

## Fundamental Analysis of Financial Ratios in Stock Price: Do Loss and Firm Size Matter?

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### Abstract

**Research purposes:** This study aims to examine the relationship between financial ratios (Liquidity Ratio, Solvability Ratio, Profitability Ratio, Cash Ratio) and stock price, and we further test the variables in the subsamples of loss or profit and the firm size.

**Methods:** This study used non-financial companies listed on Indonesia Stock Exchange (IDX) from 2010-2020 by using OLS with a cluster by the firm in Stata 17.0 to predict the relationship between financial ratios and stock price.

**Findings:** The result shows that liquidity ratio, profitabilitas ratio, and cash ratio used in this study are positively associated with the stock price, but the solvability ratio is negatively associated with the stock price. Furthermore, in the subsample of companies that experience losses, only a few solvability ratio, profitability ratio, cash ratio have a relationship with stock prices. Then, the companies that have a small size show an insignificant liquidity ratio. This result is robust using coarsened exact matching (CEM).

**Novelty:** The results add to the literature regarding the ability of financial ratios to stock prices and especially provide new evidence from loss or profit and the firm size in Indonesia.

**Keywords:** *Financial Ratios, Stock Price, Loss, Firm Size, Indonesia*

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## INTRODUCTION

The more people who believe in a company, the greater the desire to invest in the company, so the trust of investors or potential investors becomes very important for the company (Saleh, 2012). But market supply and demand cause stock price fluctuations. The demand for shares is the investor's expectation of the company issuing the shares. According to (Darmayasa et al., 2014), one factor that influences stock price fluctuations is the announcement of the company's financial statements. This is because the information in the company's financial statements will be beneficial for investors to review the performance of a company by looking at financial ratios as an investment evaluation tool (Sholichah et al., 2021). The better financial performance of

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a company, the higher the expectations of investors (Widayanti & Colline, 2017). This causes the stock to be more attractive and the stock price to be higher. Conversely, if the financial performance of a company is not good, then investors' expectations will be low, so investors are not interested in investing in these shares. This makes the stock price go down.

The company's financial performance can be done by analyzing the financial statements. One form of financial statement analysis is to analyze financial ratios. Some of the most common financial ratios are liquidity ratios, solvency ratios, and profitability ratios. Financial ratio is a number that shows the relationship between an element with other elements in the financial statement (Sari, 2018). This ratio will be able to explain or give an overview about the good or bad financial position of a company.

Previous research was conducted by (Putri & Pratiwi, 2022) on consumer goods sector companies during the 2013-2016 period, which were listed on the Indonesia Stock Exchange which had the result that the fundamental variables were shown in the financial ratios Earning Per Share, Debt to Equity Ratio, Return On Equity, Return On Assets simultaneously significant effect on changes in stock prices. Furthermore, research by (Sholichah et al., 2021) on consumer goods sector companies during the 2011-2018 period listed on the Indonesia Stock Exchange had the result that profitability, solvency, and dividend policy each affected changes in stock prices. In contrast, profitability and solvency do not affect dividend policy. Results are similar to research conducted by (Wijaya & Yustina, 2017) on banking sector companies during the 2010-2014 period and the study shown by (Ligocká & Stavárek, 2019) on consumer goods sector companies during the 2005-2015 period, which were listed on the European Stock Exchanges.

However, companies that experience losses and small companies tend to have higher financial risks, thus influencing decision-making that leads to the company's sustainability goals. This is because companies in a loss position tend to have low liquidity, poor money circulation, and other financial problems (Kettunen et al., 2021). So it is necessary to examine the financial ratios to stock prices in companies that experience losses and small companies. This research is essential so that investors and potential investors have material considerations in investing in companies with losses and small companies.

Based on the literature gap, this study examines the relationship between financial ratios and stock prices using data on non-financial companies on the Indonesia Stock Exchange (IDX) for the 2010-2020 period. And is the relationship still the same when the company's status is profitable or loss. Then, this paper examines the relationship in a subsample of large and small companies. In addition, this study uses coarsened exact matching (CEM) to validate the research results.

The results showed that the liquidity, profitability, and cash ratios used in this study were positively related to stock prices. In contrast, the solvency ratios were negatively related to stock prices. These results indicate that the company's performance as represented by financial ratios relates to stock prices. Furthermore, in the sub-sample of companies that experienced losses, only the solvency ratio, profitability ratio, and cash ratio had a relationship with stock prices. Then, companies that have a small size show an insignificant liquidity ratio. These results are robust using coarsened exact match (CEM).

The remainder of this paper is organized as follows. Section 2 explains the literature review and hypothesis development. Section 3 provides the research methodology. Section 4 contains the result and discussion, while Section 5 delivers the conclusion.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This study wants to explain the relationship between financial ratios and stock prices using signaling theory. Signaling theory is useful for describing behavior when two parties (individuals or organizations) have access to different information (Connelly et al., 2011). Typically, one party, the sender, must choose whether and how to communicate (or signal) that information, and the other party, the receiver, must choose how to interpret the signal. By using this theory, this study

wants to explain how financial ratios provide a signal to stock prices, which means that through these financial ratio users can study and make decisions going forward

According to (Darmadji & Fakhrudin, 2001), stock prices are formed because of the demand and supply of shares. This demand and supply occur because of many factors, both specific to the stock and macro one, such as the country's economic conditions, social and political conditions, as well as developing information. The stock price is the current buying and selling price in the securities market which is determined by market forces in the sense that it depends on the forces of supply and demand.

Stock prices can also be interpreted as prices formed from interactions between sellers and buyers of shares against the background of their expectations of company profits. The closing stock price (closing price) is the price asked by the seller or the last trading price of a period. The share price is the price or value of money that is willing to be issued to acquire shares (Widoatmodjo, 2009). Stock price is the present value of cash flows that will be received by shareholders in the future. According to (Anoraga & Pakarta, 2015) "share price is the money spent to obtain proof of participation or ownership of a company". Stock prices can also be interpreted as prices formed from the interaction of sellers and buyers of shares against the background of their expectations of company profits, for that investor need information related to the formation of these shares in making decisions to sell or buy shares.

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Liquidity according to (Gitman, 2009), shows the company's ability to meet short-term financial obligations on time or the company's ability to provide cash or cash equivalents, which is indicated by the number of current assets. These assets are easily converted into cash, including cash, securities, receivables, and supplies. Company liquidity is often measured using the current ratio, which shows the company's ability to finance its operations and pay off its short-term obligations. The higher the company's liquidity, indicating that the company's ability to pay the short-term debt is also increased so that it can attract investors and potential investors to invest because in this condition the company is performing well (Öztürk, 2017). Research by (Nanang Suryana & Sri Dewi Anggadini, 2020) and (Dadrasmoghadam & Mohammad Reza Akbari, 2015) examines various financial factors, including liquidity ratios that have an impact on changes in stock prices in a company. This paper assumes that having good liquidity will increase stock prices. Therefore, the first hypothesis is made as follows:

#### **H<sub>1</sub>: Liquity ratios have a significantly positive association with the stock price**

Furthermore, regarding the solvency ratio, namely the ratio that assesses the company's ability to pay off all of its obligations, both in the short and long term with guaranteed assets or assets owned by the company so that the company is liquidated or closed. One ratio that represents solvency is the debt to equity ratio (DER). The DER ratio measures the percentage of the use of funds originating from creditors. According to (Nalurita, 2015), some investors observe that the company will need a loan to develop its business in the form of additional funds to fulfil its financing so it will require a lot of operational funds, which cannot be met only from the company's capital. Creditors prefer a low debt ratio because the lower the debt g ratio, the greater the protection the creditor will receive (Widayanti et al., 2009). The higher the company's funding through debt, the higher the risk of bankruptcy. This will make investors risky in the company (Sholichah et al., 2021). In research conducted by (Sholichah et al., 2021), (The et al., 2022), and (Nalurita, 2015), the results show that the solvency ratio affects stock prices. Therefore, this paper suspects that when the company's solvency ratio tends to be high, it will lower the stock price.

Thus, the second hypothesis is made as follows:

**H2: Solvability ratios have a significantly negative association with the stock price**

According to (Soebiantoro, 2007), profitability is a company's ability to generate profits or profits for one year. According to (Indrawati and Suhendro, 2006), profitability is a company's ability to earn profits. Profitability shows the company's success in generating company profits. According to (Gitman, 2009), profitability is the relationship between income and costs caused by using current and fixed company assets in production activities. According to (Gitman, 2009), there are many ways to measure profitability. These various measurements allow analysts to evaluate a company's profit in terms of sales, assets or owner investment. With profit, companies can attract external capital sources to invest their funds in the company. Profitability is the company's ability to generate earnings for one year and is calculated by return on equity. The increase in ROE shows that the company has good performance because it is considered capable of generating profits. Increasing stock returns will attract investors and potential investors to buy company shares (The et al., 2022). In research conducted by (Hardiningsih et al., 2002) (Nalurita, 2015), and (The et al., 2022), the results show that the profitability ratio affects stock prices. This article surmises that a high profitability ratio will also increase the stock price. Therefore, the third hypothesis is made as follows:

**H3: Profitability ratios have a significantly positive association with the stock price**

Lastly, this paper also wants to investigate stock prices based on how the company's cash flows. The cash flow ratio or cash flow ratio is a mathematical equation used to determine the financial condition of a business (Bartram, 2007). The cash flow ratio is beneficial when trying to understand a company's profits and losses. The cash flow ratio is significant for business financial analysis. Each ratio reveals a certain financial aspect of the company. When using cash flow ratios, a business knows how much cash it has, where the money is going, and what needs to be done to maintain a balanced budget. Using cash ratios in fundamental analysis can provide insight into sources and components of exposure to financial risk (Koijen & Nieuwerburgh, 2011). So when the cash ratio is high, the company is considered capable of maintaining a balanced budget in obtaining profits. As a result, increasing stock returns will attract investors and potential investors to buy company shares (Martani & Khairurizka, 2009). This study believes that this cash ratio has a positive relationship with stock prices, so the fourth hypothesis is as follows:

**H4: Cash ratios have a significantly positive association with the stock price**

**METHODS**

**Sample Selection and Data Resource**

The population used in this study are companies from all industries other than finance, insurance, and real estate, which are listed on the Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)) during the 2010-2020 period. The reason for excluding companies with SIC (Standard Industrial Classification) code number 6 from the sample is that they have different characteristics from

**Table 1.** Sample Selection

Descriptions	Sample Size
The total observed population of the research (2010-2020)	7,443
(-) Financial Firms with SIC 6	(1,485)
(-) Missing data for Stock Price	(1,763)
(-) Missing data for Independent Variables	(309)
(-) Missing data for Controls Variables	(516)
The Total Final Sample Size (N)	3,370

**Table 2.** Sample Distribution by SIC and YEAR

SIC	YEAR											Total
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
0	11	11	12	13	14	15	15	13	13	94	11	222
1	28	33	38	45	45	44	45	46	48	51	40	463
2	74	75	83	85	89	89	89	90	88	90	89	941
3	51	57	58	60	64	64	65	58	61	62	41	641
4	25	26	34	40	42	43	45	47	48	49	46	445
5	24	26	27	31	34	34	34	33	37	33	29	342
7	17	19	19	20	22	24	25	25	28	26	25	250
8	1	3	4	4	6	7	8	7	8	8	10	66
Total	231	250	275	298	316	320	326	319	331	413	291	3370

other industries (Harymawan et al., 2020). Moreover, the purpose excludes the financial industry from the sample so that the research conducted can be more comparable (Sánchez & Yurdagul, 2013).

This study obtained a total population of 7,443 observation for the last 11 years, and after deducting the companies with SIC code 6 and some missing dependent, independent, and control variables, the final sample was 3,370 observation. Details of sample selection are shown in table 1. Furthermore, in table 2, it can be seen the distribution of samples based on the SIC code of the company or company sector and year. It can be seen that every year the sample of companies has increased. The lowest value was in 2010 with a total sample of 231, and the highest value was in 2019 with a sample size of 413.

### Variable Definition

This study used the dependent variable stock price taken from the Osiris database to find out what the stock price is at the year end. In addition, financial ratio data such as liquidity ratio,

**Table 3.** Variable Definition

Variable	Definition	Sources
Dependent:		
STOCKPRICE	Stock price at year end	Osiris
Independent:		
CURRENT	Current Assets/Current Liabilities	Osiris
LIQUIDITY	(Current Assets-Inventory)/Current Liabilities	Osiris
DER	Total Debt/Total Equity	Osiris
ROE	Net Income/Total Equity	Osiris
CASHTA	Cash and Equivalent/Total Assets	Osiris
CFO	Net Cash from Operating Activities/Total Assets	Osiris
Controls:		
BOARDSIZE	Natural logarithm of total board size	Annual Report
INDCOMSIZE	Percentage total independent commissioner	Annual Report
FIRMSIZE	Natural logarithm total assets	Osiris
FIRMAGE	Firm age from date IPO	Osiris
BIG4	Dummy 1 if company's auditor big 4, 0 otherwise	Annual Report
MTB	Market to book value	Osiris
LOSS	Dummy 1 if company loss, 0 otherwise	Osiris

solvency ratio, profitability ratio, and cash ratio are also taken from Osiris. As for some data on control variables, such as company size, independent commissioners, and big 4, it is done manually by hand collecting from the annual report. The company's stock price measures stock price at the end of the year on December 31 each year (Sholichah et al., 2021)(Nalurita, 2015). The definition of variables in this study in detail can be seen in table 3.

**Model Specifications**

Analysis technique used in this research includes the use of a descriptive statistics test, matrix correlation test, and least square regression analysis test. Before running the data, each variable used in the data needs to be winsorized because the data distribution in this research might have the possibility of having a massive number outlier. Winsorizing the data only changes the behavior of data and eliminates the problem caused by outlier data such as biased data, bad data transcription, and many more (Reifman & Garrett, 2010). This test was done after winsorizing the data for 1% and 99%. This study is winsorizing for all control variables except the dummy variable to overcome the outliers in the data distribution. The regression model used in this study is a regression using clustering by the firm that aim to collect data that are similar to each other and different from other data and combine the standart error (Petersen, 2009) in Stata 17.0. The following is the equation model in this study:

$$STOCKPRICE_{i,t} = \beta_0 + \beta_1 CURRENT_{i,t} + \beta_2 LIQUIDITY_{i,t} + \beta_3 DER_{i,t} + \beta_4 ROE_{i,t} + \beta_5 CASH_{i,t} + \beta_6 CFO_{i,t} + \beta_7 BOARDSIZE_{i,t} + \beta_8 INDCOMSIZE_{i,t} + \beta_9 FIRMSIZE_{i,t} + \beta_{10} FIRMAGE_{i,t} + \beta_{11} LOSS_{i,t} + \beta_{12} BIG4_{i,t} + \beta_{13} MTB_{i,t} + \beta_{14} LOSS_{i,t} + INDUSTRY_{i,t} + YEAR_{i,t} + \epsilon \dots \dots \dots (1)$$

**RESULTS AND DISCUSSION**

**Descriptive Statistics and Univariate Analysis**

Table 4 shows the descriptive statistical results of all the variables used in this study. The result can be seen that the highest stock price is Rp 83.800 and the lowest is Rp 7.444, with an average of 1738.54. Meanwhile, the current ratio and liquidity which represent the liquidity ratio have an average of 3,712 and 2,132, respectively. The solvency ratio represented by the debt-to-equity ratio has an average of 1,875. Meanwhile, the average ROE is -0.033. The last two dependent variables, namely cash and equivalent to total assets, and cash flow from operating divided by total assets, have an average of 0.104 and 0.065, respectively.

Furthermore, in table 5, it can be seen that there is a univariate relationship between one

**Table 4.** Descriptive Statistics

	Mean	Median	Minimum	P25	P75	Maximum
STOCKPRICE	1738.540	467.658	7.444	175.000	1330.000	83800.000
CURRENT	3.712	1.430	0.013	1.005	2.366	2726.489
LIQUIDITY	2.132	0.952	0.002	0.557	1.619	885.079
DER	1.875	0.914	-166.972	0.427	1.741	786.931
ROE	-0.033	0.064	-326.921	0.002	0.147	183.744
CASH	0.104	0.066	0.000	0.026	0.144	0.966
CFO	0.065	0.054	-0.861	0.006	0.117	1.127
BOARDSIZE	2.132	2.079	1.099	1.946	2.398	3.332
INDCOMSIZE	0.377	0.333	0.000	0.333	0.500	3.000
FIRMSIZE	27.881	28.247	15.716	26.883	29.473	33.495
FIRMAGE	2.471	2.708	0.000	1.946	3.135	3.784
BIG4	0.392	0.000	0.000	0.000	1.000	1.000
MTB	2.616	1.175	-172.657	0.623	2.592	274.821
LOSS	0.253	0.000	0.000	0.000	1.000	1.000

**Table 5.** Matrix Correlation

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
[1] STOCKPRICE	1.000						
[2] CURRENT	-0.011	1.000					
	-0.535						
[3] LIQUIDITY	-0.014	0.964***	1.000				
	-0.419	0.000					
[4] DER	-0.017	-0.006	-0.009	1.000			
	-0.322	-0.740	-0.610				
[5] ROE	0.012	0.000	0.001	-0.628***	1.000		
	-0.474	-0.986	-0.972	0.000			
[6] CASHTA	0.100***	0.051***	0.106***	-0.045***	0.022	1.000	
	0.000	-0.003	0.000	-0.010	-0.201		
[7] CFO	0.204***	-0.009	0.002	-0.041**	0.043**	0.286***	1.000
	0.000	-0.603	-0.903	-0.018	-0.013	0.000	
[8] BOARDSIZE	0.281***	-0.050***	-0.067***	-0.008	0.022	0.122***	0.196***
	0.000	-0.004	0.000	-0.636	-0.194	0.000	0.000
[9] INDCOMSIZE	-0.019	0.025	0.026	-0.007	-0.014	-0.033*	-0.021
	-0.272	-0.146	-0.126	-0.668	-0.405	-0.053	-0.214
[10] FIRMSIZE	0.214***	-0.047***	-0.049***	0.000	0.020	0.016	0.092***
	0.000	-0.007	-0.005	-0.995	-0.240	-0.349	0.000
[11] FIRMAGE	0.124***	-0.013	-0.029*	0.019	-0.019	-0.023	0.094***
	0.000	-0.462	-0.096	-0.268	-0.278	-0.181	0.000
[12] BIG4	0.202***	-0.026	-0.030*	-0.017	0.010	0.092***	0.215***
	0.000	-0.125	-0.086	-0.331	-0.559	0.000	0.000
[13] MTB	0.110***	-0.005	-0.005	0.433***	-0.443***	0.013	0.155***
	0.000	-0.770	-0.792	0.000	0.000	-0.444	0.000
[14] LOSS	-0.140***	0.044**	0.046***	0.065***	-0.059***	-0.197***	-0.238***
	0.000	-0.011	-0.007	0.000	-0.001	0.000	0.000

  

	[8]	[9]	[10]	[11]	[12]	[13]	[14]
[8] BOARDSIZE	1.000						
[9] INDCOMSIZE	-0.010	1.000					
	-0.575						
[10] FIRMSIZE	0.463***	-0.013	1.000				
	0.000	-0.456					
[11] FIRMAGE	0.125***	-0.018	0.036**	1.000			
	0.000	-0.287	-0.035				
[12] BIG4	0.356***	0.009	0.290***	0.157***	1.000		
	0.000	-0.583	0.000	0.000			
[13] MTB	0.031*	-0.035**	0.019	-0.008	0.049***	1.000	
	-0.070	-0.042	-0.264	-0.661	-0.005		
[14] LOSS	-0.189***	0.054***	-0.197***	0.008	-0.100***	-0.004	1.000
	0.000	-0.002	0.000	-0.626	0.000	-0.809	

p-values in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

**Table 6.** Regression Result Liquidity Ratio to Stock Price

	(1)	(2)
	STOCKPRICE	STOCKPRICE
CURRENT	1.470* (1.86)	
LIQUIDITY		5.744* (1.81)
BOARDSIZE	1376.428*** (4.42)	1378.035*** (4.43)
INDCOMSIZE	-812.802 (-1.08)	-820.280 (-1.09)
FIRMSIZE	548.740*** (5.78)	550.768*** (5.80)
FIRMAGE	485.479*** (6.48)	487.116*** (6.50)
BIG4	670.536*** (4.64)	668.804*** (4.63)
MTB	49.178*** (3.81)	49.200*** (3.81)
LOSS	-843.198*** (-9.83)	-844.988*** (-9.86)
_cons	-1.7e+04*** (-7.46)	-1.7e+04*** (-7.48)
Industry FE	Yes	Yes
Year FE	Yes	Yes
R2	0.139	0.140
R2_ Adjusted	0.133	0.133
N	3370	3370

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

variable and one variable in the study using matrix correlation. It can be seen that the cash ratio variables, namely CASHTA and CFO, have a univariate relationship with the dependent variable STOCK PRICE. However, for the other ratios, there was no univariate significant relationship with the dependent variable. Then almost all control variables in this study also showed a significant relationship with STOCK PRICE, except INDCOMSIZE. For the liquidity ratio variable, it has a univariate relationship with the BOARDSIZE, FIRMSIZE, and LOSS variables. Meanwhile, for the solvency and profitability ratio, the univariately significant variables are MTB and LOSS.

### Regression Analysis

#### Regression Result Liquidity Ratio to Stock Price

The liquidity ratio represents a ratio that is able to show the company's ability to meet its obligations or pay its short-term debt. In this study, table 6 shows the relationship between liquidity ratio and stock price. It can be seen in the table that the current ratio (CURRENT) and liquidity ratio (LIQUIDITY) have a positive and significant relationship with the stock price (STOCKPRICE) at the level of 10% (coeff = 1.470 and 5.744, t = 1.86 and 1.81). Which means that if the Current Ratio increases it will be followed by an increase in the Stock price.

Thus these results support the signalling theory that the actions of a firm's management provide clues to investors about how management perceives a firm's prospects. And from these results it can be interpreted that the company's ability to fulfill its short-term obligations actually affect how the stock price in the company is. Which means that the more the company is able to meet its short-term obligations, the higher the company's stock price will be. In line with research conducted by (Nanang Suryana & Sri Dewi Anggadini, 2020)(Öztürk, 2017)(Dadrasmoghadam & MohammadReza Akbari, 2015), which gives the result that the liquidity ratio has a positive effect on stock price.

### Regression Result Solvability Ratio to Stock Price

Furthermore, the solvency ratio explains the ratio that functions to assess the company's ability to pay off all its obligations, both in the short and long term. This paper used the debt-to-equity (DER) ratio to see how the amount of debt compares with equity. High DER value indicates that the company's debt is higher than its equity. From the table 7 it can be seen that DER has a significant negative relationship with stock prices (STOCKPRICE) at the 5% level (coeff = -20,509, t = -2.14). This means that the higher the company's DER value, the lower the company's stock price will be. Which means that if the Solvability Ratio increases it will be followed by an decrease in the Stock price. These results it can be interpreted that creditors prefer a low debt ratio because the lower the debt g ratio, the greater the protection the creditor will receive (Widayanti

**Table 7.** Regression Result Solvability Ratio to Stock Price

	(1)
	STOCKPRICE
DER	-20.509** (-2.14)
BOARDSIZE	1354.051*** (4.36)
INDCOMSIZE	-804.601 (-1.07)
FIRMSIZE	554.754*** (5.85)
FIRMAGE	495.075*** (6.64)
BIG4	641.308*** (4.47)
MTB	64.382*** (5.09)
LOSS	-789.874*** (-9.30)
_cons	-1.7e+04*** (-7.54)
Industry FE	Yes
Year FE	Yes
R2	0.143
R2_ Adjusted	0.137
N	3370

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

**Table 8.** Regression Result Profitability Ratio to Stock Price

	(1)
	STOCKPRICE
ROE	39.043*** (2.80)
BOARDSIZE	1365.088*** (4.40)
INDCOMSIZE	-756.526 (-1.00)
FIRMSIZE	545.315*** (5.76)
FIRMAGE	491.063*** (6.58)
BIG4	657.834*** (4.57)
MTB	61.906*** (4.80)
LOSS	-806.428*** (-9.47)
_cons	-1.7e+04*** (-7.46)
Industry FE	Yes
Year FE	Yes
R2	0.142
R2_ Adjusted	0.136
N	3370

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

et al., 2009). The higher the company's funding through debt, the higher the risk of bankruptcy. This will make investors risky in the company (Sholichah et al., 2021). In research conducted by (Sholichah et al., 2021), (The et al., 2022), and (Nalurita, 2015), the results show that the solvency ratio affects stock prices.

#### Regression Result Profitability Ratio to Stock Price

To find out in terms of the level of profitability of the company, the return on equity (ROE) ratio is used to measure the ability of a business entity to generate profits by capitalizing on equity that has been invested by shareholders. From table 8 it can be seen that ROE is positively related to STOCKPRICE at the 1% level (coeff = 39,043, t = 2.80). Which means that if the company generates higher profits captured in ROE, the company will also have a higher stock price. Thus these results support the signalling theory that the actions of a firm's management provide clues to investors about how management perceives a firm's prospects. The increase in ROE shows that the company has good performance because it is considered capable of generating profits. Increasing stock returns will attract investors and potential investors to buy company shares (The et al., 2022). In research conducted by (Hardiningsih et al., 2002) (Nalurita, 2015), and (The et al., 2022),

### Regression Result Cash Ratio to Stock Price

This paper is also used the cash ratio to see if the company's cash value captured from CASHTA and CFO has a relationship with STOCKPRICE. Then, the results show that both the cash and equivalent to total assets (CASHTA) and cash flow from operating to total assets (CFO) ratios show a significant positive relationship at the 1% level (coeff = 3058,787 and 4845,229, t = 5.00 and 6.14). These results indicate that the higher the CASHTA and CFO values, the higher the company's STOCKPRICE. Which means that the better the cash ratio and the company's cash flow, the higher the value of the company's stock price. The results can be seen in table 9 below. Thus these results support the signalling theory that the actions of a firm's management provide clues to investors about how management perceives a firm's prospects. Using cash ratios in fundamental analysis can provide insight into sources and components of exposure to financial risk (Kojien & Nieuwerburgh, 2011). So when the cash ratio is high, the company is considered capable of maintaining a balanced budget in obtaining profits. As a result, increasing stock returns will attract investors and potential investors to buy company shares (Martani & Khairurizka, 2009).

### Additional Analysis

**Table 9.** Regression Result Cash Ratio to Stock Price

	(1)	(2)
	STOCKPRICE	STOCKPRICE
CASHTA	3058.787*** (5.00)	
CFO		4845.229*** (6.14)
BOARDSIZE	1229.014*** (4.06)	1250.099*** (4.07)
INDCOMSIZE	-772.176 (-1.02)	-772.807 (-1.02)
FIRMSIZE	574.931*** (6.15)	547.140*** (5.76)
FIRMAGE	493.588*** (6.65)	421.727*** (5.68)
BIG4	618.047*** (4.27)	507.697*** (3.59)
MTB	48.947*** (3.82)	40.936*** (3.64)
LOSS	-691.005*** (-7.59)	-565.145*** (-6.29)
_cons	-1.8e+04*** (-7.90)	-1.7e+04*** (-7.39)
Industry FE	Yes	Yes
Year FE	Yes	Yes
R2	0.144	0.150
R2_ Adjusted	0.138	0.144
N	3370	3370

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

**Table 10.** Regression Result Financial Ratios and Stock Price Subsample Loss or Profit

<b>Panel A: Loss Sample</b>						
	(1)	(2)	(3)	(4)	(5)	(6)
	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE
CURRENT	-0.029 (-0.34)					
LIQUIDITY		0.088 (0.25)				
DER			-6.067** (-2.05)			
ROE				35.086*** (3.77)		
CASHTA					1907.063*** (3.08)	
CFO						349.048 (1.00)
_cons	-3.2e+03*** (-3.18)	-3.2e+03*** (-3.17)	-3.5e+03*** (-3.44)	-3.6e+03*** (-3.49)	-3.6e+03*** (-3.40)	-3.1e+03*** (-3.17)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.104	0.104	0.119	0.146	0.124	0.105
R2_ Adjusted	0.078	0.078	0.093	0.122	0.098	0.079
N	851	851	851	851	851	851

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

**Panel B: Profit Sample**

<b>Panel B: Profit Sample</b>						
	(1)	(2)	(3)	(4)	(5)	(6)
	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE
CURRENT	23.410** (1.99)					
LIQUIDITY		40.235*** (3.01)				
DER			-224.455*** (-3.41)			
ROE				1.923 (0.58)		
CASHTA					3156.554*** (4.27)	
CFO						6044.139*** (5.98)
_cons	-2.4e+04*** (-7.35)	-2.4e+04*** (-7.45)	-2.4e+04*** (-7.47)	-2.4e+04*** (-7.32)	-2.4e+04*** (-7.68)	-2.4e+04*** (-7.44)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.153	0.153	0.165	0.152	0.157	0.165
R2_Adjusted	0.145	0.145	0.157	0.144	0.149	0.157
N	2519	2519	2519	2519	2519	2519

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

### Regression Result Financial Ratios and Stock Price Subsample Loss or Profit

The regression equation model used in the additional analysis does not use all the independent variables because it gives inconsistent results. This article is also performed additional testing to see if there was a difference when firms were subsampled to firms that experienced losses. In fact, the results find that in the sample of companies experiencing losses, the liquidity ratio does not have a significant relationship with stock price. This of course can be explained that if the company is on the verge of loss, it means that the company is not liquid and of course a company with this liquidity ratio cannot explain its effect on the company's stock price. Likewise with the cash flow ratio, the results are also not significant. This indeed indicates that when the company suffers a loss, its cash flow may experience problems and this results in not being able to explain its relationship with the company's stock price. These results can be seen in table 10 panel A.

For companies in the sample that experience profits, we find one difference, namely the ROE ratio which is not significant. It can be explained that the profitability ratio covers all

**Table 11.** Regression Result Financial Ratios and Stock Price Subsample by Firm Size

Panel A: Big Size Firm						
	(1)	(2)	(3)	(4)	(5)	(6)
	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE
CURRENT	169.664*** (3.01)					
LIQUIDITY		47.168 (0.48)				
DER			-100.226*** (-3.30)			
ROE				8.121 (1.41)		
CASHTA					3844.775*** (2.65)	
CFO						8135.194*** (5.38)
_cons	-4.0e+04*** (-5.65)	-3.9e+04*** (-5.70)	-3.9e+04*** (-5.59)	-3.9e+04*** (-5.57)	-3.9e+04*** (-5.60)	-4.0e+04*** (-5.76)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.146	0.145	0.149	0.145	0.148	0.159
R2_Adjusted	0.134	0.132	0.137	0.132	0.136	0.147
N	1685	1685	1685	1685	1685	1685

t statistics in parentheses

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

**Panel B: Small Size Firm**

	(1)	(2)	(3)	(4)	(5)	(6)
	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE
CURRENT	0.228 (1.05)					
LIQUIDITY		1.444 (1.20)				
DER			-9.992** (-2.04)			
ROE				33.597** (2.40)		
CASHTA					2241.365*** (6.05)	
CFO						2364.450*** (4.04)
_cons	-7.3e+03*** (-4.67)	-7.4e+03*** (-4.68)	-7.7e+03*** (-4.86)	-7.5e+03*** (-4.75)	-8.5e+03*** (-5.25)	-7.1e+03*** (-4.51)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.157	0.157	0.167	0.170	0.176	0.175
R2_ Adjusted	0.144	0.145	0.154	0.157	0.164	0.162
N	1685	1685	1685	1685	1685	1685

t statistics in parentheses

\* p &lt; 0.1, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

company values, both those experiencing profit and loss. And when the company is split up, only companies that experience profit are certainly not able to capture the overall ROE value of companies associated with STOCKPRICE. Therefore, the results are not significant. These results can be seen in table 10 panel B.

**Regression Result Financial Ratios and Stock Price Subsample by Firm Size**

This study performs additional analysis to see how these financial ratios are in small or large company sizes by dividing the sample based on the median value of firm size. The results found several differences, such as in the big size firm sample, the liquidity ratio and profitability ratio did not show significant results. While the small size firm sample shows the current and liquidity ratio results do not show significant results. This indicates that when considering the size of the company, it has an impact on financial ratios on stock prices. So, when making a decision it is important to look at the size of the company. Table 11 shows the results of the analysis of both.

**Robustness Analysis using Coarsened Exact Matching (CEM)**

Finally, table 12 is the results of the CEM analysis are presented to answer the problem of endogeneity and ensure that the model built in this study remains consistent. This test is carried out by breaking the control variable into three strata by grouping them based on the characteristics of the independent variables. Panel A shows a summary of the observations made. It can be seen that 1,371 of the 1,685 observations were from small company, while 1,677 from 1,685 indicated otherwise. This paper does this division to see from the treatment group companies that are included in the firm size sample above and below the median value. Panel B shows the results of the CEM regression, and it can be seen that the results are robust, corroborating the results in the main analysis.

**Table 12.** Regression Result Financial Ratios and Stock Price using Coarsened Exact Matching (CEM)

PANEL A: Matching Summary						
	Small Company=0		Big Company=1			
All	1685		1685			
Matched	1371		1677			
Unmatched	314		8			
PANEL B: Regression Result						
	(1)	(2)	(3)	(4)	(5)	(6)
	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE	STOCKPRICE
CURRENT	1.470*					
	(1.86)					
LIQUIDITY		5.744*				
		(1.81)				
DER			-20.509**			
			(-2.14)			
ROE				39.043***		
				(2.80)		
CASHTA					3058.787***	
					(5.00)	
CFO						4845.229***
						(6.14)
_cons	-1.7e+04***	-1.7e+04***	-1.7e+04***	-1.7e+04***	-1.8e+04***	-1.7e+04***
	(-7.46)	(-7.48)	(-7.54)	(-7.46)	(-7.90)	(-7.39)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.139	0.140	0.143	0.142	0.144	0.150
R2_ Adjusted	0.133	0.133	0.137	0.136	0.138	0.144
N	3370	3370	3370	3370	3370	3370

t statistics in parentheses

\* p &lt; 0.1, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

## CONCLUSION

This study aims to see the relationship between financial ratios represented by the liquidity ratio, solvency ratio, and profitability ratio with the stock price. Using IDX data for 2010-2020 except for non-financial companies. This paper finds that there is a significant positive relationship in all financial ratios except the solvency ratio.

The results document that the current ratio and liquidity ratio, return on equity ratio, cash and cash flow ratio have a significant positive relationship on stock prices. This means that the company's ability to handle liquidity problems and the level of profitability and cash flow of the company is good, the company will be able to provide signals according to signaling theory to increase its share price. Furthermore, the high solvency ratio or debt-to-equity ratio of the company tends to make its ability to decline and ultimately lower its share price.

Then, this paper also tests and provide evidence on a sample of companies that suffered losses and company size. It turned out that the results were different. This could be due to the fact that companies that were experiencing losses experienced problems in the level of liquidity and cash flow ratios, thus showing insignificant results. As for the size of the company, it turns out to

give mixed results. The result is validate using coarsened exact matching and find that the results of the model in our findings are robust.

The results are in accordance with the Signaling Theory, because investors will consider financial ratios of companies to value the stock price. Financial ratios capture the information of the company's performance, which could give a signal to investors and this will be related to the stock price. Therefore, all financial ratios that were tested in this study have a significant relationship with the stock price.

This paper has several limitations. First, this paper only used one proxy to measure each type of financial ratio. Therefore, future research can use several proxies to validate the relationship between each type of financial ratio with stock prices. Second, this paper only uses a sample of listed companies in Indonesia (a developing country). To get a wider picture of the relationship between financial ratios and stock prices, future research can use samples of listed companies in developing or developed countries.

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