis

Data analysis includes Descriptive Statistics to show the basic characteristics of the variables used in the study. Pearson Correlation Analysis is used to analyze the pairwise relationship between each independent variable and the dependent variable as well as test the relationship between independent variables

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(Multicollinearity) and Panel Data Regression analysis to investigate the research hypotheses. The analysis will be divided into 3 methods, comprising 1) Pooled OLS Regression (OLS), 2) Fixed effects regression model (FEM), and 3) Random effects regression model (REM). However, the researcher will choose the appropriate analysis method to explain the research results by considering the test results of the appropriate model from the Hausman test.

5. Results and Discussion

Results of descriptive statistical analysis

The basic characteristics of the variables used in this research can be seen in Table 2.

Table 2. Results of descriptive statistical analysis (n = 1,048)

Variable	Minimum	Maximum	Mean	Std. Deviation
P (baht)	0.310	22.600	5.058	4.708
BV (baht)	0.206	47.930	4.550	5.676
EPS (baht)	-3.291	0.904	0.038	0.218
LLA (baht)	0.001	38.100	0.536	1.837
BVA (baht)	0.142	47.925	4.447	5.551
SIZE (ln)	18.870	27.150	22.540	1.351
LEV (time)	2.218	95.380	49.710	20.79

From Table 2, it was found that security prices have the lowest, highest, average, and standard deviation values of 0.310 baht, 22.600 baht, 5.058 baht, and 4.708 baht, respectively. Book value per share has the minimum, maximum, average, and standard deviation of 0.206 baht, 47.930 baht, 4.550 baht, and 5.676, respectively. Earnings per share have the minimum, maximum, average, and standard deviation of -3.291 baht, 0.904 baht, 0.038 baht, and 0.218 respectively. The right-of-use assets per share have the minimum, maximum, average, and standard deviation values of 0.002 baht, 50.050 baht, 0.639 baht, and 2.252, respectively. The lease liabilities per share have the minimum, maximum, average, and standard deviation values of 0.001 baht, 38.100 baht, 0.536 baht, and 1.837 respectively. The book value after adjusting the lease per share has the minimum, maximum, average, and standard deviation values of 0.142 baht, 47.925 baht, 4.447 baht, and 5.551, respectively. Business size (logarithm of total assets) has the lowest, highest, average values and standard deviation values of 18.870, 27.150, 22.540, and 1.351, respectively. The risk of business has the minimum, maximum, average, and standard deviation values of 2.218 times, 95.380 times, 49.710 times, and 20.79 times, respectively.

Results of Pearson correlation analysis

The results of the Pearson correlation analysis can be seen in Table 3.

Table 3. Results of Pearson correlation analysis

Variable	P	BV	EPS	LLA	BVA	SIZE
BV	0.515***					
EPS	0.167***	-0.135***				
LLA	0.172***	0.237***	-0.401***			
BVA	0.509***	0.991***	-0.106***	0.188***		

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SIZE	0.231***	0.069**	0.083***	0.123***	0.077**	
LEV	-0.022	-0.102***	-0.090***	0.227***	-0.108***	0.544***

***, ** are the significance levels at 0.01 and 0.05 respectively (two-tailed).

From Table 3, when considering the pairwise relationship between the independent variables and the dependent variables, it was found that book value per share, earnings per share, assets, rights of use per share, lease liabilities under lease agreements per share, book value per share after adjusting the lease transaction, and business size have a statistically significant relationship with stock prices at a significance level of 0.01 (p-value < 0.01). Further, the results of the study also found that the various independent variables in study models 1 to 3 did not find any problems in the relationship among the independent variables (Multicollinearity), with the correlation coefficient not exceeding 0.800 (Kumari, 2008).

Results of Panel Data Regression Analysis

The Hausman test is used to determine the appropriate analysis model between Pooled OLS regression (OLS), the Fixed effects regression model (FEM), or the Random effects regression model (REM).

Table 4. Hausman test

Test	Model 1	Model 2
Hausman test	49.026***	15.708***

*** is the significance level at 0.01.

From Table 4, it was found that the Hausman test has a significance value of 0.01 for both Models 1 and 2. Therefore, it can be concluded that the Fixed effects regression model analysis is more appropriate for both models than the Pooled OLS regression (OLS) and the Random effects regression model (REM).

The results of the multiple regression analysis show the test of research hypothesis 1, as shown in Table 5.

Table 5. Results of multiple regression analysis of models 1 and 2

variable	Model 1 (Fixed effects)			Model 2 (Fixed effects)		
	Coefficients	*t*-value	*p*-value	Coefficients	*t*-value	*p*-value
Const	3.348	5.924***	0.001	3.004	0.648***	0.001
BV	0.096	13.450***	0.001	-	-	-
EPS	1.065	4.917***	0.001	0.982	3.776***	0.001
LLA (H_1)	-	-	-	-5.059	-2.433**	0.015
BVA	-	-	-	0.095	13.010***	0.001
SIZE	0.199	7.154***	0.001	0.212	7.284***	0.001
LEV	-0.002	-1.775*	0.077	-0.002	-1.699*	0.090
IND	Yes			Yes		
Q	Yes			Yes		
n	F	Adj R^2	D-W	F	Adj R^2	D-W
1,048	13.433***	0.443	1.788	28.387***	0.431	1.876
		Max VIF			Max VIF	

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	2.094	3.079

***, **,* are the significance levels at 0.01, 0.05, and 0.10 respectively (two-tailed).

From Table 5, Model 1 found that book value per share and earnings per share have a positive relationship with stock prices with statistical significance (BV, Coeff. = 0.096, p-value < 0.01 and EPS, Coeff. = 1.065, p-value < 0.01). When considering the overview of the model, it was found that the F-test value was 13.433, the p-value < 0.01, and the Adjusted R2 value was 0.443.

From Model 2, it was found that lease liabilities per share have a statistically significant negative relationship with stock prices (LLA, Coeff. = -5.059, p-value < 0.05), according to research hypothesis 1. The study also found that Earnings per share and book value after adjusting for lease transactions per share are positively and significantly related to stock prices (EPS, Coeff. = 0.982, p-value < 0.01, and BVA, Coeff. = 0.095, p-value < 0.01). When considering the overall model, it was found that the F-test value was equal to 28.387, the p-value < 0.01, and the Adjusted R2 value was equal to 0.431

When considering the VIF values of all study models in Table 5, however, it was found that the VIF value did not exceed 10 (in Table 3, only the VIF with the highest value is shown), indicating that there was no Multicollinearity problem found in any study model. Further, it was found that the value was in the range of 1.5-2.5 when considering the D-W (Durbin-Watson) value, indicating that no problems were found in any study models for Autocorrelation (Tabachnick & Fidell, 2013; Hair, Black, Babin & Anderson, 2010). In addition, the researchers alleviated the problem of Heteroskedasticity in multiple regression analysis using the HAC Standard error method (Phumithan Rangkakulnuwat, 2015).

The results of the research hypothesis testing can be summarized as shown in Table 6.

Table 6. Results of research hypothesis testing

Hypothesis	Extrapolation	Model	Results
H_1	Lease liabilities per share are related to stock prices.	Model 2	Accepted the hypothesis

6. Discussion

This study aims to study the relationship between lease liabilities as items recognized by the implementation of TFRS 16 and the stock prices of companies listed on the Stock Exchange of Thailand in 2020, which was the first year that TFRS 16 was effectively available. The results of the study found that Lease liabilities per share were negatively related to stock prices. The finding of a negative relationship may be because TFRS 16 creates a lease liability that is considered an obligation of the entity to be paid with interest under the subsequent lease. Therefore, it may cause investors to view this item as a leased item that creates an obligation that the business must pay in the future. The results are consistent with the research of Lindsey (2006) and Giner and Pardo (2018). They found that finance lease liabilities were negatively related to the equity value of companies in the United States and Spain. However, this conflicts with the research of Kobkanjanapued and Changlaw (2021), who found that right-of-use assets and lease liabilities were positively related to the stock prices of listed companies on the Singapore Stock Exchange during the first period that IFRS 16 came into effect.

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7. Conclusion

The results of this research should be beneficial to investors in terms of using accounting information, including lease liabilities when deciding on securities investment. Future studies should consider more in-depth research concerning TFRS 16 right-of-use assets.

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