ARDL's Strength Detects Financial Performance and Hedging against the Profits of Indonesian Food and Beverages Companies

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ABSTRACT

This research aims to test the extent of variable leverage, profitability, Current Ratio, and firm size on the influence of financial performance and hedging as Independent variables to increase the profits of food and beverage companies listed on the Indonesia stock exchange in the period 2013–2019. The population of this study was conducted from 20 samples of existing food and beverage sector manufacturing companies. In the research sample of companies that led hedging activities, only four companies during the observation period and 5 (five) examples of companies did not conduct hedging activities. The rest reported that until 2018 some were newly joined, so they did not have data on the year observed. The results showed that Firm size and Profit are predicted not to influence hedging decision-making significantly in the long term. Leverage, Liquidity, and Profitability are expected in a long time to influence hedging decision-making.

Keywords: hedging, Profit, derivatives, leverage, liquidity, profitability, and Firm size

INTRODUCTION

Hedging can enable companies to forecast future cash expenditures and receipts more precisely, thus heightening the quality of cash budgeting decisions. Therefore Wiyono and Kesuma (2017:403) said that the use of derivatives as a risk management technique is done because economic globalization and globalization of the world's finances are fluctuating. Hedging or hedging is a term, even activities that are still less popular among Indonesian businesses. Wiyono and Kesuma (2017:405). Hedging activities can be done using derivative instruments. According to Hanafi (2012), derivative instruments are instruments whose value is derived from the underlying asset. Derivatives are contracts between two parties to buy or sell several goods (Financial assets or commodities) on the agreed date in the future at the current agreed price (Utomo:2000). Types of derivative instruments include: forward, futures, options, and swaps. By Myers and Marcus (2012:673), derivatives are securities whose payoffs are determined by the value of other financial variables such as prices, exchange rates, or interest rates. According to Bringham and Houston (2013).

According to Susilo and Kaho (2011:6), the risk is always attached to whatever activities we do, whether in managing a project, driving a car, determining work priorities, doing transactions with customers, buying an item, etc. Not even doing anything is not separated from the unforeseen risks. Kuncoro (2016:203), foreign exchange risk is a risk resulting from the possibility of the value of currencies dominating the assets or wealth of fluctuating companies. Hedging or in English called hedging can be interpreted as an investment explicitly made to reduce or eliminate risk in another investment. Hedging or hedging are all techniques designed to reduce or eliminate the risk of setbacks in the economic context

(Nguyen,2012). Hedging is one of the classified risk transfer management. This hedging aims to protect the company's assets from market risks due to foreign exchange fluctuations. The company can be hedging by using derivative instruments to minimize the risk, namely: options, forward contracts, options, and currency swaps (Sunaryo, 2009:25). Wiyono and Kesuma (2017:404) suggest critical risks to manage for the company to survive and optimize chance.

Liquidity demonstrates the company's ability to meet its short-term obligations. According to Ameer (2010), the company has enough funds to pay its debts to avoid financial distress problems. Less liquid companies are deficient in the availability of cash and other current assets, so the company has difficulty meeting its obligations and financing its investments. Losses arising from currency value risks that may exacerbate liquidity problems can be anticipated through hedging. Research from Ameer (2010), Afza and Nature (2011), and Ahmad and Haris (2012) stated that the liquidity of the company negatively

affects hedging decisions in increasing the company's profits. The high C.R. value of a company will reduce uncertainty for investors but indicates idle cash funds that will reduce the company's profitability.

Consequently the ROA is also getting smaller (Priharyanto, 2009). If the profitability level decreases, the company cannot use its funds to the maximum to make a profit or Profit. The company's size measures how large and small a company is, looking at the total assets in the financial statements. The larger the size of a company is undoubtedly superior in terms of wealth and good performance; it will give investors the traction to believe and willing to invest in it by buying shares, causing the share price to move up (Jumingan, 2010). The size of this company is projected with the natural logarithm of the total asset. The larger a company, the more activity the company involves domestic trade and foreign business inter braiding (Putro:2012). The company's size can affect a company's ease of obtaining external and internal funding sources (Aretz et al., 2008).
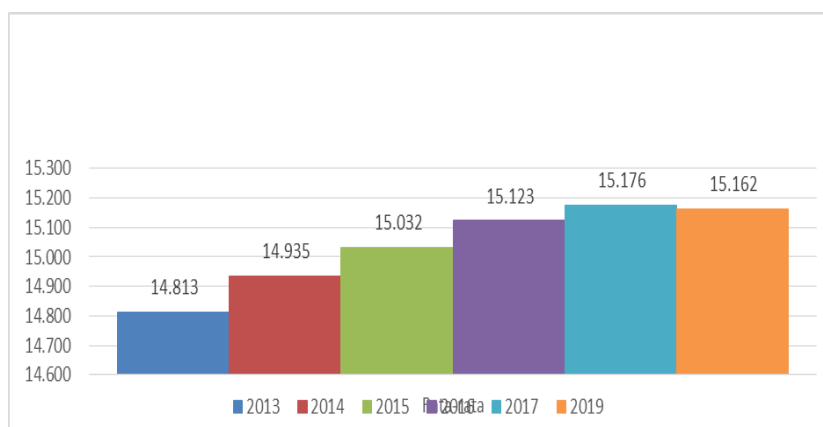
Research conducted by Nguyen and Faff (2003); Guniarti (2014), and Putro (2012) stated that large companies tend to prefer to use hedging derivative instruments and consistently have a significant positive effect on the company's profit margins. In contrast to Triki's research (2006) stated that the company would hedge if there is a decrease in its size, meaning the size of the company negatively affects the hedging

decision in increasing the company's Profit. The chart results above show that the size of the company seen from the overall assets that are smooth and fixed each year increased, but in 20017 experienced a decrease but not significant. This indicates that the company's Total Assets can pay for the company's existing operations and debts. Pranita (2011) shows the proxies of companies that positively and significantly

implement hedging policies related to debt to equity ratio and firm size. Simultaneously, the probability of the company's length with the current Ratio applies to the hedge policy negatively. Guniarti (2014) shows that variable firm size has a positive effect on hedging activity. In comparison, the current Ratio affects negatively dependent variables (hedging activity).

LITERATURE REVIEW
Financial Performance

According to Erich A. Helfert (2010:82), financial performance results from many individuals being made continuously by management. The company's financial performance is an overview of its operating results in its financial statements within a certain period. It is essentially a reflection of management's performance in that period. Financial performance is used to determine the results of actions that have been taken in the past. Also, the financial measure comes with a non-financial measure of customer satisfaction, productivity, and cost-effectiveness of business processes and productivity and a personal commitment to determine the company's future financial performance. Risk is uncertainty or uncertainty that may result in a loss (Salim, 2007:199); the trouble is defined as the possibility of failure, which is usually measured in the form of probability that some results will appear that move in an excellent range (e.g., the asset is doubled) to very bad (e.g., the investment becomes worthless at all). Risk can also be interpreted as the possibility of losses that investors will experience or uncertainty over future returns (gummi, 2011: 50).

Hedging

Hedging or hedging, or English called hedge in the world of hedging, can be interpreted as an investment explicitly made to reduce or negate another asset's risk. Hedging was created to reduce or eliminate risk in another investment. Hedging is a strategy designed to reduce the onset of unforeseen business risks while still allowing it to profit from such investments. Hedging is a contract aimed at protecting the company from market risk (Subramanyam, 2012:356). Hedging activities can be carried out using derivative instruments, namely options, forward contracts, futures contracts, and swaps (Sunaryo, 2002:25). This is based on which hedging serves to protect the owner from losses that may overwrite existing assets. Hedging can also be used as a financial strategy to ensure the value of foreign exchange used to pay or received in the future is not affected by foreign exchange rate fluctuations (Fitriasari, 2011).

MATERIALS & METHODS

This research approach is quantitative descriptive with all outstanding support and Logistic Regression used as a prediction analysis tool. This research is causality. According to Sugiyono (2015), causal associative research is a study that aims to find out the relationship (correlation) of cause due to two dependent or bound variables. The variables raised in this study were hedging in the food and beverage sector manufacturing companies. In contrast, independent variables were Leverage, Profitability, Liquidity, and Company Size, increasing the Profit of Manufacturing Companies listed on the Indonesia Stock Exchange in 2013 – 2019. The ARDL model is a combination of A.R. (AutoRegressive) and DL (Distribution Lag) models. According to Gujarati and Poreter (2013) and the regression model. Where the A.R. (AutoRegressive) model itself is a model that uses one or more data in the past from dependent variables between independent variables, the DL (Distribution Lag) model, according to Gujarati and Porter (2013), is a regression model that involves data on the present and lagged past of the descriptor variable. In this study, the panel used data between time and data between regions. ARDL regression is used to obtain each characteristic's estimated

results separately, assuming the co-integration in each variable's long-term lag. Autoregressive Distributed Lag (ARDL) was introduced by Pesaran et al. (2001). This technique examines each variable lag located at I (1) or I(0). In contrast, and regression results are test statistics comparing two asymptotic critical values.

Statistical Analysis

Ardl Regressi testing with formula:

$$hedging_{it-p} = \alpha + \beta 1 profit_{it-p} + \beta 2 creates_{-p} + \beta 3 roa_{it-p} + \beta 4 cr_{it-p} + \beta 5 size_{it-p} + \in$$

Description:

Profit: Profit

Der: debt-equity Ratio

Roa: return on asset

Cr: Current Ratio

Size: firm size

$\in$: error term

β: regression coefficient

α: constant

p: optimal lag length

i: number of observations (14 companies)

t: the number of times

RESULT

In this study, the data obtained as time-series data from 9 companies from 2013 to 2019 and variable data at a certain point (cross-section). So the number of obeservasi 9x7 = 63. Then from 63 observations, there were 28 observations of hedging activities and 35 observations that did not conduct hedging activities during 2013 to 2019, as well as 2.25% of words of hedging activities against fluctuations in foreign exchange rates (rupiah to U$ dollar) with variable returns, der, roa, cr, and fs. Test the root unit as before using ADF, P.P., or KPSS. This test is performed against all variables. It is used to check the stationary level of data. The Integration Degree test is done by knowing what degree of integration of the data – that data needs to be done until it finds static data at the same differentiation level. The information is stationary if the Philips-platform statistic's absolute value is smaller (more negative) than its critical value. The first difference test results are seen in the table below:

Table. 1. Level Unit Root Test Results with Philips-Platform Method

Variabel	Nilai	Nilai Kritis Mutlak Mc. Kinnon			Prob.	Keterangan
	Hitung PP	1%	5%	10%		
Hed	-7.681146	-3.542097	-2.910019	-2.592645	0.0000	stasioner
Laba	-9.929333	-3.542097	-2.910019	-2.592645	0.0000	stasioner
Der	-11.68767	-3.542097	-2.910019	-2.592645	0.0000	stasioner
Roa	-10.25496	-3.542097	-2.910019	-2.592645	0.0000	stasioner
Cr	-9.873366	-3.542097	-2.910019	-2.592645	0.0000	stasioner
Fs	-7.77232	-3.542097	-2.910019	-2.592645	0.0000	stasioner

Source: output eviews,2020

Table 1 above shows all variables have an Absolute statistics value of Philip-platform smaller than the mac's critical importance. Kinnon at all existing rate values ranging from 1%, 5%, to 10%.

Tabel 2 ARDL Model Estimation

Dependent Variable: HEDGING				
Method: Least Squares				
Date: 06/13/20 Time: 15:26				
Sample (adjusted): 5 63				
Included observations: 59 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
HEDGING(-1)	0.729414	0.075620	9.645746	0.0000
LABA	-6.80E-08	3.97E-08	-1.712833	0.0935
DER	-0.163401	0.071063	-2.299391	0.0261
DER(-1)	0.155519	0.066920	2.323946	0.0246
ROA	0.010476	0.002545	4.115511	0.0002
ROA(-1)	-0.002142	0.003427	-0.625098	0.5350
ROA(-2)	-0.002275	0.003002	-0.757583	0.4526
ROA(-3)	-0.002220	0.002907	-0.763541	0.4490
ROA(-4)	-0.005282	0.002521	-2.095543	0.0417

CR	-0.000862	0.000251	-3.433419	0.0013
CR(-1)	0.000408	0.000281	1.452119	0.1533
FS	0.027703	0.037364	0.741425	0.4622
C	-0.077220	0.518400	-0.148959	0.8822
R-squared	0.882243	Mean dependent var		0.406780
Adjusted R-squared	0.851524	S.D. dependent var		0.495450
S.E. of regression	0.190910	Akaike info criterion		-0.282249
Sum squared resid	1.676543	Schwarz criterion		0.175514
Log-likelihood	21.32633	Hannan-Quinn criteria.		-0.103557
F-statistic	28.71953	Durbin-Watson stat		1.814985
Prob(F-statistic)	0.000000			

From ardl's long-term estimates, it appears that hedging variables have the most massive coefficient value, meaning the hedging factor has a perfect chance that the company can increase its corporate profits. From the above results, it can be concluded that variables whose value is significant are found in der lag1 variables, namely with a substantial amount of 0.0246, ROA lag4, which is with a high cost of 0.0417, and C.R. with a significant value of 0.0013. The results of the above analysis show the effect of hedging on profit variables, DER, ROA, C.R., and Fs is as follows: the value of fs coefficient in the long term of 0.4622 assuming the number of other variables is constant then if variable Fs increases by 1 Rupiah against the dollar value then the company will experience a profit increase of 0.4662 percent. The probability value of 0.4622 indicates that the Profit partially has no significant effect on hedging, as the probability value generated is greater than the real rate of 0.05. From the results of the long-term estimate, it can be seen that the constant value (C) in the modeling is -0.077. This means variables are assumed to be worth zero, so the effect of hedging on manufacturing companies is likely to fall by 0.077 percent. C's probability value is 0.882, indicating that the C value has a negative and insignificant effect on modeling. The long-term equation's estimated result shows an F-statistical value of 28,719 with a probability value of 0.0000. This value is smaller than the real rate of 1 percent, so it can be concluded that together − equally, there is a significant influence between independent variables as a whole consisting of DER, ROA, and C.R. on dependent variables, i.e., hedging to Increase Profit. While variable Fs is not significant against dependent variables, i.e., hedging to increase the company's Profit.


Akaike Information Criteria (top 20 models)
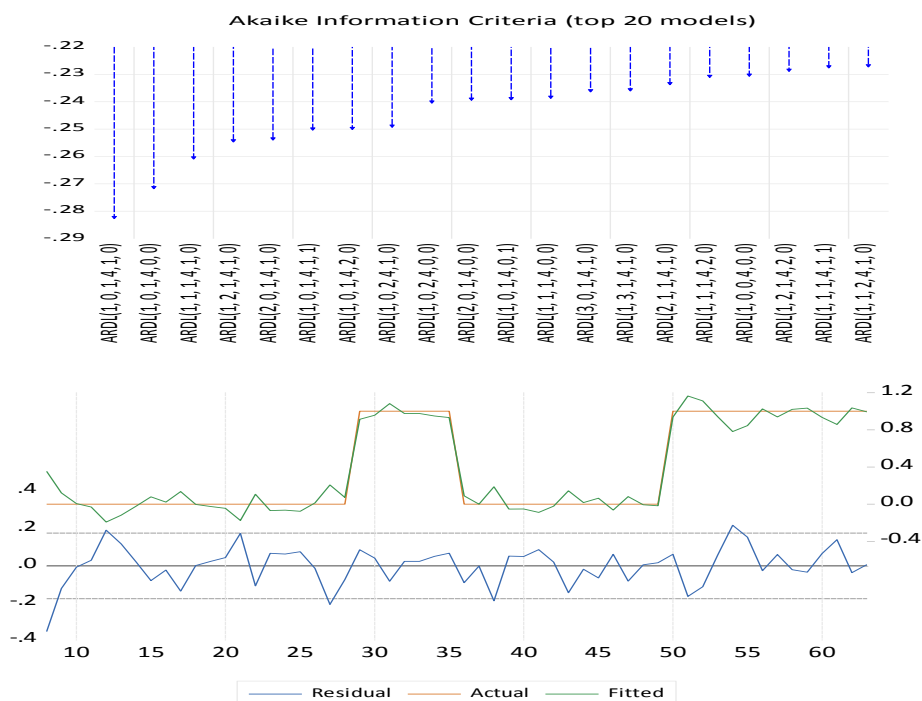
Eviews have automatically done the selection criteria of lag. The smallest AIC criteria are the best of the 20 best models offered by the AIC criteria. The requirements selected are ARDL (1,1,2,4,1,0), meaning Y amounts to 1lag, Profit amounts to 1lag, and DER amounts to 2lag, ROA amounts to 4lag, C.R. amounts to 1lag and Fs amounts to 0lag.

It can be seen from the chart value above that the blue line shows the past data, the red line shows the current/current data, while the green line is the data in the future. It is seen above that the coefficient value at the 11 lag mentions that the data on the residual line is below the red line. At the same time, the green line is inside the red line. Indicates that the autocorrelation koefisen value at some lags is out of the trust hose, where this hose represents a significant limit of autobrillation between variable y and variable x. Custom
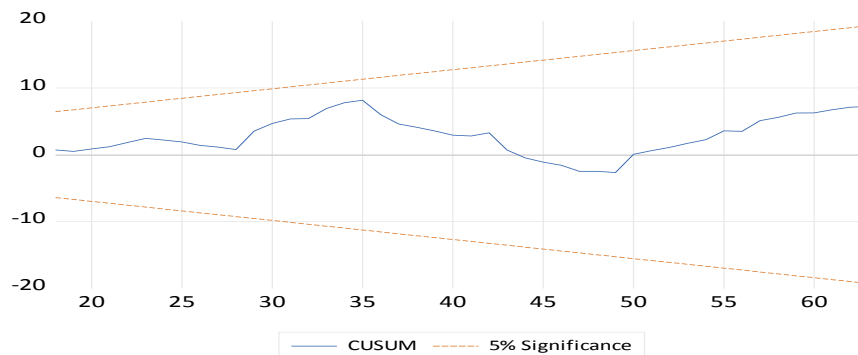
Custom
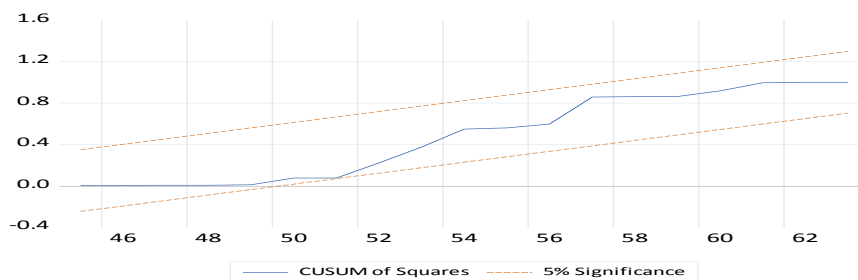
From the results of the CUSUM and CUSUMQ tests, it can be seen that the model is in a stable state because the CUSUM SQ line is still between significant lines, i.e., inside the existing red line. And it has a 5% presentation inside the red line. Shows test results detect changes in a positive direction.

Uji *Bound Test*

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Sign in.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	3.039758	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15
Actual Sample Size	59		Finite Sample: n=60	
		10%	2.204	3.21
		5%	2.589	3.683
		1%	3.451	4.764
			Finite Sample: n=55	
		10%	2.226	3.241
		5%	2.617	3.743
		1%	3.543	4.839

DISCUSSION

This bond test tests to see the long-term co-integration between variables, if the F-Stat value is in I(1) Bound is 3,039, and the number 3.039>3.00 so it can be concluded that the research variable has a long-term co-integration. Management will protect the company from various risks, including market risk, by conducting hedging activities. The primary purpose of hedging is to provide hedging to minimize losses if the price of assets in the market changes in an unwanted direction. The principle of hedging is to cover the loss of the initial asset position's position with the Profit of the hedging instrument position. Before hedging, the hedger held several initial assets, hedging; hedgers had several initial investments, and his hedging instruments were called portfolio hedging (Schubert:2011) and (Sunaryo, 2009). This is done to avoid unwanted losses by the company. One way to make the company's financial statements look good is by how the management conducts earning management. Profit management is an aberration in preparing financial statements by affecting the Profit in financial statements (Herawaty,2008 in Vishnu). We can see from the existing chart that the decline in Profit in 2017 is very significant. This is because of the value of the currency or exchange rate increases. And it causes losses for companies resulting from the impact of currency fluctuations. Several previous studies have been conducted to determine internal factors that influence hedging activity to continue to increase their corporate profits to be able to compete. First, the element that can affect the company's Profit through hedging derivative instruments is variable leverage, stated to have a positive effect on hedging (Zhu, 2010), while Schubert (2011) says that hedging negatively affects influence.

Researcher Shaari et al. (2013) and Nguyen et al. (2002), using leverage as a hedging proxy. Power is a debt ratio or often known as solvency ratio. The solvency ratio demonstrates a company's ability to meet all financial obligations of that company if the company is in liquidation. Leverage ratio is the company's ability to pay all its financial obligations in the form of long-term debt or short-term debt. According to Brigham et al. (2006), leverage ratio is the Ratio to measure the amount of use of funds derived from the company's debt. The internal leverage factor is also the level of the company's ability to meet its long-term obligations (Schubert, 2011). Aretz et al. (2007) state that companies' tendency to use more debt in their capital structure to hedge. In other words, companies will tend to default on borrowing when borrowing to creditors, according to Clark et al. research (2006) and Batram et al. (2006), which states that there are a relationship and influence between leverage and hedging. The research was also conducted by several researchers, including Nguyen (2002); Rochet et al. (2004); Ahmad (2012); Afza (2011); Irawan (2014) showed a positive and significant influence between leverage on the policy of using hedging to increase the company's profits.

Results from research conducted by Shaari et. (2013) and Clark (2010) showed a positive and significant influence between profitability and hedging decisions to increase the company's profits. However, according to Jang (2011), research shows a negative relationship between profitability and corporate hedging decisions because the company's higher profitability will face a smaller financial distress cost risk and result in the company not hedging. According to Mardiyanto (2009:196), ROA is a ratio used to measure its ability to generate Profit derived from investment activities. According to Lestari and Sugiharto (2007: 196), ROA is the Ratio utilized to measure the net Profit gained from the use of assets. In other words, the higher this Ratio, the better the productivity of assets in obtaining net Profit. This will further increase the company's appeal to investors. The company's increased attractiveness makes the company more in demand for investors because its return rate will be greater. The

more excellent the ROA value, the better its performance, as the return on investment gets greater. "This value reflects the company's return of all ten assets (or funding) provided to the company" (Wild, Subramanyam, and Halsey, 2005:65). It will also affect that the company's share price in the Capital Market will also increase so that the ROA will affect the company's share price. Third, Clark and Ngai (2006) state that variable liquidity has a relationship with hedging, while according to Ameer (2010), there is a significant relationship between hedging and liquidity. According to Zhu's research (2010), which shows a negative relationship between hedging and liquidity, this research is supported by Shaari et al. (2013). Furthermore, research was also conducted by Pranita (2011) using liquidity variables to get significant results against hedging decisions; this research is supported by his study conducted by Guniarti (2014).

CONCLUSION

There is a significant influence of DER, ROA, C.R., and F.S. on hedging to increase corporate profits. From the results of the study, it can be said that the movement of the direction of der ratio to hedging is directly or linear. So it can be concluded that if the DER ratio goes up, then Profit rises and vice versa; if the DER ratio goes down, the Profit goes down. This affects the company to do hedging. ROA has a significant effect on hedging to increase Profit. Meanwhile, the hypothesis that ROA has no significant effect on hedging can be rejected. The results of this study show a proof correlation directly or linearly. So it can be concluded that if the ROA ratio goes up, then Profit rises, and vice versa; if the ROA ratio goes down, the Profit goes down. This affects the company to do hedging. C.R. has a significant effect on hedging to increase the company's profits. At the same time, the hypothesis that C.R. is having a substantial impact on Profit is acceptable. The results of this study show a positive correlation between C.R. and Profit, which means that if the C.R.

ratio rises, then the Profit increases and vice versa; if the C.R. ratio falls, then the Profit decreases this affects the company to hedge. This study shows a positive correlation between the company's size and the Profit, which means that if the Fs ratio rises, the Profit increases, and vice versa. If the F.S. ratio falls, then the Profit decreases. This affects the company not to hedge.

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