Research Article

The Effect of Financial Ratio on Agriculture Companies' Solvency

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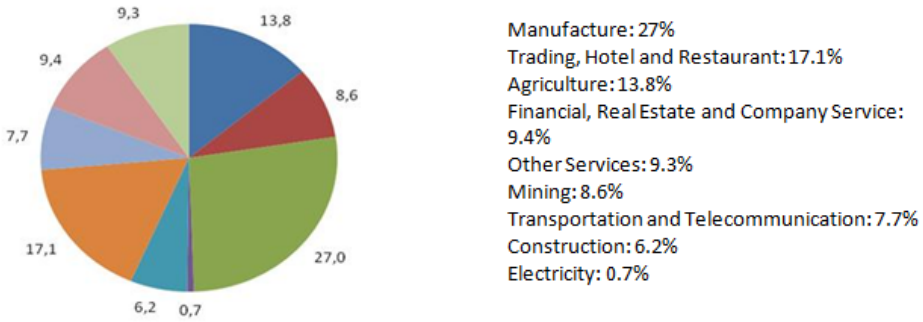
Abstract: The purpose of this study is to determine the effect of financial ratios represented by liquidity ratios, profitability ratios and market ratio to solvency ratios in agricultural sector companies listed on the Indonesia Stock Exchange 2015-2019 period either simultaneously or partially. The results showed that simultaneously the liquidity ratio, profitability ratio and market ratio had an effect on the solvency ratio. Partially, the liquidity ratio and the profitability ratio have an effect on the solvency ratio, while the market ratio has no effect on the solvency ratio. The suggestion for this research is that the company, when maintaining its solvency ratio, also maintains the liquidity ratio and profitability ratio. The advice for investors is that when focusing on market ratios, there is no need to pay too much attention to solvency ratios. The last suggestion is for other researchers to add other variables that affect the solvency ratio.

Key words: Liquidity, Profitability, Market, Solvency Ratio

1. Introduction

The agricultural industry is one of the top priority sectors for the government, because this sector provides an increasing contribution to national economic growth. This can be seen from the average composition of GDP over the last 6 years, showing that the agricultural sector contributed 13.8% of total GDP. The largest contribution to GDP is obtained from the manufacturing sector, the second is the trade, hotels and restaurants sector and the third is the agricultural sector.

Figure 1
Average Composition of GDP Over The Last 6 Years



source: bps.go.id

Every year the needs of the community continue to increase, this is a challenge for the agricultural industry. With increasing competition, each company must maintain and improve performance so that its goals can be achieved, one of which is adapting by launching the 4.0 industrial revolution in agriculture, with a number of agricultural technologies that can help companies increase company productivity so that they can meet current market needs and in the future, the purpose of this action is so the company can compete and avoid bankruptcy. This business certainly requires a lot of funds, therefore companies need to find additional funds, and one of things to achieve is through the capital market.

The increase of competitive competition in each agricultural industry encourages each company to be able to increase its profit and value in front of the public. In managing its financial functions, one of the elements that need to be considered is how much the company is able to meet the funding needs that will be used to operate and develop its business. These funds can be obtained from different sources, which is, internal funds and external funds. Internal company funds, that is funds that can be obtained from within the company or funds generated by

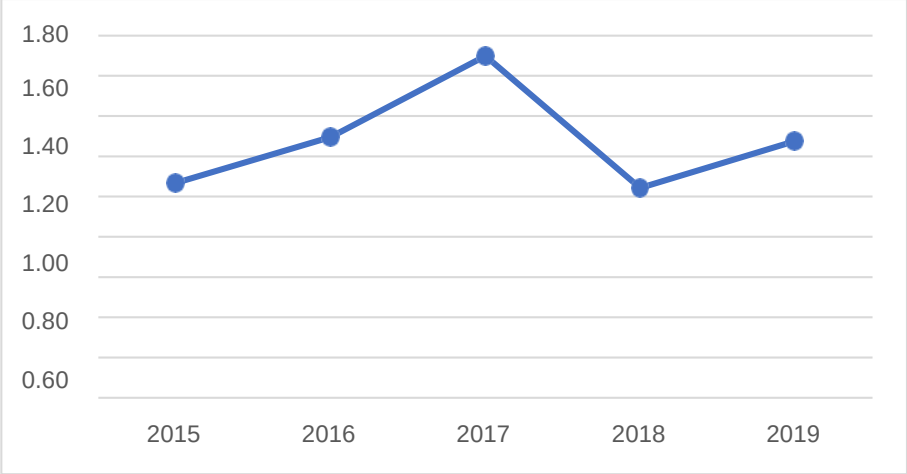
the company such as current profit, retained earnings and share capital, while external funds are funds originating from outside the company, such as debt, specifically long-term debt and short-term debt. .

A manager must determine wisely which source of funding the company will choose, whether through debt or by issuing shares. Each of these decisions has consequences that must be borne by the company. If the company chooses debt as a source of funding, the consequence that must be faced is that the company must be able to pay the principal of debt plus interest expense for a certain period of time. Meanwhile, the addition of new ownership will be a consequence of issuing shares as a source of corporate funding. In addition, the issuance of new shares will incur substantial costs that must be borne by the company. So managers must think wisely about external sources of funds to be used when internal sources are insufficient.

Although the agricultural sector occupies the third position in Indonesian GDP, it turns out that the solvency of the agricultural sector is also high. In this study, the company's solvency is measured using the Debt to Equity Ratio. Debt to Equity Ratio is the ratio of debt to equity in the company. According to (Brigham & Houston, 2015) the higher the value of the Debt to Equity Ratio, the greater the total debt to total equity, this will also show the greater the company's dependence on outsiders (creditors) so that the level of company risk is getting bigger. Meanwhile, according to (Fahmi & Hadi, 2009) the lower the value of the Debt to Equity Ratio, the better for the company and creditors because it is safe for creditors during liquidation so that companies can get loans easily. So that the more capital used to meet the company's operational activities will reduce the likelihood of making a loan, so as to minimize the obligation to pay interest expenses for the company. In the matter of Debt to Equity Ratio, it is necessary to understand that, there is no limit to how much Debt to Equity Ratio is safe for a company, but for conservatives, usually a Debt to Equity Ratio that passes 66% or 2/3 is considered risky (Fahmi & Hadi, 2009; Maluleke et al., 2019).

From the description that has been presented, it can be described the level of development of the solvency ratio in agricultural companies in the form of a graphic as follows:

Figure 2
The Development of The Solvency Ratio in The Agricultural Sector Companies



Based on figure 1, it can be seen that the average solvency ratio value in 2015 to 2016 has increased. Furthermore, in 2016 to 2017 there was also a very significant increase, but in 2017 towards 2018 there was a significant decrease. And most recently in 2018 to 2019, the solvency ratio has increased again. So it can be concluded that from 2015-2019 the average value of the solvency ratio of agricultural companies tends to increase.

An increase in the solvency ratio within a certain period of time indicates that the company operates on the back of debts from creditors, this can endanger the company's position. According to (Fahmi & Hadi, 2009) additional debt can still be tolerated by the company as long as the benefits provided from the use of debt are still greater than the costs arising from the debt itself, besides that additional debt can still be made as long as it still exists. Fixed assets as collateral, but if the cost of debt is too high, the company should not add more debt to avoid unwanted risks. Therefore, companies must be careful in determining the capital structure of their companies. By knowing the factors that affect the capital structure of a company, it can be used as an evaluation tool for both company management and investors in making business decisions.

Based on the phenomena described above, the researcher will conduct research with the theme of the solvency of companies registered in the agricultural sector using independent variables, namely liquidity ratios, profitability ratios and market ratios.

2. Literature Review

Financial Ratio

Financial reports are a medium for assessing the performance and economic condition of a company and are part of the financial reporting process presented by management to all interested parties. The purpose of financial reports is to provide useful information for users to make business decisions. By obtaining the financial statements of a company, the company's overall financial condition will be known. Financial statement analysis is a method or technique used to understand more deeply the data in financial statements by evaluating and predicting the company's past and present financial condition (Mardiyanto, 2009; Sundjaja et al., 2007). The purpose and benefits of financial statement analysis is to examine in more depth the financial statements to find the information needed by interested parties. Types of financial reporting techniques according to (Sundjaja et al., 2007)are as follows: comparison analysis between financial reports, trend or tendency analysis, percentage per component analysis, analysis of sources and uses of funds, analysis of sources and use of cash, ratio analysis, analysis of gross profit , Break Even Point.

Financial Ratio Analysis

Financial ratio analysis is an analytical method used to assess financial performance by converting data from financial reports to useful information and is carried out with correct procedures and assessments so that the actual financial condition of the company will be seen. Financial ratio analysis is widely used by potential investors. Actually this analysis is based on the relationship between the items in the company's financial statements which will reflect the financial condition as well as the results of the company's operations. (Harahap, 2013; Sutrisno, 2012)in arguing that there are several basic forms of financial ratios, namely: liquidity ratios, solvency ratios, activity ratios, profitability ratios and market ratios.

In this study, the dependent ratio studied was the solvency ratio, while the independent ratios in this study were liquidity ratios, profitability ratios and market ratios. For the next discussion, researcher will focus on these ratios.

Liquidity Ratio

The liquidity ratio is a ratio that describes the company's ability to settle its short-term obligations in a timely manner (Widajatun & Ichsani, 2019). Companies that have the ability to pay short-term debt are called liquid companies and vice versa, companies that do not have the ability to pay short-term debt are called illiquid companies. The indicators for this ratio are Current Ratio, Quick Ratio, Cash Ratio, Net Working Capital Ratio and Cash Flow Liquidity Ratio.

Solvency Ratio

The solvency ratio is a measure of how much a company uses debt (Ichsani & Susanti, 2019). The ratios that are incorporated are indicators of solvency ratio, namely the ratio of Debt to Asset Ratio, Debt to Equity Ratio, Times Interest Earned, guand Cash Flow Coverage Ratio, Long Term debt to Total Capitalization, Fixed Charge Coverage and Cash Flow Adequacy.

Profitability Ratio

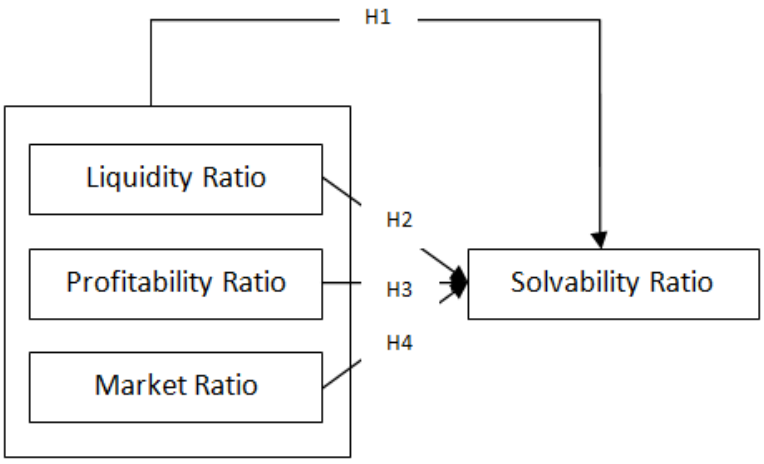
The profitability ratio is a ratio that measures the effectiveness of the overall management which is aimed at the size of the level of profits obtained in relation to sales and investment (Hertina et al., 2020). The types of this ratio indicator are Gross Profit Margin, Net Profit Margin, Return on Assets, Return on Investment and Return on Equity.

Market Ratio

The market ratio is a ratio that shows the conditions that occur in the market, namely the stock exchange market (Hertina et al., 2019). Market ratio indicators consist of Earning Per Share, Price Earnings Ratio, Book Value Per Share, Price Book Value, Dividend Yield, and Dividend Per Share.

Research Hypothesis

Figure 3
Research Hypothesis



H1: Liquidity, Profitability and Market Ratio affect Solvency Ratio
H2: Liquidity Ratio affects Solvency Ratio
H3: Profitability Ratio affects Solvency Ratio
H4: Market Ratio affects Solvency Ratio

3. Methods

In this study, the objects of research are liquidity ratios, profitability ratios, market ratios and solvency ratios. The subject of this research is the agricultural sector which is listed on the Indonesia Stock Exchange in 2015-2019. This type of research is research that uses quantitative methods with applied research designs. The data used in this research is secondary data. In accordance with the needs and objectives of the research, the researchers obtained information about the agricultural sector for the 2015-2019 periods through the official website of the Indonesia Stock Exchange that is www.idx.co.id which is an audited financial report and company annual report. Other information obtained by researchers is obtained from books, internet, papers, and financial journals concerning the object under study by the researcher.

The population in this study is agricultural sector companies that are on the Indonesia Stock Exchange for the 2015-2019 periods with a population of 24 companies. In this study, the sample was taken using purposive sampling technique. As for the criteria or sampling considerations used by the author, the criteria for the research sample as follows:

Table 1
Research Sample Criteria

No	Sample Criteria	Amount
1	Agricultural sector companies listed on the Indonesia Stock Exchange.	24
2	Companies that are not actively traded during the 2015-2019 period.	7
3	Agricultural sector companies that do not have complete financial reports and do not publish financial reports during the 2015-2019 period.	0
Sample Amount		17

Based on the table above, the sample in the study were 17 agricultural sector companies listed on the Indonesia Stock Exchange (IDX) starting from 2015-2019.

Table 2
Sample Companies

No	Company Names
1	Astra Agro Lestari Tbk
2	Austindo Nusantara Jaya Tbk
3	BISI International Tbk
4	Eagle High Plantations Tbk
5	Dharma Samudera Fishing Industries Tbk
6	Dharma Satya Nusantara Tbk
7	Golden Plantation Tbk
8	Gozco Plantations Tbk
9	Jaya Agra Wattie Tbk
10	PP London Sumatra Indonesia Tbk
11	Multi Agro Gemilang Plantation Tbk
12	Provident Agro Tbk
13	Sampoerna Agro Tbk
14	Smart Tbk
15	Sawit Sumbermas Sarana Tbk
16	Salim Ivomas Pratama Tbk
17	Bakrie Sumatera Plantations Tbk

Table 3
Variables Operationalization

Variable	Concept	Indicator	Scale
Solvency Ratio (Y)	a ratio that shows the amount of company funding needs that are financed through loans	Debt to Equity Ratio	Ratio
Liquidity Ratio (X1)	The ratio used to calculate the company's ability to meet its short-term obligations at maturity includes the company's ability to pay off long-term debts that are due in this period.	Current Ratio	Ratio
Profitability Ratio (X2)	a ratio that measures how much the company's profit level is obtained by the company	Return on Equity	Ratio
Market Ratio (X3)	a ratio that measures whether the company is able to create value to its investors or shareholders, which is reflected in the share price on the stock market	Price to Book Value Ratio	Ratio

4. Results

Table 4
Panel Data Regression Results

Dependent Variable: SOLVENCY_RATIO
Method: Panel EGLS (Cross-section random effects)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.082123	1.318512	3.846097	0.0003
LIQUIDITY	0.284137	0.235578	1.252817	0.0359
PROFITABILITY	0.012118	0.000262	4.268019	0.0000
MARKET	0.008324	0.047827	0.194956	0.7358

Based on the table above, the regression model in this study is as follows:

Y = 5.0821 + 0.2841 LIQUIDITY + 0.0121 PROFITABILITY + 0.008 MARKET + e

The interpretation of the results of the regression analysis above is as follows:

1. The constant of the data regression model above is 5.0821, indicating that if the liquidity, profitability and market ratio in the agricultural sector is equal to zero, then the solvency ratio will be worth 5.0821 units.
2. The liquidity ratio regression coefficient value is positive of 0.2841 which indicates that if the liquidity ratio increases by one unit in the agricultural sector, the solvency ratio will increase by 0.2841 units.
3. The profitability ratio regression coefficient value is positive at 0.0121 which indicates that if the profitability ratio increases by one unit in the agricultural sector, the solvency ratio will increase by 0.0121 units.
4. The market ratio regression coefficient value is positive at 0.008 which indicates that if the market ratio increases by one unit in the agricultural sector, the solvency ratio will increase by 0.008 units.

F-Test

Tabel 5
F-Test Result

Weighted Statistics

R-squared	0.561293	Mean dependent var	1.678335
Adjusted R-squared	0.547917	S.D. dependent var	0.589336
S.E. of regression	0.437208	Sum squared resid	26.17903
F-statistic	19.08343	Durbin-Watson stat	1.489493
Prob(F-statistic)	0.000002		

Based on the results above, it shows that the Prob (F-statistic) is worth 0.000002 <0.05, it means that the liquidity ratio, profitability ratio and market ratio have a linear relationship with the solvency ratio or the estimation model used in this study is correct and can be used for further analysis.

5. Determination **Coefficient** Test Result

Based on the table 5 above, it is known that the R^2 result value is 0.561293 so it can be concluded that the contribution of the influence of the liquidity ratio, profitability ratio and market ratio variables to the solvency ratio is 56.13% while 43.87% (100% -56.13%) is influenced by other factors not examined in this research.

t-Test

The theory of research statistics explains that if the value of the probability is smaller than the specified alpha then Ho is rejected, meaning that individually or partially the independent variable has a significant effect on the dependent variable. The data in the data regression results panel table 4 above can be explained as follows:

1. Liquidity ratio affects the solvency ratio in agricultural sector companies because the T-test results in the table above show that the result is 0.0359 which is smaller than alpha 0.05.
2. The profitability ratio affects the solvency ratio in agricultural sector companies because the T-test results in the table above show that the results are 0.0000 smaller than alpha 0.05.
3. Market ratio affects the solvency ratio in agricultural sector companies because the T-test results in the table above show that 0.7358 is greater than alpha 0.05.

6. Discussion

The results showed that the t-count (0.0359) was smaller than the alpha set, which was 5%. This means that the liquidity ratio affects the solvency ratio. The results on the coefficient show positive results, so it means that the liquidity ratio has the same effect as the solvency ratio. This means that if there is an increase in the liquidity ratio, the solvency ratio will also increase. The liquidity ratio shows the company's ability to pay off its short-term debt, while the solvency ratio shows how much the company's assets are financed by third party funding. If the liquidity ratio is high, then this shows that the company's ability to pay off its short-term debt is getting higher, so that the company's ability to pay off its short-term debt is getting better. If the solvency ratio is high, this indicates that the biggest source of assets owned by the company is debt. If the solvency ratio is too high, the company is increasingly at risk because the bigger the company's debt is, the greater the company's obligation to pay off its principal and interest. The results show that the relationship between the liquidity ratio and the solvency ratio is unidirectional, so it means that the funds owned by the company are intended to pay off short-term debts.

The results showed that the t-count was 0.0000 less than 0.05. This means that the profitability ratio affects the solvency ratio. The results on the coefficient also show positive results, which means that any increase in the profitability ratio will also increase the solvency ratio or vice versa, each decrease in the profitability ratio will also decrease the solvency ratio. It can be concluded that the company's debts contribute to the profits earned by the company. The company's debts are used by the company's management for the company's operational activities until the company gets profits from its operational activities. The greater the third party funds used by the company for its operational activities, the greater the profit the company will get for its business activities.

The results showed that the t-count was 0.7358 greater than the specified alpha. This means that the market ratio has no effect on the solvency ratio. Market ratio is a ratio that shows the position of a company in the stock market, this ratio also shows the value of the company in the eyes of its shareholders. Meanwhile, the solvency ratio shows the amount of debt or equity that the company uses to finance its assets. This research shows that there is no influence between market ratios and solvency ratios, so this means that investors in making investment decisions in the agricultural sector do not pay attention to the position of debt or the company's own capital. For investors, as long as the company can provide benefits in the form of dividends to its shareholders, this will be the focus of investors' attention regardless of the source of funding for the dividend.

7. Conclusion

Based on the research results, it can be concluded that for the agricultural sector listed on the Indonesian stock exchange, the liquidity ratio, profitability ratio and market ratio simultaneously have a significant effect on the solvency ratio. The amount of influence between these ratios and the solvency ratio is 56.12%, while the remaining 43.88% is influenced by other variables not examined in this study. It can also be concluded that the liquidity ratio and profitability ratio have an influence on the solvency ratio because the t-count generated from data processing shows the results are smaller than the specified alpha, which is 5%. Meanwhile, the market ratio has no effect on the solvency ratio, because the t-count is greater than alpha 0.05.

8. Suggestion

Researcher's suggestion for this study is that when the company maintains its debt ratio, the company can focus on its liquidity ratio and profitability ratio as well. This is because based on the research results, these two variables have an influence on the solvency ratio. Researcher's suggestion for investors is that there is no need to pay too much attention to the solvency ratio, because in making stock investment decisions, the condition of the company's debt does not become an added value or a reduction in investment decisions by investors. Researcher's suggestion for other researchers is to add other variables such as macro variables in research on solvency ratios.

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