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Accounting for Biological Assets: Data from Indonesia and Malaysia

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Living assets are those that continue to undergo biological transformation, accounting treatment also contributes in the process. IAS 41 prescribes the accounting treatment, presentation financial statements and disclosures related to agricultural activity. Often there is a conflict of interest between the owner and management in managing their biological assets that have these unique characteristics. Firm Size is one way to improve a company's financial performance which is also influenced by the treatment of accounting for biological assets. This study aims to analyse the implementation of accounting for biological assets in Indonesia and Malaysia. The method used is explanatory research with secondary data sources, namely the financial statements of agricultural companies in the two countries that are published on the stock exchange. Tests are carried out with an empirical approach. The results showed that there were no differences in the accounting implications of biological assets in both countries. Based on the test results it can be concluded that the accounting implications of biological assets, using the fair value approach with biological asset intensity and firm size, had no impact on financial performance both in Indonesia and in Malaysia.

Key words: *Biological Asset, Biological Intensity, Firm Size, Financial Performance.*

Introduction

Good agricultural management in one country does not exclude them from economic activity that demands a uniform accounting system and financial reporting that can be accepted by various countries. Indonesia and Malaysia are developing countries that are taking a stand on the harmonization of Financial Accounting Standards (GAAP) to IFRS, and have been doing so since 2002. Since 2012, the Financial Accounting Standards Board (FASB) adopted a policy that started to converge GAAP to IFRS.

The convergence of IFRS had an impact on changes in the measurement and disclosure of financial reporting. Indonesia has previously been using historical cost concept as the basis of measurement. Fair value accounting (FVA) has become an important principle in international accounting measurement. The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) further promote fair value accounting as a basis for future measurement. From a theoretical point of view, fair value is believed to be more relevant than the historical cost approach, because fair value reflects investor risk adjusted for expected future cash flows more precisely than other approaches. However, there are some practical issues regarding fair value accounting. Fair value measurements can be very complex, in the absence of market prices quoted in active markets, the measurement of fair value is based on subjective assumptions and, therefore, can be the subject of manipulation (Dechow & Skinner, 2000) (Martus, 2014).

One element of financial statements is assets. Paton (1962) defined an asset as good fortune in the form of physical or other forms that has value to a business entity. Financial Accounting Standards Board (1984) defines an asset as the economic benefit that might occur in the future obtained or controlled by a particular entity as a result of past transactions or events. A company in the agricultural sector this has a unique asset called biological assets (IAS 69)(Amelia, 2018; Asaad & Mahmoud, 2016). According to the standards covering the agricultural companies which have biological assets are those involved with animal husbandry, forestry, specialty crops, orchards, plantations, agriculture, and fisheries.

Biological assets (biological assets) according to IAS 41 are a living animal or plant (animal or plant life assets). Thus, it can be said that the biological assets are assets such as living beings who through a biological process start to grow, produce, reproduce, or cannot produce themselves and die. Because of biological processes, the company must make appropriate measurements to value the assets appropriately and use the subsequently generated leverage to generate profits for the company(Amelia, 2018).

According to (Yurniawati, Djunid, & Amelia, 2018), biological asset intensity illustrates the proportion of investment a company has against their biological assets owned. The intensity of the biological asset can also describe the expectation of cash received if the assets are sold.

This study analyses the way biological assets measurement affects the financial position and performance of SMEs involved in the agricultural sector. In doing so, it is stated that the cost model is a more suitable way of measurement for bearer plants reporting, while the fair value measurement is more suitable for living animals with respect to the fundamental principles of financial reporting. (Bohušová & Svoboda, 2017; Bohušová, Svoboda, & Nerudová, 2012).

However, evaluation by a "fair value" must not be made if the value cannot be measured reliably. For example, the change in a forest's value affects the profit and loss statement, the IAS therefore causes unrealistic fluctuations in net profit. However, the yearly fluctuations of property values are caused by felling's, as well as the change in the growing stock, but especially by the changes in stumpage prices. This profit and loss statement volatility suggests that it would be advisable to perform sensitive analyses and to compare the evaluations obtained from different paradigms. (Karppinen, H, 2004; AyukAko, 2017)

The profit and loss of the company reflects the overall financial performance of the company, and automatically affects overall state income through taxes paid. The Indonesian Minister of Environment and Forestry, Siti Nurbaya, states that Indonesia has a huge wealth of natural resources to support the national economy. History recalls many occasions where the forestry sector has been able to save Indonesia a crisis. However, the contribution of the forestry sector to the national economy is declining from year to year, and has not been able to properly use forest resources to generate a comparative and competitive economic advantage (ppid.menlhk.go.id, 2016). Additionally, issuers in the plantation sector have not shown positive prospects, in the first quarter of 2018, the financial performance of plantation issuers fell (Investasi.kontan.co.id, 2018).

Malaysian agriculture has been largely from discussions discussions about Malaysia's future. It receives limited attention in the 10th Malaysia Plan (2011-2015). Yet, agriculture, along with fisheries and forestry, still accounts for 7 to 8 percent of Malaysia's gross domestic product, which is a significantly high level for a country at Malaysia's stage of economic development. The agricultural sector also employs around one million workers, with about half of these being temporary migrants. Parts of the agricultural sector are highly dynamic, and have good potential for the future, but there are also numerous emerging problems requiring consideration for future transformation (Barlow, 2012).

Company size is a significant variable in assessing profitability in a company (Odalo, Achoki, & Njuguna, 2016). The study conducted by (Omondi, 2013) identified that a

company must be developed in such a way that it can be controlled to achieve optimal company size. This will allow the company to enjoy economies of scale and produce higher financial levels.

Economies of scale refer to internal, external, national, international, aggregative or dis-aggregative and to the advantages due to size and scale of operation of firms (Hitt & Ireland, 1987). Firm size has been associated with performance of large firms due to various reasons including market power, research, aggregation of production processes and research and development efforts. Large firms are able to spread costs over the large production (Stefanou, 2006; Gomes, Kruglianskas, & Scherer, 2009; Gay, 1981; Colburn & Talley, 1992; Panzar & Willig, 1981; Cohen, 1995; Colburn & Talley, 1992; Ross, 2000; Sah & Stiglitz, 1988; Panzar & Willig, 1981). Therefore, the economies of scale theory explains the cost advantages that enterprises obtain due to size, output or scale of operation in the research of Odalo et al. (Odalo et al., 2016).

In consideration of the condition of both the Indonesian and Malaysian agricultural industries, it appears necessary to do an analysis of factors that might influence them, such as good corporate governance practices. According (Lasisi, 2017) the need for effective corporate governance mechanisms in joint-stock companies arises from the separation of ownership from control. The shareholders of a company employ managers as their agents to manage the business and make strategic and operational decisions in the interest of the firm and its' shareholders. Because the agents and shareholders are separate individuals and groups, the relationship between them often brings conflicts of interest. Whereas the managers are employed to maximize returns to shareholders and to look after the interests of all other stakeholders, they can often pursue self-interest to the detriment of the financial interest of their principals. By using insider knowledge, managers of corporations could hide and use price sensitive information to benefit themselves.

Hypothesis

Biological assets measurement affects the financial position and performance of SMEs involved in the agricultural sector. The cost model is a more suitable way of measurement for bearer plants reporting, while the fair value measurement is more suitable for living animals with respect to fundamental principles of financial reporting. (Argilés, Garcia-Blandon, & Monllau, 2011; Argilés & Slof, 2003; Bohušová & Svoboda, 2017; Bohušová et al., 2012; Burritt & Cummings, 2002; Huffman, 2014; Wahyulia Bahr, 2015). Another researcher found that there is no significant differences in the value and volatility of the assets, return on assets, revenue and earnings between the two groups. Such a finding implies that there is no significant influence of the application of fair value approach to the volatility of company's earnings. (Elad & Herbohn, 2011; Karppinen, H, 2004; Maruli & Farahmita, 2011). The

findings of the study from (Falikhatun, 2019) (Falikhatun & Masrifa, 2019) are intensity of biological assets, company growth, leverage and capital expenditure have a significant effect on the company's financial performance.

H_1 : biological asset intensity impacts financial performance.

Company size as measured by total assets, significantly and positively, affects the financial performance of agricultural companies listed on the NSE (Odalo et al., 2016). In this research, company size had a positive and statistical significance on all three indicators of the financial performance, identifying that large companies were found to have a competitive advantage over smaller companies. According to (Omondi, 2013) company size had a significant positive effect on financial performance ($\beta 3 = 0.480$, $\rho<0.05$). This study adopted an explanatory research design and 29 listed firms (excluding listed banks and insurance companies) which have consistently been operating at the Nairobi securities exchange during the period 2006-2012 were sampled. It has also been found that company size has a significant statistical impact on the financial performance of insurance companies (Almajali, Alamro, & Al-Soub, 2012). Analysis was conducted for the period of 2002-2010 and the results revealed that firm size has a significant positive (although weak) influence on firm profitability (Pervan, 2012). It is recommended that future researchers investigate sector effects on the relationship between firm size and profitability (John & Adebayo, 2013).

H_2 : firm size has impact to financial performance.

Methodology

The method used by researchers is explanatory research. The subjects are those listed on the Indonesian and Malaysian Stock Exchange in 2018. In this study the determination of samples was carried out using probability sampling. Method of collecting data is research libraries with secondary data collection techniques. The data analysis technique used is a statistical technique to summarize the data included in in this technique is the amount of data, average, and standard deviation.

The population in this study are agricultural companies listed on the Indonesian and Malaysian Stock Exchange. The sample was selected from the population of the company based on purposive sampling. The study period was in 2018. The sample selection using purposive sampling method with the criteria listed in Table 4.1

Table 4.1: Criteria for Research Samples

Information	Number of Company
Agriculture Company Listed in Indonesia Stock Exchange and malaysiastock.biz	77
Not listed	(5)
Not profit	(29)
No biological assets	(8)
Companies that meet the criteria	35

Source : idx.co.id and malaysiastock.biz

Measurement and Operational Definition of Variables

The dependent variable in this study is financial performance. To measure financial performance, the financial ratios, that are the tools for measuring company performance in this study, are profitability with a measure of return on assets obtained from net income divided by total assets.

Independent variables in this study are Biological asset intensity (X_1) and company size (X_2). Biological asset intensity (Intensity of biological assets) illustrates the level of company investment against biological assets owned. According to Routes and Patricia (2014) in (Yurniawati et al., 2018), the method of measuring biological asset intensity is to divide the biological assets by total assets.

The company size (X_2) is a scale that classifies the company into large and small using various reference points such as total assets, their value in the stock market, the average level of sales and sales amount. The size of the assets used to measure the size of the company is measured as the logarithm of total assets, SIZE = Ln (Total Assets) (Almajali et al., 2012; Odalo et al., 2016; Omondi, 2013; Pervan, 2012; Yurniawati et al., 2018).

Method of Analysis

Descriptive statistics provide a picture or description of data as correlated with the average (mean), standard deviation, variance, maximum, and minimum of each sample (Ghazali, 2016). This data is processed using SPSS (Statistical Package for Social Science) Version 23.0. Before testing the hypothesis, this study does the classical assumption test, which consists of a normality test and aims to test whether the regression model or residual confounding variables have a normal distribution. The residual normality test is done on the research data by using a one-sample Kolmogorov-Smirnov test (KS), if this results in a level of significance> 0.05 then there is normal distribution of data (Ghazali, 2016).

The next step is the multicollinearity test, which aims to test whether or not the regression model formed high or perfect correlations between the independent variables. Multicollinearity can be seen from the value of tolerance and variance factors (VIF). If VIF <10 and the value of TOL (tolerance)> 0.10 then the model does not contain multicollinearity (Ghazali, 2016).

The auto correlation test, according to (Ghazali, 2016), aims to see whether in a linear regression model there was no correlation between bullies error in period t with bullies error in period t1 (previous). In this study, this was used to detect the general rule of thumb. According to Singgih (2010): 1) in (Yurniawati et al., 2018) Figures DW below -2 means there is positive autocorrelation. 2) Figures DW between -2 to +2, means no autocorrelation. 3) Figures DW above +2 means there is negative autocorrelation.

The heteroscedasticity test aims to test whether the regression model provided unequal variance of residuals of the observations to other observations (Ghazali, 2016). One way to detect the presence or absence of heteroscedasticity is to use a scatterplot chart between the predicted values of the dependent variable (dependent) ZPRED, with residual SRESID. By looking at the graph plot between the predicted values of the dependent variable with a residual from the analysis the following may be observed:
1. If there are specific patterns, such as dots that do not form regular patterns (wavy, widened, then narrowed), it indicates there has been a heteroscedasticity.
2. If there is no clear pattern, as well as the points spread above and below zero on the Y-axis, then there is no heteroscedasticity.

The testing of the hypothesises by multiple regression analysis is done to test the impact of intensity of biological assets and company size on financial performance. The multiple regression model in this study is:

$FP = \beta_0 + \beta_1 BAI + \beta_2 FS + e$
FP : Financial Performance
BAI : Biological Asset Intensity
FS : Firm Size
e : error

According to (Ghazali, 2016), coefficient of determination test essentially measures the model's ability to explain variations in the dependent variable is. A coefficient of determination is between zero and one.R^2, a small value means the ability of independent variables in explaining the variation is very limited dependent variables.

T statistical test (partially) is used. This test is used to show the level of influence of the independent variables in individually explaining the variation of the dependent variable. If the p-value is smaller than the prescribed level of significance (5%), then the t-test showed that the partially independent variables affected the dependent variable (Ghazali, 2016). Acceptance or rejection of the hypothesis is done with the following criteria: a) When t> t table or a probability smaller than the significance level (Sig <0.05), then Ha Ho accepted and rejected, the independent variables affect the dependent variable. b) When t <t table or a probability smaller than the significance level (Sig> 0.05) then Ha Ho accepted and rejected, the independent variables do not affect the dependent variable.

Result

Descriptive Statistic

This study beings with descriptive statistics that include the maximum, minimum, average and standard deviation. The sample used in this study was 35 agricultural companies within a period of one year (2018).

Table 2: Descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Biological Asset Intensity	35	,00	,37	,0657	,10119
Firm Size	35	13,91	18,10	15,7342	1,20314
ROA	35	,00	26,21	4,4587	5,78647
Valid N (listwise)	35				

Classical Assumption Test Results

Table 3: Coefficients Multicollinearity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,265	13,479		,242	,810		
	Biological Asset Intensity	-1,540	10,118	-,027	-,152	,880	,997	1,003
	Firm Size	,082	,851	,017	,097	,924	,997	1,003

a. Dependent Variable: ROA

The table above shows that no independent variable has a value of less than 0.100 Tolerance everything> 0,100 and VIF <10. This means that there is no correlation between the independent variables. Thus, no multicollinearity exists.

Table 4: Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,033[a]	,001	-,061	5,96137	1,428

a. Predictors: (Constant), Firm Size, Biological Asset Intensity
b. Dependent Variable: ROA

Based on the table above, the value of Durbin-Watson (DW count) is 1.428. Based on predetermined criteria a DW count of between -2 and 2, i.e., $-2 \leq 2 \leq 2$ means no autocorrelation.

Figure 1. Testing Heteroscedasticity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,052	9,234		1,089	,284
	Biological Asset Intensity	-3,992	6,932	-,101	-,576	,569
	Firm Size	-,361	,583	-,108	-,619	,540

a. Dependent Variable: Abs_Res

Based on the output of the test results and as seen from the picture above is, the point - the point does not form a clear pattern. The point - the point spreads above and below the number 0 on the Y axis. Thus, it can be concluded that there is no heteroscedasticity in the regression model.

Hypothesis testing (Regression Analysis by Multiple Linear Regression Test Results, Coefficient Determination Test Results, Test Results Statistics t (t-Test))

Table 5: Multiple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,265	13,479		,242	,810
	Biological Asset Intensity	-1,540	10,118	-,027	-,152	,880
	Firm Size	,082	,851	,017	,097	,924

a. Dependent Variable: ROA

$FP = \beta_0 + \beta_1 BAI + \beta_2 FS + e$
FP=3,265 -1,540+0,82

Table 6: Coefficient Determination Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,033[a]	,001	-,061	5,96137	1,428

a. Predictors: (Constant), Firm Size, Biological Asset Intensity
b. Dependent Variable: ROA

According to the table, the value of R2 is 0,001, which means that the dependent variable can be explained by the independent variable of 0,01%. This is a biological variable contribution of asset intensity and company size on the financial performance and the remaining 99,99% affected by other variables are not examined in this study.

Table 8: Test Results Statistics t (t-Test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,265	13,479		,242	,810
	Biological Asset Intensity	-1,540	10,118	-,027	-,152	,880
	Firm Size	,082	,851	,017	,097	,924

a. Dependent Variable: ROA

In this study biological asset intensity has t count< t table (0,152 < 1.6679) and significant (0.00 <0.05), so H0 accepted and H1 can be rejected. Thus, it can be concluded that biological asset intensity (X_1) has no impact on the financial performance of the agricultural sector companies listed on the Indonesian Stock Exchange (BEI) and Bursa Malaysia Market Watch in 2018.

Size of company value t< t table (0,097 < 1.6679) and significant (0.00 <0.05), so H0 accepted and H_2 be rejected. Thus, it can be concluded that company size (X_2) has no impact on financial performance of agricultural sector companies listed on the Indonesian Stock Exchange (BEI) and Bursa Malaysia Market Watch in 2018.

Discussion

The test results show that the financial performance of agricultural companies in Indonesia and Malaysia are proxied by return on assets, and are not affected by the intensity of biological assets or company size. This is evidence that there are still some companies that have not implemented IAS 41 and this will result in the accounting process for transformation activities becoming non-uniform. Where the criteria for becoming an agricultural company has been fulfilled through the classification of biological assets, potential consumable agricultural products (sugar cane, shrimp, arowana fish, sago [HTI], timber [HTI], seeds: corn, vegetables and fruits, paddy) and biological asset bearers (oil palm, rubber, tea, cocoa, broodstock fish) the implementation of full adoption of IAS 41 needs to be done. This adoption must be completed regardless of the fact that the average intensity of biological assets in both countries is still very small.

IAS 41 does not further classify annual biological assets of less than one reporting period nor does it classify biological assets that can produce after more than one period. Sugar cane, for example, can produce agricultural products for less than one period, while new oil palm and rubber plants can produce after more than one period. The production of both plants can reach 20 to 30 years so that proper accounting treatment is more apt to accounting for fixed assets (Ariyanto, Sukendar, & Kurniawati, n.d.).

Furthermore, many biological assets also require more than one period, namely between 3 and 5 years to be ready to produce. Measurements using the fair value model will be difficult and will likely cost more than the benefits for immature biological assets. This is also explained by (Kurniawati, 2013).

Financial performance is not only proxied by return on assets with profitability ratios, but by gross profit margin (GPM), operating profit margin (OPM), net profit margin (NPM), return on equity (ROE), leverage ratio, activity, and liquidity ratio. Possibilities other than ROA,

other proxies of profitability ratios and other ratios which are tools for measuring financial performance can be influenced by the intensity of biological assets and firm size, this is a reference for future researchers, proven by the results of testing from this study which are indicated by a R2 of 0.01%.

The test results show that company size does not affect the company's financial performance, this is in line with Fachrudin (2011), Huang (2010) Talebria et.al (2010) in (Sari, 2015). This means that the size of the company is not directly proportional to the company's financial performance. When market capitalization, book value and profits are large, it follows that this is due to high costs being incurred, so in effect the size of the company has no effect on performance. This finding is contrary to previous research which found that firm size has an effect on financial performance (Almajali et al., 2012).

Limitations of This Study

This research was conducted across a period of only one year and may be limited by the fact biological asset accounting was only implemented in Indonesia as of January 1, 2018, while in Malaysia it has been implemented since 2012. However, if the research period was carried out from 2012 to 2018, the sampling criteria would not work and the results of testing the hypothesis will be rejected. The sample from these companies are also only of one type, namely agriculture, so it has not represented the wider community.

Contribution

The results of this study will contribute to researchers conducting research with longer periods and using research samples from not just plantation companies, but also livestock, fisheries and forestry companies. Another contribution is to the makers of biological asset accounting policies to better see that measuring biological assets raises abnormal volatility in revenue and earnings.

Conclusion

The results showed that the intensity of biological assets had no impact on financial performance and the size of the company had no impact on financial performance.

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