# The impact of financial liquidity and leverage on financial performance: Evidence from property and real estate enterprises in Indonesia

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| CHRONICLE | ABSTRACT |
|---|---|
| | The demand for property increases every year in line with the population growth in Indonesia. Moreover, the society believes that investing in the property will have future benefits since there is an expectation of an increase in strong middle-class consumer spending made to the residential business segment and also urban society demands for apartments and condominiums. Loans and mortgages are often made by both owners and developers in order to own the property. Therefore, this study investigates the impacts of financial liquidity and leverage on the financial performance of the Indonesian property and real estate enterprises. The study considers three (3) selected companies listed on Indonesia Stock Exchange LQ 45 (IDX LQ 45) over period five (5) years (2012-2016). The secondary data are obtained from the financial statement (comprehensive income statement and statement of financial position) of selected property and real estate companies listed on IDX. This data is analyzed by using the regression analysis; the *t*-statistics and *F* significance ANOVA were used to test the hypothesis. The result of the analysis show that Current Ratio (CR) and Debt-Asset Ratio (DAR) had a negative relationship with Return on Assets (ROA) while Times Interest Earned (TIE) had a positive relationship with ROA in Indonesia property and real estate industry. |
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## 1. Introduction

Property and real estate sectors have become one of the most attractive sectors in Indonesia, where the market is projected to move towards a positive direction. Apart from the challenges faced by property businesses in Indonesia in recent years, the declining of interest rates, the rising of the population, and the rapid number of buildings transformed Indonesia into a favorite place in the world for investment in property stocks. This is driven by the action of Bank Indonesia (BI) which has cut loan funds in February 2015 for the first time in three years, in order to increase economic growth. In addition, the growth in the property and real estate sector is marked by the increase in the price of land and buildings is higher than the rate of inflation each year causing more investors interested in investing in this sector. Macroeconomic growth as a per capita Gross Domestic Product (GDP), purchasing power, and confidence in choosing a developer company and an important factor in the growth of residential property are expected

to grow within the next few years. However, the movement of the property sector index fell considerably in comparison with other sector indices. According to Bank Indonesia (2017), Consumer Confidence Index (IKK) in June 2017 amounted to 122.4 or 3.5 points lower when compared with CCI in the previous month. Weak purchasing power makes property investment is not moving. In other words, many investors cannot sell their property assets at a higher price than a buy position. The decreasing number of purchasing power can affect the liquidity and other financial performance of infrastructure firm.

Financial liquidity is the situation where the assets of the companies can be easily and quickly sold for cash at minimal cost and price impact (Allen & Bolton, 2004). The financial liquidity may have an impact on determining the price and how the property should be marketed (Investment Property Forum, 2004). On the other hand, financial leverage indicates how the companies utilized the proportion of debt and preferred equity in order to finance the existing assets within the company. Basically, financial leverage applied by enterprises aims to gain higher on fixed charges funds rather than their cost (Enekwe *et al.*, 2014). The interest payments appeared when there is a high degree of financial leverage; therefore, this leads the profit after tax or earning per share to become lower (Rajkumar, 2014). In the property and real estate industries, financial leverage can be utilized as a measurement of how much money can be borrowed to finance the investment property compared with the properties worth (Owino, 2010). This study mainly aims to examine the impact of financial liquidity and leverage on the financial performance of the enterprises derived from property and real estate industries in Indonesia. The particular, the objectives of this study are on using several financial liquidity ratios such as Current Ratio (CR), and financial leverage ratio such as Debt-Asset Ratio (DAR) also Times Interest Earned (TIE) on the relationship between these ratios with the financial performance ratio, e.g. Return on Asset (ROA).

The present study comprises of the following section: Section 1 captures the introduction, section 2 highlights the literature review, section 3 discusses the hypotheses testing and conceptual framework of the study, section 4 discuss the methodology employed in this study, section 5 captures the analysis and discussion of findings and finally section 6 captures the conclusion and directions for future research.

## 2. Literature review

National economic growth is one of the strong factors behind the condition of the Indonesian property market, with a surge in demand supported by higher consumer confidence. For example, in the real estate market of Indonesia, Jakarta, Bogor, Depok, Tangerang and Bekasi (Jabodetabek) has become the largest segment in terms of regional contribution and revenues in the real estate market of Indonesia as a whole. Therefore, the property and real estate industry has become an important part of Indonesia's economy in recent years. Firm performance is essential to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility in achieving the goal legally, not against the law and conforming to the moral and ethics. According to Iswatia and Anshoria (2007), performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop a competitive advantage. Almajali *et al.* (2012) stated that performance is a difficult concept, in terms of both definition and measurement. According to Hansen and Mowen (2005) there are two kinds of firm performance, financial performance, and non-financial performance. Researchers in the strategic management field have offered a variety of models for analyzing financial performance. Havnes and Senneseth (2001) stated that financial performance is often expressed in terms of growth of sales, turnover, employment, or stock prices (Alamer et al., 2015; Ali et al., 2015a,b,c).

There have been many researchers also who conducted a study about financial liquidity and leverage towards firm's financial performance. Enekwe et al. (2014) investigated the relationship between financial leverage and financial performance on pharmaceutical companies in Nigeria. The study shows that none of the independent variables including Debt Ratio, Debt-Equity Ratio and Interest Coverage Ratio had any significant effect on financial performance. Moreover, the research also comes from a study of

the relationship between liquidity and profitability of Standard Chartered Bank in Pakistan, which has a result in a weak positive relationship between liquidity and profitability (Ahmad, 2016). According to the study conducted by Rajkumar (2014), a negative relationship between the financial leverage and the financial performance of the John Keells Holding plc in Sri Lanka was reported. Moreover, there is also research regarding the determinants of corporate liquidity in real estate industry, evidence from Vietnam, which concludes that the corporate liquidity of these real estate companies was affected by cash holding profitability and capital expenditure (Trinh & Mai, 2016). Based on Javed et al. (2015), financial leverage was negatively associated with the return on assets and equity empirical evidence from Pakistan, and the firms borrowed less, while market-to-book ratio shows a positive profitable association with firms.

## 3. Hypothesis and conceptual framework

This study has several hypotheses relating to the financial liquidity and leverage on the firm financial performance as follow:

$H_1$: There is a significant influence of Current Ratio (CR) on Return on Assets (ROA) of property and real estate enterprises in Indonesia.

$H_2$: Return on Assets (ROA) is affected significantly by Debt-Asset Ratio (DAR) of property and real estate enterprises in Indonesia.

$H_3$: There is a significant impact of Times Interest Earned Ratio (TIE) on Return on Assets (ROA).

In addition, those hypotheses constructed based on the conceptual framework model associated with financial liquidity and financial leverage to the financial performance of Property and Real Estate Enterprises are shown in in Fig. 1 as follows.
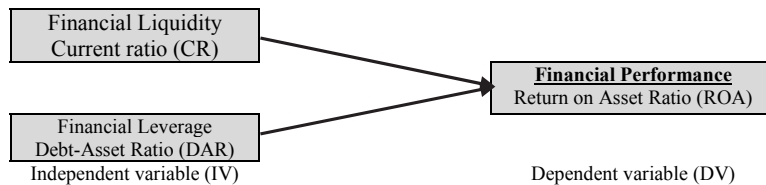


**Fig. 1.** Conceptual framework model relating financial liquidity and financial leverage to the financial performance of Property and Real Estate Enterprises.

Based on the above conceptual framework model, the variables description are shown in Table 1.

**Table 1**
Definitions of variables used in this survey

| Variable | Indicator | Measurement |
|---|---|---|
| Financial Liquidity | Debt-Asset Ratio | $\dfrac{Current\ Assets}{Current\ Liabilities}$ |
| Financial Leverage | Debt-Asset Ratio | $\dfrac{Total\ Liabilities}{Total\ Assets}$ |
| | Times Interest Earned | $\dfrac{Earning\ Before\ Income\ Tax}{Interest\ Expense}$ |
| Financial Performance | Return on Asset | $\dfrac{Net\ Income}{Total\ Assets}$ |

Source: Bragg, S.M. (2012).

The variable description also describes the indicator selected for testing on each variable and also explains what measurement is used for each indicator (Rajkumar, 2014).

## 4. Methodology

This study used a quantitative research design as a tool among different variables. The actual data was used in this study were derived from the financial statements of selected properties and real estate companies in Indonesia over 5 years (from 2012 – 2015). The variables which were tested in this study were Return on Assets (ROA), Current Ratio (CR), Debt-Asset Ratio (DAR) and Times Interest Earned (TIE). The dependent variable in this study is ROA, while independent variables are CR, DAR and Times interest earned. The secondary data were used in this study. The data were obtained from financial statements of 3 (three) property and real estate enterprises which were quoted on IDX. These enterprises are PT. Alam Sutera Realty Tbk, PT. Bumi Serpong Damai Tbk and PT. Lippo Karawaci Tbk. The selection of those enterprises is based on the IDX LQ 45 which indicates those enterprises have a great financial condition and liquidity during the last 5 years. The descriptive analysis as a method of data analysis was used to describe any aspects in financial liquidity and financial leverage, then also to provide detailed information about each relevant variable (Enekwe et al., 2014). In this study, it aims to the relationship of financial liquidity and financial leverage (independent variable) with the financial performance of selected Companies. Therefore, regression analysis was also used for the purpose of predicting the value of one variable on the basis of other variables (Rajkumar, 2014). A multiple regression model was applied since there is more than one independent variable in this study. In addition, the Microsoft Excel software was also used to calculate each ratio of the companies and SPPS software were used to run regressions. According to Sugiyono (2010), the model of multiple regressions is given by following expression: $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + ... + \beta_nX_n$. In this study, this becomes: $ROA = \beta_0 + \beta_1CR + \beta_2DAR + \beta_3TIE$. Where: Y: Dependent variable of the company (ROA) $X_1, X_2, X_3$: Independent variable of the company, they are Current Ratio, Debt-Asset Ratio and Times Interest Earned.

## 5. Findings and discussions

### 5.1 Normality Test

In order to test the assumption that the sample data were drawn from a normally- distributed population, Kolmogorov Smirnov Test has been used. In this test, if the results show the significant value is >0.05, this means the null hypothesis that the data come from a normally-distributed population should be accepted. Nevertheless, if the results show the significant value is <0.05, the data is not normally-distributed population.

**Table 2**
One-Sample Kolmogorov-Smirnov Test

| | | Unstandardized Residual |
|---|---|---|
| N | | 15 |
| Normal Parameters[a,b] | Mean | .0000000 |
| | Std. Deviation | .02518817 |
| Most Extreme | Absolute | .124 |
| Differences | Positive | .124 |
| | Negative | -.117 |
| Test Statistic | | .124 |
| Asymp. Sig. (2-tailed) | | .200[c,d] |

a. Test distribution is Normal.
b. Calculated from data.

Based on the Table 2, it can be seen the dependent variable has been fulfilled the normality test of Kolmogorov Smirnov. The result shows the significant value which is 0.200, which means it is more than 0.05, therefore the dependent variable has a normally-distributed population.

## 5.2. Multicollinearity Test

According to Priyatno (2012), multicollinearity test is applied to determine whether there is a similarity between the independent variables. The similarity between the independent variables leads to a very strong correlation. Multicollinearity can also be detected with the tolerance and variance inflation factor (VIF). Making a decision process for multicollinearity test as follow:

1. If the VIF <10 and tolerance value >0.1, therefore there is no multicollinearity.
2. If the VIF >10 and tolerance value <0.1, therefore there is multicollinearity.

**Table 3**

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | .012 | .030 | | .408 | .691 | | |
| | CR | .002 | .002 | .248 | .784 | .449 | .775 | 1.291 |
| | DR | -.007 | .044 | -.052 | -.157 | .878 | .711 | 1.407 |
| | TIE | .001 | .001 | .345 | 1.010 | .334 | .666 | 1.503 |

a. Dependent Variable: ROA

According to Table 3, it is shown that the value of VIF of all independent variables is less than 10 and tolerance value is more than 0.1. Thus, it is concluded that in there is no multicollinearity in the regression model.

## 5.3. Coefficient of determination

This analysis is used to investigate the proportion of variance in the dependent variables which can be explained by the independent variables. The value of the coefficient of determination is from 0 to 1 (Wibowo, 2012).

**Table 4**

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .739[a] | .546 | .422 | .0284160849 |

a. Predictors: (Constant), TIE, CR, DR
b. Dependent variable: ROA

According to Table 4, the amount of *Adjusted R square* is 0.422, which means this amount represents the proportion of independent variables such as Current Ratio, Debt-Asset Ratio, and Times Interest Earned to explain the dependent variable is 4.2%. Therefore, there is a remaining amount of 95.8% which is explained by other variables that are not described in this study.

## 5.4. T-test Interpretation

T-test is used to acknowledge whether each of independent variables has a significant influence on dependent variables (Priyatno, 2012). In this study, this is used to measure whether Current Ratio, Debt Assets Ratio, and Times Interest Earned have a significant influence on Return on Assets. There are several criteria used to make a decision as follow:

1. If p-value is <0.05, therefore there is a significant influence on dependent variables.
2. If p-value is >0.05, therefore there is no significant influence on dependent variables.

**Table 5**

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .097 | .056 | | 1.728 | .112 |
| | CR | -.001 | .004 | -.058 | -.253 | .805 |
| | DR | -.093 | .083 | -.270 | -1.120 | .286 |
| | TIE | .003 | .002 | .572 | 2.296 | .042 |

a. Dependent Variable: ROA

Table 5 shows independent variables CR, DR and TIE has a value of 0.805, 0.286 and 0.042. This indicates CR and DR have p-value of more than 0.05, then TIE has p-value is less than 0.05. Therefore, this shows that Current Ratio and Debt-Assets Ratio do not have a significant influence on ROA. However, Times Interest Earned has a significant influence on ROA.

*5.5 F-statistics Test Interpretation (ANOVA)*

Based on Ghozali (2005), F-statistics test represents all independent variables in the model are simultaneously influence the dependent variable. The result of F-statistics test can be seen from output ANOVA from multiple linear regressions. There are several criteria used to make a decision as follow:

1. If p-value is <0.05, therefore all independent variables simultaneously have a significant influence on dependent variables.
2. If p-value is >0.05, therefore all independent variables do not simultaneously have a significant influence on dependent variables.

**Table 6**

ANOVA[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .011 | 3 | .004 | 4.412 | .029[b] |
| | Residual | .009 | 11 | .001 | | |
| | Total | .020 | 14 | | | |

a. Dependent Variable: ROA

b. Predictors: (Constant), TIE, CR, DR

Table 6 shows the p-value from F-statistics test is 0.029, which is less than 0.05. This means it should accept the hypothesis which stated all independent variables CR, DR and TIE simultaneously have a significant influence on dependent variable ROA.

## 6. Conclusions and directions for future research

According to the research which has been done, it can be concluded only one variable, which is Times Interest Earned ratio that had a significant impact on Return on Assets of the property and real estate companies. While, the other two variables, which are Current Ratio and Debt-Assets ratio did not have a significant impact on Return on Assets. The financial liquidity such as Current Ratio had a negative relationship with the Return on Assets, which means hypothesis 1 is rejected. This relationship shows

that the ability of the property companies to pay back their liabilities would not significantly affect the financial performance. In addition, the financial leverage which is Debt-Asset Ratio had a negative relationship with the Return on Assets which means hypothesis 2 is rejected. This illustrates an increase in a debt can reduce in asset which is utilized by the companies and it is assumed that the property companies do not utilize much amount from debt financing. The Times Interest Earned shows a positive relationship with Return on Asset, therefore hypothesis 3 is accepted. Regarding the recommendations for future research, the study can be more accurate if increasing the number of samples of the companies and extending the years of samples.

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