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Analysis of the Effect of Return on Equity, Debt-to-equity, Net Profit Margin on Price-to-earnings Ratio

Supriono Supriono[1,*]

[1] *Faculty of Economics, Universitas Islam Sultan Agung Semarang, Indonesia*

[*] *Corresponding author: Supriono Supriono*

Abstract

The current research was aimed at analyzing the impact of Return on Equity, Debt-to-equity, and Net Profit Margin simultaneously as well as partial effects, and to empirically find out which variables have a higher contribution to the Price-to-earnings ratio in the Property and Real Estate Companies listed in Indonesia Stock Exchange. All properties and real estate companies that go public and are listed at IDX were taken as the population, which ranges from 2009 to 2012, and those companies have published the reports periodically as consideration. Meanwhile, the purposive sampling method was deployed, and the present study used 34 companies as a sample. The statistical output demonstrated that Return on Equity, Debt-to-equity, and Net Profit Margin significantly affect the Price-to-earnings ratio. Meanwhile, in a partial test conducted among variables, the finding showed that Return on Equity and Debt-to-equity were insignificant on the Price-to-earnings ratio, while Net Profit Margin has a significant effect on the Price-to-earnings ratio.

Keywords

Price-to-earnings ratio, Return on Equity, Debt to Equity Ratio, Net Profit Margin

1. Introduction

The company's management's task was to make shareholders more prosperous. Efforts to maximize profits can be realized by maximizing company values (Jogiyanto, 2010; Tandelilin, 2001). For companies that have gone public, the company's value will be reflected in the price of the company. The increase in returns in the form of dividends and investment value was reflected through an increase in the stock price.

The value of investments in securities was influenced by investors' expectations about the company's performance in the future. A company's share price will increase if the financier expects the cash flow to be obtained from the company to increase. Conversely, if the financier estimates that the cash flow will decrease in the future, the company's share price will fall. The desired hope in the future contains uncertainty. Therefore, the rate of return and risk were two inseparable variables in analyzing stocks to achieve optimal investment goals. To be able to choose a safe investment requires a careful, thorough analysis and is supported by accurate data. The correct technique in the analysis will reduce the risks for investors in investing. Therefore, investors must be able to analyze whether the stock price that occurs was sufficient to be purchased by comparing the stock price with earnings per share, called the price-to-earnings ratio. The increase in the share price in this market will impact the price-earning ratio of the stock. The higher the company's share price, the higher the price-to-earnings ratio.

There was a research gap in this study. For example, the research results on a price-to-earnings ratio (PER) still produce inconsistent findings. Rhidho & Prabawa (2012) and Muliawati (2013) concluded that the return on Equity (ROE) was insignificant and had no effect on the price-to-earnings ratio (PER). Debt-to-equity, according to Silfi & Ramadhani (2014) and Arisona (2013), concluded that the debt-to-equity ratio does not have a significant effect on the price-to-earnings ratio. Net profit margin, according to Famiah's (2018) research, concluded that net profit margin does not have a significant influence on the price-earnings ratio. So, it was necessary to conduct further testing to determine the findings' consistency if they were applied to different environmental conditions. This research uses three factors that affect the price-to-earnings ratio (PER), namely return on Equity (ROE), Debt-to-equity (DER), and net profit margin (NPM). Where the return on Equity was expected to provide information to investors about how much the rate of return on capital from the company derived from the company's performance generates profits. The greater the return value on Equity, the rate of return that investors expect is also large. The greater the return value on Equity, the more profitable the company was. The purpose of this study was to analyze the effect of return on Equity, Debt-to-equity, and net profit margin on the price-to-earnings ratio in Property and Real Estate companies on the Indonesia Stock Exchange.

2. Literature Review

2.1 Signaling Theory

Naidu (2012) stated that the main assumption in signal theory was that management has accurate information about the value of the company that outside investors and management did not know was a person who always tries to maximize the expected incentives, meaning that management generally has more complete and accurate information than outside parties of the company (investors) regarding factors that affect the value of the company. According to the signal theory, there was an information asymmetry between managers and investors. Managers know the company's future prospects, while investors do not (Gelb, 2000). Information asymmetric was private information that informed investors only owned. Information asymmetry will occur if management does not fully convey all the information obtained about all matters that can affect the company to the market. Generally, the market will respond to the information as a signal reflected in changes in stock prices (Dangol, 2008; Wismar'ein, 2004). The implication

was that the market would respond to the company's announcement as a signal that conveys the existence of new information issued by the management, which will further affect the value of the shares.

Due to the asymmetry of information, the stock price that occurs has not reached the equilibrium price, so investors who have information who know that the equilibrium price will reach a certain point will buy the security and will later sell it at the equilibrium price so that they can enjoy the abnormal return of the difference in the share price (Wismar'ein, 2004). According to Jogiyanto (2010), the information published as an announcement will signal investors to make investment decisions. If the announcement contains a positive value, then it was expected that the market would react when it received the announcement. When the information is announced and all market participants have received the information, market participants first interpret and analyze the information as good news or bad news. If the information announcement were a good signal for investors, there would be a change in the trading volume of stocks.

2.2 Efficient market theory

An efficient market is an exchange market where traded stocks reflect all information that may occur quickly and accurately (Qoyum et al., 2018). Reilly & Brown (2011) defines an efficient market as a market with securities prices quickly and fully reflecting all the information available on the asset. The efficient market theory states that investors always include the information factors available in their decisions to reflect on the price of the shares they are trading. So, the prevailing stock price in the capital market already contains this information factor.

According to Jogiyanto (2010), the form of market efficiency can be reviewed not only in terms of the availability of information but also from the sophistication of market participants in making decisions based on analysis and available information. An efficient market viewed from an informational point of view alone was called informationally efficient market efficiency. The main key to measuring the capital market efficiently was the relationship between securities and information, where the information that can be used to assess the market efficiently was old information, published information, or all information, including private information.

2.3 Factors Affecting Stock Price

Basically, the stock price was influenced by demand and supply, but conducting a good stock price assessment requires company operational data such as audited reports. The company's performance in the future and economic conditions in general, there were two approaches to assessing stocks: the fundamental approach and the technical approach. The first focuses on its intrinsic value, namely the company's future capabilities, seen from the state of assets, production, marketing, and income, all of which describe the company's prospects. Meanwhile, the technical approach focuses on the price chart of securities, so it was often called charity, namely predicting the future based on stock movements in the past and the short-term analysis. The information needed was the psychology of investors who focus on the behavior of stock prices, trading volumes, and capital gains. Factors such as company conditions, board of directors' policies, interest rates, commodity prices, other investments, government policies, sales rates, dividends, inflation rates, supply, and demand, as well as securities analysis capabilities were some of the things that influence the determination of stock prices (Usman, 1989; Yanescha, 2022).

Technical analysis was a method used to assess stocks; with this method, analysts evaluate stocks based on statistical data generated from stock trading activities, such as stock prices and transaction volumes. Within various existing charts and chart patterns formed, technical analysis tries to predict the direction of movement of the stock's price forward (Darmadji & Fakhruddin, 2011).

According to Tandelilin (2010), technical analysis was a technique to predict the direction of movement of stock prices and other stock market indicators based on historical market data such as price information and volume. At the same time, fundamental analysis analyzes the company's performance and internal conditions that tend to be controllable.

Ratio analysis was a tool used to help analyze the company's financial statements so that the strengths and weaknesses of a company can be known. Ratio analysis also provides indicators that can measure the level of profitability, liquidity, income, utilization of assets, and liabilities of the company (Munawir, 2004). The financial ratio was information that describes the relationship between various kinds of accounts from financial statements that reflect the company's financial situation and operational results. Price-to-earnings ratio was one of the approaches often used by securities analysts to assess a stock. This approach is based on the ratio between the share price per share prevailing in the capital market and the net profit level available to shareholders.

According to Darmadji & Fakhruddin (2001), the price-to-earnings ratio describes the market appreciation of the company's ability to generate profit. A high price-to-earnings ratio indicates that investors were willing to pay a premium share price for the company. Based on the opinion, the definition of the Price-to-earnings ratio referred to in this study was a ratio that compares the price per share of ordinary shares outstanding with earnings per share. The formula used to measure the Price-to-earnings ratio was as follows (Arifin (2002):

$$\text{Price} - \text{to} - \text{earnings ratio} = \frac{\text{Stock Market Price}}{\text{Earnings Per Share/EPS}}$$

Where earning per share was a comparison between net profit after tax in a financial year and the number of shares issued. The higher the value of his earnings per share was, of course, encouraging to shareholders because the greater the profit provided to shareholders. According to Brigham & Ehrhardt (2013), return on Equity was defined as follows: The rate of return on investment for ordinary shareholders. Then according to Van Horne and Wachowicz (2001), Return on Equity compares net profit after tax with Equity that shareholders have invested in the company. Return on Equity (ROE) was one of the profitability ratios used to determine the rate of return on investments invested by shareholders or investors, which can be calculated by dividing profit after tax on own capital or Equity. Return on Equity can be formulated as follows (Dewi & Artini, 2019):

$$\text{Return On Equity} = \frac{\text{Net Profit After Tax}}{\text{Equity}}$$

Debt-to-equity was a ratio used to look at the financial structure of a company by associating the number of liabilities with the amount of Equity of the owner (Simamora, 2000). According to Syamsuddin (2001), Debt-to-equity was a ratio that showed the relationship between the number of long-term loans and the amount of own capital provided by the company's owner. Based on the opinion, the definition of Debt-to-equity in this study was a ratio that compares total debt and total owner's Equity. Debt-to-equity identifies the extent to which the company can bear losses without necessarily harming the interests of its creditors. In the event of liquidity, creditors have a priority claim over shareholders.

From the creditor's point of view, the amount of Equity in the company's capital structure can be considered a catalyst, helping to ensure sufficient assets to cover the claims of the other party. A high ratio may indicate that the other party's claim was relatively larger than the assets available to cover it, thereby increasing the risk that the creditor's claim was unlikely to be fully covered in the event of liquidation. In measuring risk, the attention of long-term creditors was mainly focused on the prospect of earnings and the forecast of cash flows. Nevertheless, they still pay attention to the balance between the proportion of assets funded by creditors and company owners. The balance of these proportions was measured by the equity ratio. This ratio can also provide an overview of the capital structure owned by the company so that The results show the level of uncollectible risk of debt.

Prastowo & Julianty (2002) said long-term creditors generally prefer small numbers of debt-equity. The smaller this ratio figure, the greater the number of assets funded by the company owner and the greater the creditor risk buffer. If debt equity was increasing, then it showed the company's performance was getting worse; besides that, the higher debt equity showed the capital structure was more financed by loans, so the company's dependence on creditors increased. With the increase in debt to Equity, the company's burden on external parties (creditors) was also increasing so that the expectation of the return rate of shareholders was getting smaller (Rachmawati, 2007)

To illustrate the comparison between total debt and Equity. The greater the debt to Equity indicates that the business's capital structure utilizes more relative debts to Equity. This ratio showed the comparison between the debts given by the creditors and the amount of own capital provided by the owners of the company (Husnan, 1997) so that Debt-to-equity was formulated as follows:

$$\text{Debt To Equity Ratio} = \frac{\text{Total Amoun of debt}}{\text{Total Capital}}$$

Net Profit Margin was a factor that showed the company's success in making a profit. The company's ability to get a good profit and return on investment becomes an indicator of its management's financial health and efficiency. Poor earnings were damaging stock market prices as well as dividends. Net profit margin measures the return rate of net profit to its net sales. The net profit value of this margin was also between 0 (zero) and 1 (one). The greater the net profit margin value was close to one, the more efficient the costs incurred, which means that the greater the return rate of net profit. The rentability ratio (profitability) showed the company's success in making a profit or was the company's net result of various policies and decisions that have been taken.

This study's rentability ratio (profitability) was represented by the net profit margin. The size of this variable uses the model used by Dendawijaya (2003), namely: Net profit margin serves to measure the return rate of net profit to its net sales. The net profit value of this margin was also between 0 (zero) and 1 (one). The greater the net profit margin value was close to one, the more efficient the costs incurred, which means that the greater the return rate of net profit. The rentability ratio (profitability) showed the company's success in making a profit or was the company's net result of various policies and decisions that have been taken.

Rumus Net profit margin was as follows:

$$\text{Net Profit Margin } = \frac{\text{Net Profit After Tax}}{\text{Operating Income}}$$

2.4 Price-to-earnings ratio Approach

The most popular approach to estimating stocks' intrinsic value was the price-to-earnings ratio (PER) approach. Tandelilin (2001) states that in the price-to-earnings ratio approach or the multiplier approach, the investor will calculate how many times (multiplier) the value of earnings is reflected in the price of a stock. The formula for calculating the Price-to-earnings ratio was as follows:

$$\text{Price} - \text{to} - \text{earnings ratio} = \frac{\text{Stock Market Price}}{\text{Earnings Per Share/EPS}}$$

In addition, PER was also a measure of the relative price of a company's stock. The formula for calculating PER was as follows:

$$\text{Price} - \text{to} - \text{earnings ratio} = \frac{\frac{\text{D1}}{\text{E1}}}{\text{k} - \text{g}}$$

Source: Tandelilin (2010)

Description:
D1/ E1 = dividend payout ratio
k = hinted return rate
g = expected dividend growth rate

If the results of PER were known, then the estimation of the intrinsic value of stocks in the company's analysis can be carried out by utilizing two important information components in the company's analysis, namely EPS and PER. In other words, the intrinsic value of a stock was a function of the expected EPS and the amount of PER of the stock in question. Mathematically, we can suggest the intrinsic value of the company's shares as follows:

Intrinsic Value = Estimated EPS X PER = E1 X PER

Source: Tandelilin (2010)

The intrinsic value of the company's shares was then compared with the current market price of the shares.

2.5 Basic Concept of Price-to-earnings ratio (PER)

Price-to-earnings ratio was one of the approaches often used by securities analysts to assess a stock. This approach was based on the ratio between the share price per share prevailing in the capital market and the level of net profit available to the shareholders. Rhidho & Prabawa (2012) stated that the price-to-earnings ratio showed the amount of price that investors were willing to pay for the loyal dollar profit reported by the company. Musthafa (2017) stated that the price-to-earnings ratio could be interpreted as an indicator of market confidence in the company's growth prospects in the future.

Price-to-earnings ratio showed investors' optimism and pessimism about the company's future prospects (Reilly & Brown, 2011; Rhidho & Prabawa (2012). Jogiyanto (2010) stated that the price-to-earnings ratio indicates the ratio of share price to earning or, in other words, indicates how much financiers judge the share price against multiples of earnings. It can be concluded that investors' expectations of the company's future earnings were reflected in the share price they were willing to pay for the company's shares, which further affects the price-to-earnings ratio.

2.6 Hypothesis Development

The variable of Return on Equity ratio was a proxy of the profitability ratio, which showed the extent to which the company manages its own capital effectively, measuring the return on the level of investment that has been carried out by the owners of its own capital or shareholders of the company (Nekhaychuk et al., 2019). The greater the value of Return on Equity, the more profitable the company was considered. So for companies that have profitable investment opportunities, the market will provide rewards in the form of a high Price-to-earnings ratio (Musthafa, 2017). Hayati (2016) concluded that Return On Equity has a significant positive effect on the price-to-earnings ratio; therefore, it can be concluded that return to Equity has a positive relationship with the price-to-earnings ratio.

H1: Return on Equity (ROE) positively affects the Price-to-earnings ratio

The debt to Equity Ratio was a comparison of the total debt owned by the company with its own capital (Adnan, 2013). The larger the Debt-to-Equity Ratio showed that the capital structure utilizes more debt than Equity; this reflects the company's solvency was getting lower so that the company's ability to repay debts. The increase in debt means that the risks faced by the company will increase so that the confidence in the company's growth prospects will decrease and create a lower share price and result in the stock's Price-to-earnings ratio will be smaller. Aji & Pangestuti (2012) suggested that DER negatively affects the price-to-earnings ratio.

H2: Debt-to-equity (DER) negatively affects the price-to-earnings ratio (PER).

According to Setiawan (2005), a high-profit margin showed that the percentage of profit from each rupiah of sales was also high; in other words, the company has high-profit power. So that the greater the profit margin, the greater the profit growth rate; if other factors were considered fixed, it would increase PER; thus, the hypothesis of this study has a positive effect on the price-to-earnings ratio (PER). Lardin & Kasmir (2022) concluded that the independent variable Net Profit Margin significantly affects the Price-to-earnings ratio.

H3: Net Profit Margin has a positive effect on (PER)

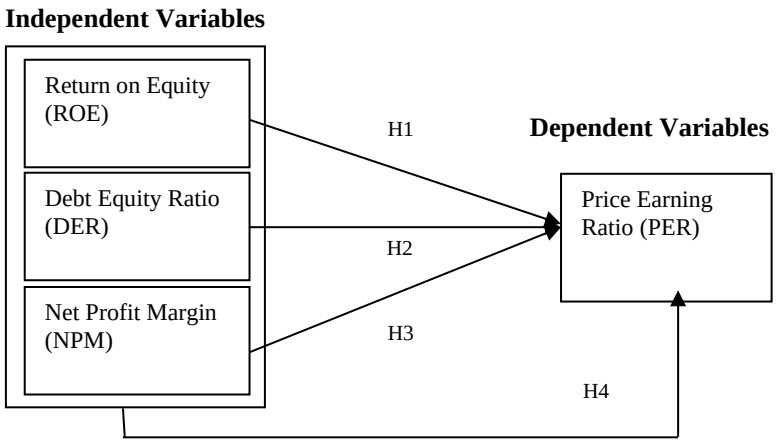

Figure 1. Relationship between Variable Dependent with Variable Independent

This study aims to analyze factors that affect the Price-to-earnings ratio. These factors were implemented to determine the partial or simultaneous influence between Return on Equity, Debt-to-equity, and Net Profit Margin against the Price-to-earnings ratio (Figure 1).

3. Methods

This type of research was empirical, presenting a structured, actual and accurate picture of the return on Equity, Debt-to-equity, Net profit margin, and price-to-earnings ratio. The sample of this study was 34 companies in the property and real estate business sector that were listed on the Indonesia Stock Exchange and published annual financial statements audited and published on the Indonesia Stock Exchange for the period 2009-2012 (Table 1).

This research method uses the purposive sampling method of companies/issuers listed on the Indonesia Stock Exchange during listing on the IDX and those in Indonesia in the period 2009-2012 and publishes financial statements during that period. This tool uses the SEM-PLS Equation Modeling Structure analysis tool with the WarpPLS 4.0 Program was a Variance or component-based Equation Modeling Structure (WarpPLS) used to test hypotheses.

Property companies were engaged in the housing and real estate business, which during the monetary crisis was very vulnerable to changes because a property project was created and planned for a long period of time, while the investment basis uses the basis of the previous year (the year that has been planned), so that when there was a depreciation of the rupiah value the

price of raw materials becomes expensive, while the project should keep going. Under these conditions, the company was forced to slam prices with a small profit risk, so the company must revise the specified profit projections. At times like this, the share price of property companies has fallen or is even undervalued. However, until now, property companies still hold high gain potential, especially for long-term investments with a fairly competitive PER value and fairly good liquidity.

Table 1. List of companies

No	Company Code	Company Name	No	Company Code	Company Name
1	BEAUTIFUL	Alam Sutera Reality Tbk	**18**	JRPT	Jaya Real Property Tbk
2	FATHER	Bekasi Asri Pemula Tbk	**19**	KIJA	Jababeka Industrial Estate Tbk
3	BCIP	Bumi Citra Permai Tbk	**20**	KPIG	MCN Land Tbk
4	BIPP	Bhuawanatala Indah Permai Tbk	**21**	LAMI	Lamicitra Nusantara Tbk
5	BKDP	Bukit Darmo Property Tbk	**22**	LCGP	Laguna Cipta Griya Tbk
6	BKSL	Sentul City Tbk	**23**	LPCK	Lippo Cikarang Tbk
7	BSDE	Bumi Serpong Damai Tbk	**24**	LPKR	Lippo Karawaci Tbk
8	COWL	Cowell Development Tbk	**25**	MDLN	Modernland Realty Tbk
9	CTRA	Ciputra Development Tbk	**26**	MKPI	Metropolitan Kentjana Tbk
10	CTRP	Ciputra Property Tbk	**27**	MORE	Indonesia Prima Property Tbk
11	CTRS	Ciputra Surya Tbk	**28**	PUDP	Pudjiati Prestige Tbk
12	DART	Duta Anggada Realty Tbk	**29**	PWON	Pakuwon Jati Tbk
13	DILD	Intiland Development Tbk	**30**	RBMS	Rista Bintang Mahkota Sejati Tbk
14	DUTI	Duta Pertiwi Tbk	**31**	RDTX	Vivatex Wheels Tbk
15	ELTY	Bakrieland Development Tbk	**32**	SCBD	Dadanayasa Arthatama Tbk
16	FMII	Fortune Mate Indonesia Tbk	**33**	SMDM	Suryamas Dutamakmur Tbk
17	GPRA	Perdana Gapura Prima Tbk	**34**	SMRA	Summarecon Agung Tbk

Source: Indonesia Stock Exchange

4. Results

Based on the results of descriptive statistical output as shown in Table 2, the average (mean) PER was 17,691, meaning that the price per sheet during the observation period 2009-2012 was IDR 17,691 per share, or the average outstanding price of each company was 0.52. The standard deviation per value of 85,386, which was higher than the mean, means that the per data acquisition showed poor data, while the minimum value of PER was -523.15 and the maximum value of PER was 395,440. The mean ROE during the observation period (2009-2012) was 9,952. This means that the profit from the property company during the observation period 2009-2012 was IDR 9,952. The standard deviation of ROE of 10,608 was higher than the mean, meaning that the roe data acquisition showed poor data, while the minimum ROE value was -24,190, and the maximum ROE value was.

Meanwhile, the average DER during the observation period (2009-2012), the average (mean) was 0.766; this means that the return of debts of property companies during the observation period 2009-2012 was IDR 0,766. The standard deviation value of DER was 0.611, the minimum value was DER was 0.050, and the maximum value was DER 3.830. These results show that the DER variable data indicates good results as the standard deviation (SD) was smaller than the average value.

Table 2. Descriptive Statistics

	Per	Roe	Der	NPM
(Mean)	17.691	9.952	0.766	18.015
(SD)	85.386	10.608	0.611	42.260
(Min)	-523.15	-24.190	0.050	-98.34
(Max)	395.440	50.060	3.830	229.720
(Median)	13.435	8.415	0.610	16.645
(Mode)	6.190	13.730	0.080	13.840

Sources: Secondary data processed (2015)

The mean NPM during the observation period (2009-2012) was 18,015; this means that the net profit from the property company during the observation period 2009-2012 was IDR 18,015, while the standard deviation value (SD) of NPM was 42,260, the minimum value of NPM was -98.34, and the maximum value of NPM was 229,720. These results show that the NPM variable data indicates poor results as the standard deviation (SD) was smaller than the average value.

Table 3. Testing of Fit Models and General Result and quality indices

Average path coefficient (APC)=0.060, P=0.094
Average R-squared (ARS)=0.010, P=0.222
Average adjusted R-squared (AARS)=-0.013, P=0.213
Average block VIF (AVIF)=1.078, acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)=1.190, acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF)=0.099, small >= 0.1, medium >= 0.25, large >= 0.36
Sympson's paradox ratio (SPR)=0.667, acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)=0.791, acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)=1,000, acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)=0.167, acceptable if >= 0.7

Furthermore, to test the Model fit and quality indices, the test results are shown in Table 2. The results showed that the value of Average block VIF (AVIF)= 1.078, acceptable if <= 5, ideally <= 3.3,Average full collinearity VIF (AFVIF)=1.190, acceptable if <= 5, ideally <= 3.3. This showed that APC, ARS, SPR, RSCR, and SSR were acceptable, which means that the data showed that there was no multicollinearity. Thus, this research model was very well formed and can be used to predict the influence of independent variables on dependent variables. The results showed that NPM has an effect against PER of 0.10 or 10 percent, and the remaining 90 percent was influenced by variables outside this research model.

Table 4. R-Squared Coefficients

Dependent Variables	R – Square
Price Earnings Ratio	-0.013

The results, as can be seen in Table 5, showed the R-Squared of -0.013. This means that the influence of independent variables on PER was 1.3 percent, and the remaining 98.7percent was influenced by other variables outside this study model.

The next analysis was hypothesis testing. The results of the first hypothesis were not significant on the effect of ROE on PER, with a p-value of 0.25 > 0.05. This means that the second

hypothesis was rejected, meaning that the return on Equity cannot increase PER in the property and real estate industry. From 2009-2012 due to unstable economic fundamentals, the company did not return its capital in business property. The result showed that the second hypothesis (H2) was not empirically proven. There was no significant effect of DER on PER with *p*-value was 0.32 > 0.05. This means that the second hypothesis was rejected, meaning that the ratio of debt returns of the property industry was not enough to increase the value of PER because the property company's ability to settle its long-term debt was only 0.77 or once during the observation period of 2009-2012 (Table 5).

Table 5. Coefficients and P-value results

	Direct Effect	
Path	Coefficient	P-value
ROE → PER	-0.05	0.25
DER → PER	0.03	0.32
NPM → PER	***0.10	0.07

Source: Data secondary processed (2015)

The test results of the third hypothesis were proven, resulting in a significant and positive effect of NPM on PER with *p*-value 0.07 < 0.10 and a coefficient of 0.102. This means the third hypothesis was accepted, meaning that the net profit margin in the property industry for the period 2009-2012 can increase the price-earnings ratio. Similarly, the test results of the fourth hypothesis were empirically proven, with the results showing significant effects on ROE, DER, and NPM on PER with Average block VIF (AVIF)=1,078, acceptable if <= 5, ideally <= 3.3. This means the fourth hypothesis was accepted.

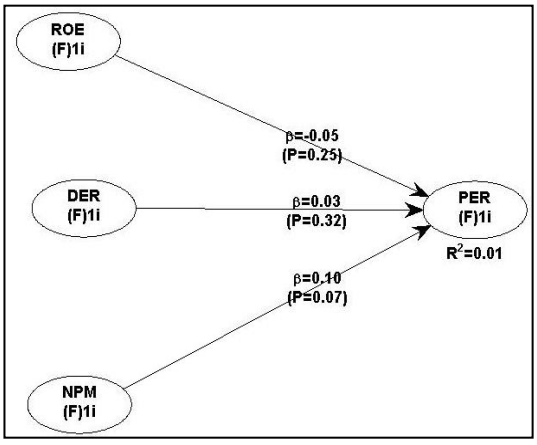

Figure 2. Relationships between variables

Figure 2 shows the result of causality relationships between variables, where the variables ROE (X1), DER (X2), and NPM (X3) were independent variables, and PER (Y) was a Dependent variable.

5. Discussion

The results showed that the first hypothesis was rejected (Table 6). This means that an increase in debt to Equity will not affect a company's price-to-earnings ratio and vice versa. This was not in accordance with previous expectations because it was predicted that the effect of return on Equity on the price-to-earnings ratio was positive. The results of this study were not in accordance with Musthafa (2017) stating that the return on Equity has a significant effect on the dependent variable price-to-earnings ratio. The greater the ROE value, the greater the rate of return that investors expect. The greater the ROE value, the more profitable the company was considered. In companies with profitable investment opportunities, the market will provide rewards in the form of high PER. The results of this study support the previous research (Rhidho & Prabawa, 2012; Muliawati, 2013; Reza & Ullah, 2019), concluding that the return on Equity (ROE) was insignificant and has no effect on the price-to-earnings ratio (PER).

Table 6. Summary of Hypothesis Testing Results

Relationship	Hypotheses	P-Value	Result
ROE → PER	H1	0.25	Rejected
DER → PER	H2	0.32	Rejected
NPM → PER	H3	*** 0.07	Accepted
Simultaneous Test in Average block VIF (AVIF)	H4	1.078	Acceptable if <= 5, ideally <= 3.3

The results showed the second hypothesis was rejected. This means that if there was an increase in Debt-to-equity, it would not affect the price-to-earnings ratio of a company and vice versa. This means that companies, in fulfilling their obligations, tend to use their own capital instead of using debt. The results of this study support the previous research results (Amanda & Pratomo, 2013; Sitepu & Effendi, 2014), concluding that the debt-to-equity ratio does not have a significant effect on the price-to-earnings ratio (PER). However, the results of this study were inconsistent with Susilowati (2010) and Hayati (2016), concluding that debt-to-equity has a significant negative effect on the price-to-earnings ratio.

The results showed the third hypothesis was accepted. This means that the higher the increase in net profit margin, the greater the company's price-to-earnings ratio. This study's results supported Lardin & Kasmir (2022) and Yanto et al. (2021), explaining that net profit margin has a positive effect on the price-to-earnings ratio. Thus, it was concluded that the growth value of NPM was worthy of being used as an analysis tool for the value of the stock price-to-earnings ratio on the Indonesia Stock Exchange.

The results showed the fourth hypothesis was accepted. This means that the test results show that the three independent variables together significantly affect the dependent variable's price-to-earnings ratio. Theoretically, the three variables were relevant enough to measure the price-to-earnings ratio of stocks on the Indonesia Stock Exchange. It means that if investors were going to buy shares, all of these variables could be considered together. Several previous studies have attempted to analyze the factors that affect the price-to-earnings ratio. Previous research (Daulata, 2005; Hayati, 2016) showed that return on Equity significantly affects the price-to-earnings ratio. According to Susilowati (2010) and Hayati (2016), debt-to-equity has a significant negative effect

on the price-to-earnings ratio. According to Lardin & Kasmir (2022) and Yanto et al. (2021), net profit margin positively affects the price-to-earnings ratio.

6. Conclusion

The results of descriptive statistical calculations, the highest average value of each variable was NPM of 18.015, while the maximum, minimum, and standard deviation values were found per with the maximum value was 395,440, the minimum value was -523.15, and the standard deviation was 85,3862. The results of regression with the F-test of the three independent variables analyzed, simultaneously, all independent variables (Return on Equity, net profit margin, and debt to equity ratio) significantly affect the dependent variable price-to-earnings ratio (PER). The regression results with the T-test of the three independent variables analyzed showed that return on Equity has no significant effect on the price-to-earnings ratio (PER), debt to equity ratio (DER) has no significant effect on a price-to-earnings ratio (PER), and Net Profit Margin has a significant influence on the price-to-earnings ratio.

The coefficient of determination (Adjusted R Square) was 0.013 or 1.3percent. This showed that the independent variables of return on Equity, debt to equity ratio, and net profit margin could explain the dependent variable of the price-to-earnings ratio (PER) of 1.3 percent, and the rest of 9.7 percent was explained by other variables outside of this study, such as the macroeconomic conditions of a country or the external conditions of a company.

References

Adnan, M. A. (2013). The Financial Management Practices of the Mosques in the Special Region of Yogyakarta Province, Indonesia. *Tazkia Islamic Finance and Business Review, 8*(2).

Aji, M. N., & Pangestuti, I. R. D. (2012). *Analisis Faktor-Faktor yang Mempengaruhi Price-to-earnings ratio (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia 2007-2010)* (Doctoral dissertation, Fakultas Ekonomika dan Bisnis).

Amanda, W. B. B. A., & Pratomo, W. A. (2013). Analisis Fundamental dan Resiko Sistematik Terhadap Harga Saham Perbankan yang Terdaftar Pada Indeks LQ 45. *Ekonomi dan Keuangan, 1*(3).

Arisona, V. F. F. (2013). Faktor-Faktor yang Mempengaruhi Price-to-earnings ratio. *Jurnal Ilmu Manajemen (JIM), 1*(1).

Brigham, E. F., & Ehrhardt, M. C. (2013). *Financial management: Theory & practice*. Cengage Learning.

Dangol, J. (2008). Unanticipated political events and stock returns: An event study. *Economic Review*, 20, 86-110.

Darmadji, T., & Fakhruddin, H. M. (2001). *Pasar modal di Indonesia: Pendekatan tanya jawab*. Jakarta: Salemba Empat.

Darmadji, T., & Fakhruddin, H. M. (2011). *Pasar modal di indonesia*. Jakarta: Salemba Empat.

Daulata, M. P. (2005). Analisis Faktor-Faktor Yang Mempengaruhi Price Earnings Ratio (PER) Perusahaan-Perusahaan Yang Terdaftar di Bursa Efek Jakarta. *Jurnal Bisnis dan Ekonomi, 2*(1).

Dendawijaya, L. (2003). *Manajemen Perbankan (Banking Management)*. Jakarta: Ghalia Indonesia.

Dewi, M. C., & Artini, L. G. S. (2019). Pengaruh Kurs, Gross Domestic Product dan Solvabilitas terhadap Return Saham Investor pada Perusahaan Pertambangan. *E-Jurnal Manajemen, 8*(10), 6262-6280.

Famiah, R. (2018). Pengaruh Return On Equity (ROE), Debt To Equity Ratio (DER), Dan Total Asset Turnover (TATO) Terhadap Price-to-earnings ratio (PER) (Studi Pada Perusahaan Sub Sektor Makanan dan Minuman yang Terdaftar Pada Bursa Efek Indonesia (BEI) Periode 2011-2016) (Doctoral dissertation, Universitas Brawijaya).

Gelb, D. S. (2000). Corporate signaling with dividends, stock repurchases, and accounting disclosures: An empirical study. *Journal of Accounting, Auditing & Finance, 15*(2), 99-120.

Hayati, N. (2016). Faktor-faktor yang mempengaruhi Price-to-earnings ratio (PER) sebagai salah satu kriteria keputusan investasi saham perusahaan real estate dan property di bursa efek Indonesia. *Jurnal Manajemen dan Akuntansi, 11*(1).

Husnan, S. (1997). *Manajemen Keuangan: Teori dan Penerapan (Keputusan jangka Panjang)*. Yogyakarta: BPFE.

Jogiyanto, H. (2010). *Teori portofolio dan analisis investasi*. Yogyakarta: BPFE.

Lardin, D. F., & Kasmir, H. (2022). Determinant of Debt-to-equity (DER), Earning Per Share (EPS), And Price-to-earnings ratio (PER), Stock Price In Indonesia Stock Exchange. Advance *Journal of Management, Accounting and Finance, 7*(3).

Muliawati, L. (2013). Pengaruh Debt to Equity Ratio (DER) Dan Return on Equity (ROE) Terhadap Price-to-earnings ratio (PER) (Penelitian Pada Pt. Unilever Indonesia, Tbk.) Periode Tahun 2003-2012. *Jurnal Manajemen dan Bisnis, 2*(2).

Munawir, S. (2004). *Analisis Laporan Keuangan*, Ed.4, Yogyakarta: Liberty, Ikatan Akuntansi Indonesia (IAI).

Musthafa, H., & SE, M. (2017). *Manajemen Keuangan*. Jakarta: Penerbit Andi.

Naidu, G. (2012). An empirical study on announcement effect of right Issue on share price volatility and liquidity and its impact on market wealth creation of informed Investors in Bangalore with special reference to CNX Nifty stocks of NSE. *EXCEL International Journal of Multidisciplinary Management Studies, 2*(7), 41-58.

Nekhaychuk, D., Nogas, I., Nekhaychuk, E., & Dzhelilov, A. (2019, June). The financial planning and its tasks in modern models of enterprise management. In Volgograd State University International Scientific Conference" Competitive, Sustainable and Safe Development of the Regional Economy" (CSSDRE 2019) (pp. 38-41). Atlantis Press.

Prastowo, D., & Juliaty, R. (2002). *Analisis laporan keuangan*. Yogyakarta: UPP AMP YKPN, Yogyakarta.

Qoyum, A., Mardiya, M., & Sakti, M. R. P. (2018). Indonesian capital market efficiency: islamic vis-a-vis conventional. *Shirkah: Journal of Economics and Business, 2*(3).

Rachmawati, A. (2007). Pengaruh Informasi Akuntansi terhadap Kapitalisasi Pasar di Bursa Efek Jakarta (Perusahaan Manufaktur Tahun 2001-2005).

Reilly, F. K., & Brown, K. C. (2011). *Investment analysis and portfolio management*. Cengage Learning.

Reza, M., & Ullah, S. (2019). Financial reporting quality of the manufacturing firms listed in Indonesian Stock Exchange. *Arthatama*, *3*(1), 37-54.

Rhidho, R., & Prabawa, S. A. (2012). Faktor-Faktor Yang Mempengaruhi Price-to-earnings ratio Saham Perusahaan Manufaktur. *Management Insight*, *7*(1), 85-97.

Setiawan, R. (2005). Pengaruh Dividend Payout Ratio, Profit Margin, Asset Turnover, Leverage dan Tingkat Risiko Terhadap Price-to-earnings ratio Pada Kondisi Pasar Bearish dan Bullish. *Majalah Ekonomi Tahun XIV*, (1).

Silfi, A., & Ramadhani, G. (2014). *Analisis Faktor-faktor yang Mempengaruhi Price-to-earnings ratio pada Perusahaan Manufaktur yang Bursa Efek Indonesia 2007-2011*, (Doctoral dissertation, Riau University).

Sitepu, D., & Effendi, J. (2014). Analisis Faktor-Faktor yang Mempengaruhi Price-to-earnings ratio Perusahaan Consumer Goods di Bursa Efek Indonesia. *Jurnal Wira Ekonomi Mikroskil*, *4*(1), 31-40.

Susilowati, H. (2010). *Analisis Faktor-Faktor yang Mempengaruhi PER Antara Saham yang Tercatat Dalam Index Syariah dan Saham Biasa (Studi pada Perusahaan Non Keuangan di Bursa Efek Indonesia 2006-2008)*.

Tandelilin, E. (2001). *Investment analysis and portfolio management*. Yogyakarta: BPFE.

Tandelilin, E. (2010). *Portfolio and investment theory and application*. Yogyakarta: Kanisius.

Usman, M. (1989). Peranan Perbankan Pasar Modal Sebagai Wahana Penyedia Dana Bagi Pembangunan.

Van Horne, J. C., & Wachowicz, J. M. (2001). *Fundamentals of financial management*. Pearson Education.

Wismar'ein, D. (2004). *Reaksi pasar atas pengumuman. Right issue terhadap abnormal return saham dan likuiditas saham (Studi Kasus Pada Bursa Efek Jakarta)*. (Doctoral dissertation, Program Pascasarjana Universitas Diponegoro).

Yanescha, N. Y. P. (2022). Analysis of Factors Affecting Inflation in Indonesia 2015-2020: English. *Research Horizon*, *2*(2), 330-344.

Yanto, E., Christy, I., & Cakranegara, P. A. (2021). The Influences of Return on Asset, Return on Equity, Net Profit Margin, Debt-to-equity and Current Ratio Toward Stock Price. *International Journal of Science, Technology & Management*, *2*(1), 300-312.