

# Indonesian Experience in Studying Capital Structure of Real Estate Firms: Applying Finance Theory to Supply Chain Management

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**Abstract**—the real estate is a fast-growth and dynamic industry. Firms that operate in this field need capital. The purpose of this research is to reinforce the capital structure of firms listed on the stock exchange in Indonesia. This study uses a multiple linear regression analysis technique. The analysis revealed that profitability, growth and leverage are negatively related to capital structure. The conclusion is that firms have to reinforce their capital structure, to control profitability and operation. The research results show that stock exchange specialists can have wider opportunities with the light thrown on financial issues relating to supply chain management.

**Keywords**—Sales growth, Profitability, Activity, operating leverage, supply chain management.

## 1. Introduction

Senior executives of leading companies view supply chains as critical drivers of shareholder value and competitive differentiation. Yet, ‘reducing cost’ (65%) and ‘enhancing revenue’ (25%) are still the pre-eminent driver of supply chain initiatives and relatively few companies know where to direct their supply chain investments to maximize business results and bottom line value (Atkinson 2008). Supply chain decisions affect the firm’s capital structure, risk level, cost structure, profitability, and ultimately market value. Thus, supply chain management (SCM) is shifting from a tactical, back-office function to a driver of shareholder value. In turn, supply chain executives must speak the ‘language of finance’ to communicate the impact of supply chain performance on financial indicators [1]. Capital structure decision of a firm is one of the key financial decisions reflecting how a firm finances its assets or raises capital for its business (Masnoon, dan Abiha, & Saeed, 2014). Therefore, decisions regarding capital structure pose a challenge to a firm, considering the impact they could have on the success and future prosperity of the firm [2].

## 2. Literature Review

There is a positive non-significant relationship between sales growth and the capital structure [3]. There is also evidence on growth having an insignificant positive effect on the capital structure. The sales growth has an insignificant negative effect on capital acquisition if capital structure comprises assets in the form of accounts receivable because the lender simply does not consider the firm's growth from granting credits [4]. Some firms prefer to acquire capital through the borrowing of funds. The size of a debt that a firm uses is limited. Manopo claims that high growth firms use debt more often than low growth firms [5]. There are findings that show a positive relationship between capital structure and profitability [6]. By contrast, other studies claim an inverse relationship: changes in the capital structure are negative with higher profitability because a firm uses less debt when earning more [7-8]. Studies on high-level and low-level assets will give you an idea about the asset turnover and the company's revenue. To be able to raise additional funds in the future and avoid bankruptcy, firms preserve their abilities to pay existing debts (debt capacity) [9].

## 3. Research Methodology

This is quantitative research on data from the Indonesia Stock Exchange. Considering the specifics of a research problem, this study sticks to brief and relevant input, so the limitation is that a large amount of data were not involved. The study involves a purposive sample of real estate firms that have been listed on the Indonesia stock exchange from 2011 to 2015 (for details, see Table 3.1). The sampling was done using Eviews 9.0.

**Table 1.** Research Sample

No	Sample Distribution	Total
1	Real estate firms listed on the Indonesia stock exchange	47
2	Firms that did not provide financial reports on a regular basis	(5)
3	Non-growth firms	(29)
4	Firms with negative equity	(5)
	Fast-growing firms showing annual growth	8

## 4. Operational Definitions and Variables

Variables used in the study are *the debt-to-equity ratio (D/E)*, *the degree of operating leverage (DOL)*, *total asset turnover (TATO)*, *sales growth (PP)* and *return-on-assets (ROA)* (Table 3.2) [10].

**Table2.** Variables definition and formulas

No.	Variable	Operational Definition	Formula	Measurement
1	Capital Structure Ratio (Y)	Works by comparing a firm's long-term debt with its capital	$D/E = \frac{\text{total liabilities}}{\text{total equity}}$	Ratio
2	Operating Leverage (X1)	The sensitivity of a firm's operating income or EBIT (earnings before interest and tax)	$DOL = \frac{\% \Delta \text{Earning Before Interest and Taxes}}{\% \Delta \text{Sales}}$	Ratio
3	Operating Efficiency (X2)	The firm's ability to use assets to generate sales	$TATO = \frac{\text{Nett Sales}}{\text{Total Asset}}$	Ratio
4	Sale growth (X3)	The difference in total sales between year (t) and the previous year (t-1)	$PP = \frac{\text{Total Sales} - \text{Total Sales} - 1}{\text{Total Sales} - 1}$	Ratio
5	Profitability (X4)	The proportion between the measure that shows the firm's profitability and the firm's assets	$ROA = \frac{EBIT}{\text{Total Asset}}$	Ratio

## 5. Results and Discussion

### 5.1. Classic Assumption Test

The Classic Assumption Test was conducted alongside the Hypothesis Test. The results are presented in Table 4.1 and Table 4.2, respectively.

**Table3.** The Classic Assumption Test Variables

Variables	Normality	Multicollinearity	Autocorrelation	Heteroscedasticity
Y	√	√	√	√
X1	√	√	√	√
X2	√	√	√	√
X3	√	√	√	√
X4	√	√	√	√

Note: "√" is a check mark, indicates tests that were conducted

### 5.2. Test Model

Based on the Chow test results, it is known that the Prob. cross-section F is 0.0000 (below 0.05) so that H0 is rejected. Thus, a common effect model is selected. The LM test p-value is 0.0000 (below 0.05) so that H0 is consistent.

### 5.3. Hypothesis Testing

**Table 4.2.** Analysis Results

Variable	Coefficient	Std. Error	T-Statistic	Prob.
DOL_X1_?	0.142345	0.082001	1.735900	0.0911
TATO_X2_?	818.4316	173.2813	4.723139	0.0000
GROWTH_X3_?	-0.251	0.318039	-0.7921	0.4335

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	-		-	
ROA_X4_?	12.72244	4.521861	2.813541	0.0079
R-squared	0.037465	Mean dependent var		101.3968
Adjusted R-squared	0.042746	S.D. dependent var		69.56080
S.E. of regression	71.03199	Akaike info criterion		11.45878
Sum squared resid	181639.5	Schwarz criterion		11.62767
Log-likelihood	225.1755	Hannan-Quinn criter.		11.51984
Durbin-Watson stat	0.913717			

### 5.4. The Relationship Between

#### 5.4.1. Operating Leverage and Capital Structure

Based on Table 4.2, it is known that DOL is related to the capital structure but the relationship is not significant. This coincides with the results made by Marpaung [11] but does not match the picture that was discovered by Pontoh, who claimed a significant relationship. With low operating leverage, a firm still has the opportunity to control its costs so that it can avoid losses in the event of EBIT decline [12].

#### 5.4.2. TATO and Capital Structure

Based on Table 4.2, it is known that asset turnover is positively related to the capital structure, so as in [6]. The higher the asset turnover ratio, the more efficient a firm. In other words, it earns more and its capital grows. This leads to a reduction in dependence on external funds so that a firm has a lower debt ratio [13]. Therefore, the decision to use debt to support operation is essential for increasing the firm's capital [14]. Operating efficiency ratio provides numerical

feedback about how effectively the firm is selling, buying, etc. It is used to measure the efficiency of using assets in relation to a given amount of sales.

#### 5.4.3. Sales Growth and Capital Structure

Based on Table 4.2, it is known that sales growth is not strongly related to capital structure. This coincides with [15]. This "weak" relationship is a result of credit sales, which are not considered by a lender as something that adds to growth. Even though some studies indicate a negative non-significant relationship between the sales growth and the capital structure [3], the firm's growth is indicative of increased sales that bring more cash. According to the signal theory, firms with high growth opportunities are more attractive to investors infusing capital into the firm. There is no significant relationship between growth and capital structure because strategy used to reach growth is effective when the relationship between major retailers and major suppliers is constructive and open, and the party that is abler and in the best position to manage the supply relationship is in control of the supply chain [16].

The findings of the relationship between SCM practices and firm performance in the manufacturing sector in Asian emerging economies revealed that the SCM practices lead to better performance in four aspects: economic, environmental, operational, and social performance. Moreover, the results indicate that industry type, firm size, ISO certification, and export orientation moderate several of the GSCM practice-performance relationships [17].

#### 5.4.4. Profitability and Capital Structure

Based on Table 4.2, it is known that the relationship between profitability and capital structure is strongly negative. This coincides with the results obtained [18] but does not tie in with [19]. This relationship indicates that profitability is derived from delayed returns that are used to pay the firm's debt and carry out other operating activities [20]. Besides, the debt will increase if the funds are low. With high capital costs, this will result in low profitability. In other words, funding decisions are directly related to profitability.

The pecking order theory suggests that firms prefer retained earnings to external financing. Thus, more profitable firms have more internal financing available [20]. The intra- and inter-organisational relationships have a direct link to joint practices of business process management, which premise is to improve organisational performance and to help in collaborative activities [21, 22, 23]. This explains why profitable firms borrow a lot – because, in this way, they can use internal finance to invest in development.

## 6. Conclusions

The firm's capital structure reinforcement is essential for high performance. This requires of firms a maximum use of their assets. Firms can avoid using total assets by producing more sales. Thus, control over the asset use and asset efficiency are crucial for capital structure formation. Supply chain management is

driving firms to extend their social, economic and environmental efforts across their supply chain. Competitive priorities are a strategic integration in SCM and thus to firm performance.

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