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FACTORS IMPACTING THE COMPANY'S PROFITABILITY IN FARMING AND AGRICULTURE SECTORS

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ABSTRACT

Agriculture, forestry, and fishing have been the main sectors contributing to the Malaysian Gross Domestic Product since independent day. Eventually, the manufacturing sector has been booming since the '80s which boosted the Malaysian economy. Demand in the manufacturing sector creates a shift in job filling from agriculture to manufacturing. Since then, the agriculture sector faced a huge gap in worker and the sector seem to have lost popularity in gaining new employee. This study focuses on finding impacting sources to the profitability faced by farming and agriculture-listed companies in Malaysia. The timeline for this study of profitability determination in the agriculture sectors in Malaysia is from 2017 to 2021. There are 50 companies listed in Bursa Malaysia that were selected mostly based in the farming industry. The findings show that return on asset, operating margin and asset turnover have a positive relationship with profitability. Return on asset has the highest impact towards profitability followed by operating margin and asset turnover. The results will give an idea for agriculture sector management to make a decisive decision for future planning. Ultimately, it will give a guideline for the companies to avoid wastage, implement new policies, sustain productivity, and guarantee profits.

1. Introduction

The farming sector is strategically important and has a significant potential to enhance the agriculture sector (Herchenbach et al., 2023). Moreover, industry participants are encouraged to create the best business plan because of the more intense commercial competition. In a corporate environment that is always changing, determining a strategic orientation can improve a company's performance (Vlasic, 2023). In the Ninth Malaysian Plan, the agriculture sector was ranked third in terms of the nation's income generators, behind manufacturing and services (Abdullah & Abu Samah, 2013). The Ninth Malaysian Plan has put a lot of emphasis on commercialising large-scale agriculture, ensuring high-quality and value-added agricultural activities, and fully exploiting biotechnology, among other things. By increasing production, the agricultural industry has been transformed into a booming industry, aiding in this effort.

Besides that, Malaysia is fortunate to have a decent climate and excellent land for the agriculture sector. Since the country's independence in 1957, it has boosted the Gross Domestic Product (GDP) of Malaysia and established itself as the foundation of the nation's economy (Abdullah et al., 2023). Furthermore, other country such as Indonesian also showed 48.85% of all SMEs in Indonesia are in the agricultural sector in Central Java Province. This indicates that agricultural SMEs have a lot of room to expand and have high potential to penetrate the ASEAN market (Kusnandar et al., 2023).

A significant portion of the world's population receives its protein intake from the cattle agricultural sector. Not only serving as a source of food, but also making a significant contribution to global agricultural development. Through the provision of organic fertilisers that are beneficial to the environment, the livestock industry helps to meet some of the demands of the agricultural sector. The agriculture industry's connection with the livestock farming sector is a mutually beneficial arrangement. A farm in a specific location that integrates plants and animals is essentially an agricultural system defined by a close link between plant and livestock components. Farmers may be encouraged to fill their unplanted land with fodder if there is a growth in the number of livestock in the region. Land protection shall be the focus of all carried-out guidance activities (Said, 2021).

There are several ways to increase the time, cost, or man-hour efficiency of the agricultural sector. It must consider digitalizing the agricultural businesses to make them more productive and efficient in the day when everything will be done online. We need to make certain changes by digitising and automating various tasks, one of which is irrigation systems, to make our farming businesses more effective and efficient. By 2030, the water supply will fall 40% short of satisfying the world's water demands, according to a McKinsey study. Better water management is made possible by agriculture technology, which digitalizes and automates the entire process. (Goedde et al., 2020)

Economic activity enables farmers to increase their income and diversify their risk across several traditional and alternative food chains and economic sectors. They are therefore seen as a measure of how well farmers have adapted to the pressures and demands of the changing urban environment and as a means of sustaining an economically viable agricultural environment. The effectiveness of all those experiences in affecting the farming system's ability to remain economically viable has been called into doubt. Food producers do not usually direct farming practices, and their objectives do not always include maximising farmers' profits. The

profit is erratic and inconsistent over time, which makes farming less sustainable in the long run. Farmers using agricultural systems and multifunctional agriculture may not always have the necessary competence, which has an impact on how well the activity is managed. (Gaviglio et al., 2021)

Owing to several issues, including the workforce's inability to leave the house to work due to the COVID-19 curfew, agricultural productivity decreased. Additionally, let's not overlook the issue of buying raw materials with fluctuating prices. A farmer who wants his farm successful must consider all of this. To determine the industry-specific characteristics that would lead to profitability in farm companies especially in Malaysia, further research is required. Asset turnover and operating margin are sector-specific variables that may have an impact on agricultural industries' effectiveness. Farmers will get insight from this study on the need to sustain their businesses, particularly at this challenging time.

The main objectives of this study are to look at the link between the internal factors that influence profitability performance in the Malaysia agriculture sector. Specifically, the return on asset, operating margin, and asset turnover of the company are three company-specific variables that this study will look at in connection to three farming efficiency factors. This study is significant because it may inform farming companies about the areas in which they should concentrate their efforts and help them plan their operations effectively over a longer time frame. The specific goal of this study is;

1. To examine the variables affecting productivity in the farming and agricultural sectors
2. To investigate how the farming and agricultural industry's profitability is affected by Return on Asset, Operating Margin, and Asset Turnover.

2. Literature Review

Numerous published studies show that a variety of factors can influence the determinants of an organization's profitability decisions. Thus, this study will discuss the dependent variable and the factors of profitability decisions that have been derived from previous studies.

2.1 Profitability

Return on equity was used as a dependent variable in this study to reflect profitability. The ability of a business to generate profits on all its capital assets is assessed using return on equity, based on dividing the entire equity by the net profit after taxes. The mean ROE percentage for manufacturing businesses that were registered with ISE from 2006 to 2010 was 10.93% (Rosikah et al., 2018). According to Calamar (2016), the amount of earnings produced by each dollar of equity is shown by the term "return on equity." It may provide important information on how a business operates. The better the ROE, as, all else being equal, high ROE firms will generate more earnings and free cash flow that can be utilized to support greater levels of growth, maintain the company's financial stability, and give cash returns to shareholders.

A similar study by Purba et al., (2023) suggested investors might use ROE as a guide when choosing their investments. The signaling hypothesis can be used to explain how the ROE variable

affects stock prices. The signal is either strong or weak. A bad signal can be conveyed by ROE that keeps rising so that stock prices keep falling, and vice versa. A favorable signal can be reflected in an ROE that keeps declining so that stock prices keep rising.

2.2 Return on Asset

Return on asset is used to gauge a company's capacity to generate profits utilizing all the assets it already owns. For any investor to consider investing in a firm that will have an impact on the rise in company stock on the capital market, it must be viewed as a favorable indicator (Heikal, 2014; Rosikah et al., 2018; Ibandahl, 2018). Moreover, a study by Anton et al., (2023) indicated that the greater the ROA ratio, the more efficiently the firm is using its assets to produce net profit after tax. The firm will make more money if the ROA figure is higher, and the book value will also rise. A low return on assets suggests that the firm is not making the best use of its assets to produce profits. This ratio is frequently emphasized when analyzing financial records since it might signal a company's ability to generate profit. Therefore, the present study proposes the following hypothesis (H1):

H1: There is a significant relationship between return on asset and the profitability performance of Malaysian agriculture companies.

2.3 Operating Margin

The Operating margin ratio is used to assess a bank's management team's capacity to manage earning assets and create revenue sharing on those assets so that financial performance improves (Sunarya & Lutfiani, 2020). Besides that, the bank's management of numerous risks that might arise in margin and profit sharing is evaluated by operating margin. This implies that when the profit sharing changes, the associated revenue and expenses likewise change. The capacity of banks to manage their productive assets so that they can produce a margin or return is strongly tied to the ratio of operating margin (Rahardja et al., 2020).

According to earlier studies, the operating margin demonstrates the company's capacity to produce profits sufficient to offset fixed expenditures or other operating expenses. The cost of goods sold has a big impact on operating margin. The OPM will decline as the cost of items sold rises (Mahdi & Khaddafi, 2020). Operating margin may also be used to determine if a company's production or sales operating expenses are excessively high or low in comparison to those of other businesses operating in the same sector. Management might adopt a lower price approach to gain market share if the firm has a better operational profit margin than its rivals. A previous study by Husnadi et al., (2022) revealed that the shareholder welfare ratio (ROE) was significantly impacted by the operating margin ratio. Moreover, the ability of productive assets to produce net income is gauged by the ratio known as the operating margin. The company manages its productive assets more effectively with a higher operating ratio and boosted business to success. Therefore, the present study proposes the following hypothesis (H2):

H2: There is a significant relationship between the operating margin and the profitability performance of Malaysian agriculture companies.

2.4 Asset Turnover

Numerous research has stated that asset turnover is a measurement of how well a company utilizes its assets to produce sales (Rajagukguk & Siagian, 2021; Purba et al., 2020; Efendi et al., 2018). The total asset turnover ratio evaluates a company's performance in utilising its assets to generate revenue. Moreover, the assets turnover ratio also calculates how effectively investments are managed in each particular asset item. A greater ratio indicates that the business can manage its resources to bring in money and increase profits. A similar study by Maharani and Ekadjaja (2023) also highlighted this ratio's value can be interpreted as a measure of how well a company uses its assets to produce overall net sales. When a corporation uses its resources wisely by increasing net sales, it shows that its financial performance is strengthening.

Moreover, Sunjoko (2016) indicated that the asset turnover activity ratio is the most useful one. Asset turnover is a ratio that demonstrates overall asset turnover as determined by sales volume, or, put another way, how much revenue can be generated by all assets. This ratio can demonstrate how well a business uses its resources to produce profits. A corporation will have a greater asset turnover ratio if it can generate revenues utilizing assets as little as possible. Hence, the present study proposes the following hypothesis (H3):

H3: There is a significant relationship between asset turnover and the profitability performance of Malaysian agriculture companies.

3. Methodology

3.1 Research Framework

The effect is a response or behaviour that is influenced by the independent variable. The primary problem or issue that researchers hope to examine in the study is referred to as the dependent variable. The inclusion of a dependent variable aids in the smooth operation of the evaluating process. Profitability (ROE) has been recognized by researchers as the primary metric for assessing agricultural firms' financial success. For this study, three independent variables are classified as related to the chosen dependent variables which are Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO) in the agriculture sector.

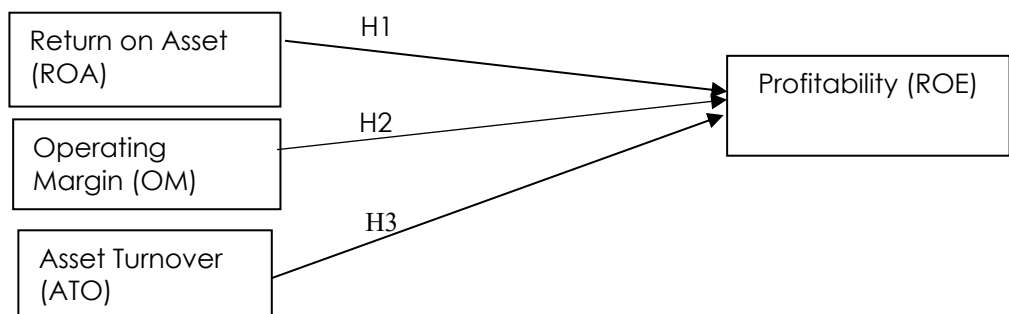


Figure 1. Research Framework Showing the Relationship Between Return on Asset (ROA), Operating Margin (OM), and Asset Turnover (ATO) with Profitability

3.2 Data and Sampling Method

This study is conducted to learn more about the effects of independent variables. For the previous five years, from 2017 to 2021, 5 years of observation were collected to explore the factors that influence agricultural profitability in various locations in Malaysia. The emphasis of this study is on farming companies that are listed on Bursa Malaysia. Bahvest Resources Bhd, CAB Cakaran Corporation Bhd, Sinmah Capital Bhd, Lay Hong Bhd, PWF Corporation Bhd, QL Resources Bhd, Sunzen Biotech Bhd, Leong Hup International Bhd, LTKM Bhd, and Teo Seng Capital Bhd are the ten farming companies that are the focus of this study. In this study, profitability proxy by Return on Equity (ROE) is the dependent variable which analysis measures by Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO) are the independent variables. In general, there are three options for gathering data, including secondary data from Thomson Reuters Eikon to obtain financial information on ten businesses listed on Bursa Malaysia. The results were then generated using Software for Statistics and Data Science (STATA), a multipurpose statistical software program created by StataCorp for data processing, visualization, statistics, and automated reporting. The researcher then used data from articles in databases including Emerald, ResearchGate, and Science Direct to do more research on this topic. Descriptive statistics, panel specification tests (F-Test, BP-LM Test, Hausman Test), diagnostic tests (multicollinearity, serial correlation, heteroskedasticity), and panel regression were all used in this study's panel data analysis.

3.3 Regression Model

To confirm the hypotheses of the study, the empirical analysis carried out is based on the regression model as shown in Equation (1).

$$ROE_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 OM_{it} + \beta_3 ATO_{it} + \epsilon_{it}$$

Where,

ROE_{it} = Return on Equity

ATO_{it} = Asset Turnover

ROA_{it} = Return on Asset

OM_{it} = Operating Margin

B_i = Coefficients (i = 1,2,3)

ε = Error Term Measurement of Variable

3.4 Measurement of Variables

In terms of variable measurement, the study used profitability as the dependent variable. The three independent variables are Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO). Table 1 shows the measurements and variables used in this study.

Table 1
Variables Measurement

Variables	Measurement
Dependent Variable:	
Profitability proxy by Return on Asset (ROE)	Net Income After Tax / Total Equity
Independent Variables:	
Return on Asset (ROA)	Net Income / Total Asset
Operating Margin (OM)	Operating Income / Revenue
Asset Turnover (ATO)	Net Sales / Average Total Asset

4. Result and Discussion

The findings regarding the performance and profitability of the Malaysian agriculture sector are covered in this part. The hypotheses were explained after the process of deriving the results from the findings. A significant connection between the independent variables (Return on Asset, Operating Margin, and Asset Turnover) is sought in the objective-based hypothesis. It might influence the profitability of the company, which is the dependent variable. Pearson correlation and multiple regression were used to determine the most significant relationships.

4.1 Descriptive Analysis

The descriptive statistic for the firm-specific factors influencing the profitability of farms in Malaysia is shown in Table 2. In this study, a total of 50 observations were used. OM has the greatest mean at 4.692, followed by ATO at 0.9512 and ROE at 0.6698. ROA has the lowest mean at -0.4022. OPM has the largest standard deviation value (23.98502), followed by ROE (16.42508) and ROA (11.53952). ATO has the lowest standard deviation statistics at 0.47189. ATO displays the highest minimum and greatest maximum values. OPM displays the greatest maximum value, and ROE has the lowest minimum value (85.7).

Table 2
Descriptive Analysis for Firm-Specific Factors Affecting Farms' Profitability

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	50	.670	16.425	-85.7	20.1
ROA	50	-.402	11.540	-69.5	10.6
OM	50	4.692	23.990	-67.7	141.3
ATO	50	.951	.472	.1	2.7

ROE: Return on Equity, ROA: Return on Asset, OM: Operating Margin, ATO: Asset Turnover

4.2 Correlation Analysis

The findings of the study's correlation analysis for the independent and dependent variables are shown in Table 3. The table shows that Return on Asset, which is 0.9718, has the largest positive correlation with Return on Equity, followed by Operating Margin, which is 0.3503, and Asset Turnover, which is 0.2059. Everything relates positively to Return on Equity. Return On Asset is the main factor affecting a farm's profitability. More leverage will result in better future returns.

Table 3
Correlation Analysis for Firm Specific Factors Affecting Farms' Profitability

	Return On Equity	Asset Turnover	Return On Asset	Operating Margin
Return On Equity	1.0000			
Asset Turnover	0.2059 0.1514	1.0000		
Return On Asset	0.9718 0.0000	0.1699 0.2381	1.0000	
Operating Margin	0.3503 0.0126	-0.1278 0.3764	0.3474 0.0134	1.0000

4.3 Estimation Result

Table 4 presents the regression results for three independent factors on the profitability of the agricultural business using Random-effects GLS regression with the cluster option, followed by the regression model for the variables. The results showed that while asset turnover and operating margin are not related to profitability, return on asset, and return on equity do have a statistically significant relationship. A unit increase in asset turnover will increase the return on equity by 1.62 units, a unit increase in return on asset will increase the return on equity by 1.36 units, and a unit increase in operating margin will increase the return on equity by 0.02 units. In addition, all of the variables showed asset turnover, return on asset, and operating margin have positive relationships with profitability.

$$ROE_{it} = (-0.41) + 1.62 ATO_{it} + 1.36 ROA_{it} + 0.02 OM_{it} + e_{it}$$

Table 4
Regression Analysis

	Fixed-Effect (Within) Regression with Cluster Option
Asset Turnover	1.62
	-1.18
Return on Asset	1.36***
	-11.92
Operating Margin	0.02
	-0.86
Constant	-0.41
	(-0.31)
N	50.00
r2	
r2_a	
r2_w	0.95
r2_b	0.96
r2_o	0.95
F	
p	0.00
chi2	1618.63

(Notes: t statistics in parentheses *significant at 10% level, **significant at 5% level***significant at 1% level)

4.4 Panel Specification Test

To choose the best model for this study, Panel Specification Tests were undertaken. The F-Test, BP-LM Test, and Hausman Test were the three tests that were run. An F-test is used to compare Fixed Effect (FE) with Pooled Ordinary Least Square (POLS). The F-Test result, which is less than 0.05 based on Table 5, is 0.0801. This suggests that POLS is a more suitable model than the Fixed Effect Model. To determine if POLS and Random Effect are significant, the BPLM test is next performed. The result of the BP-LM test is 1.0000, which is more than 0.05. This suggests that POLS is a better fit for this study than the Random Effect model. To compare the Fixed Effect model to the Random Effect model, Hausman tests were used. The outcome displays a p-value of 0.0074, which is lower than 0.05. Fixed Effect (FE) is hence the model that is most suited.

Table 5
Panel Specification Test for Ten (10) Agriculture Companies in Malaysia

Model	F-Test	BP-LM Test	Hausman Test	Technique
Model 1	0.0801	1.0000	0.0074	
	POLS	POLS	FE	POLS

Diagnostic Test

Three distinct tests which are Multicollinearity, Heteroscedasticity, and Serial Correlation were used in diagnostic tests to examine the issue in this study. Multicollinearity is used to investigate the correlation between independent variables. According to Table 6, this study has no multicollinearity issues because its Variance Inflation Factor (VIF) is 1.15, which is less than 10. Heteroscedasticity testing is then done to ensure that the data are consistent. The variance is not constant because of the heteroscedasticity issue. The p-value is 0.000, which is lower than 0.05. The autocorrelation issue can be verified using serial correlation. There is no serial correlation issue in this study, according to the result's p-value of 0.7715, which is greater than 0.05. Fixed-effects (inside) regression is presented as a solution to the heteroscedasticity issue.

Table 6
Diagnostic Test for Ten (10) Agriculture Companies in Malaysia

Model	Multicollinearity	Heteroskedasticity	Serial Correlation
Model 1	1.15	0.0000	0.7715
	No multicollinearity problem	Heteroskedasticity problem exist	No serial correlation problem

5. Discussion

The results show that Return on Equity (ROE) and Return on Asset (ROA) have a considerable positive relationship, as indicated by the positive coefficient of return on equity. Utilizing ROA has the advantage of avoiding the issues associated with comparing farm operations of various sizes. Because it would be very hard to make direct comparisons with others, return on assets is a better indicator of farming profitability (Detre et al., 2011). The importance of return on asset and return on equity in assessing a company's profitability cannot be overstated. According to this study and other studies, return on assets is the main factor affecting profitability. This study suggests that for the company to be more profitable, the return on assets like assets has to be raised.

Asset turnover and return on assets have a positive relationship, but there is no discernible relationship, according to the findings. Profit margin evaluates the farm's capacity to control expenses associated with generating revenues, whereas asset turnover reflects the farming company's ability to create revenues from assets. The farming business plan contributes to the degree of asset turnover (Wolf et al., 2020). The results show that operating margin also has a positive relationship, but there is no discernible relationship. Given the anticipated impact of productivity, or sales, on profitability as well as the necessity to manage assets in a farming sector, the research presented here evaluated profitability using operating margin to measure total financial success (Vanhuysse et al., 2020).

Despite the fact that return on assets is positively correlated with profitability, and as indicated by the positive coefficient of return on equity, farming companies should manage their financial situation. An appropriate return on asset indication is heavily influenced by sales revenues, overall operating expenses, and a company's asset structure (Avlokulov & Akhunjonov, 2018). Operating margin and asset turnover are positively correlated with profitability but there is no discernible relationship with return on equity. Profitability is significantly impacted by asset turnover. Profitability is positively impacted by the model feasibility analysis results. The study's findings imply a considerable impact of asset structure on financial performance (Nurlaela et al., 2019). For further research, it is best to study a broader set of variables that determine farming's profitability.

6. Conclusion

In conclusion, the primary goal of this research is to identify the variables that affected corporate profitability in the agriculture sector from 2017 to 2021. This study is being conducted to look at the factors that affect agriculture sector profitability. The results suggest that the study may have achieved its objective, and the literature review is consistent with this. Additionally, there is proof that the dependent and independent variables are strongly and quantitatively connected. Return on equity served as the research's proxy for the factor that determines profitability. In addition, we used the information we gathered to assess the chosen factors that determine profitability in the farming industry, including return on assets, operating margin, and asset turnover. The purpose of this study is to determine whether or not farming industry profitability is important. As a result, the data suggest that profitability and the farming sector are significantly related.

Moreover, considering that farms are becoming increasingly important for growth in both farming and the agricultural industry, this research gives useful information to associated parties and farming operations in structuring operations and creating profit. Furthermore, these results show that in order to help agriculture adjust to both internal and external economic shifts, the government should offer sufficient funding and incentive programmes that affect agriculture's productivity, methods, and financial management. In addition, the extra incentives offered by the private sector in the agriculture sector have the potential to enhance the human capital and skilled labour force, particularly in rural regions. Last but not least, in order to guarantee sustained production for food security and safety, the agricultural sector's expansion is thus able to support the Malaysian National Agro-Food Policy 2021-2030 (NAP 2.0) and effectively handle the difficulties in both domestic and global markets.

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Conflict of Interest

No conflict of interest is associated with this publication.

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