DETERMINANT ANALYSIS OF COMPANY DEBT POLICY WITH VECTOR ERROR CORRECTION MODEL APPROACH

Amir Hamzah[1]*, Mohamad Rizky[2]

[1,2] Faculty of Economics and Business, Kuningan University, West Java, Indonesia
* Corresponding Author: amir.hamzah@uniku.ac.id[*], mohamadrizky2@yahoo.co.id

ABSTRACT

Purpose- This study uses a VECM model that aims to see the short-run and long-term effects of managerial ownership, sales growth, free cash flow, and asset structure against debt policy. Vector Error Correction Model (VECM) is a model that can be used for time series data that is not stationary but has a cointegration relationship where in the model included stationary exogenous variables as additional regressors.

Research Method- The sample used in this research is quantitative data with a purposive sampling technique. Based on the criteria, the number of samples collected is 32 samples in the period 2013-2021.The data analysis techniques in this study use Vector Error Correlation Model (VECM) analysis, several stages that researchers must go through before determining the right model, namely data stationarity test, optimal lag length test, co-integration test, VAR model stability test, granger causality analysis, VAR/VECM empirical model, Impulse Response Function analysis and Variance Decomposition analysis.

Findings- The results of the analysis show that in the short term only sales growth and asset structure have a significant influence on debt policy. Meanwhile, in the long-term free cash flow, asset structure and sales growth have a significant influence on debt policy, while managerial ownership has an insignificant effect on debt policy.

Implication- For the company should reduce the proportion of funding from debt in the implementation of its operations so as to reduce financial distress, because funding from corporate debt causes financial distress and agency costs greater than tax savings from debt interest expense, as a result of which the company is very vulnerable to economic turmoil. For creditors who provide sources of debt funding, pay more attention to aspects of the company's asset structure to be used as collateral for debt, because the company usually uses loan funds for high-risk projects. For investors should take deeper considerations to invest in companies that have large free cash flow because companies that have large free cash flow tend to show good cash flow for the future.

Keywords: Debt Policy, Managerial Ownership, Sales Growth, Free Cash Flow, Asset Structure, Vector Error Correction Model

JEL Code: G32

INTRODUCTION

Business competition makes the company must survive in developing its business, where they are faced with conditions that encourage them to be more creative in obtaining the most effective source of funding. Funding decision is one of the important decisions made by the company because it affects the risk of the company and the decision to give credit by the creditors. In financing the company's operational activities, there are two kinds of funding sources, namely debt and capital itself. The decisions made must be in accordance with the

company's main objective, which is to maximize the value of the company and the prosperity of shareholders.

Pecking order theory argues that this theory arises because of the asymmetry of information between the company and its financiers. Therefore, the emergence of a hierarchy of corporate financing for funding activities, namely first retained earnings, then debt, and the last issuance of shares. Funding decisions must be able to minimize risks and costs in order for the company's main objectives to be achieved. To achieve this goal, the company must have an optimal capital structure. If the company's funding derived from its own capital is still deficient (deficit) then it is necessary to consider the funding of companies that come from outside, namely from debt (Harjito, 2011). Meanwhile, in trade-off theory considers that the use of 100 percent debt is difficult to find. The reality is that the more debt, the higher the burden that must be borne. One important thing is that with increasing debt, the higher the probability of bankruptcy.

There is a reason why companies prefer to use debt over new shares, namely because if the issuance of new shares is announced then the share price will fall because the market interprets that the share price is already overvalued. If the share price falls seriously enough, then the old shareholders will be harmed if the issuance of new shares is carried out. Because the fall in the share price is related to the asymmetry of information, it can be said that the cost of information asymmetry will be greater related to the issuance of new shares. Compared to stocks, debt issuance announcements have less information asymmetry compared to stock uncertainty. Debt has a fixed income that is the interest on the debt. Since stock asymmetry costs tend to be the largest, issuing shares will be the last option for companies in an effort to find funds. The company prefers to issue debt because it is related to the profit from the tax deduction because the interest paid as a result of the use of the debt reduces the income affected by the tax.

The company's debt is closely related to the company's capital structure, many factors that influence the company's decision in funding include the first factor, namely managerial ownership. To align the interests of shareholders with managers, the share ownership of managers is increased. Managers will be motivated to improve performance and responsibly improve shareholder prosperity. This means that increased managerial ownership will make managers more cautious in managing debt policy. However, debt policy is vulnerable to conflicts of interest between stockholders, managers, and creditors commonly referred to as agency conflicts (Yuniarti, 2013).

Agency conflicts are divided into two forms, namely: (1) agency conflicts between shareholders and managers. The causes of conflict between managers and shareholders include decision making related to fund-finding and decision-making activities related to how the funds are invested, (2) agency conflicts between shareholders and creditors, these conflicts arise when shareholders through managers take projects that are at greater risk than creditors expect. How to minimize conflicts of interest between shareholders and managers can be done by establishing a supervisory mechanism that can align related interests (Sheisarvian, 2015).

The second factor is free cash flow, some researchers suggest that free cash flow as the basis for measuring the strength of the company to meet the need for capital on an ongoing basis. Another researcher pointed out that free cash flow as a description of the cash available after fulfilling all its obligations or responsibilities, namely the need for payment in carrying out operations. Another opinion is that free cash flow explains the cash available after deducting operating costs, both to increase working capital and operating assets maintenance. This makes companies with low cash flow tend to have higher levels of debt. Often free cash flow triggers a conflict of interest between investors and the management of the company. The company's management assumes that free cash flow should be used to increase investment in projects that are considered strategic so as to provide profits to the company in the long run. Unlike the

company's management, investors want the free cash flow to be distributed only in addition to dividends.

The third factor is the rate of sales growth, where the sales growth rate of a company becomes one of the considerations in the capital structure. Companies with relatively stable sales can more securely obtain multiple loans and bear a higher fixed burden compared to companies whose sales are unstable (Brigham & Houston, 2011). So, companies with high sales or growth rates are more likely to have a greater chance of getting debt than companies with unstable growth rates.

The last factor is the asset structure, is the description of the asset wealth owned by the company, where one of the accounts of the asset structure is a fixed asset that can be considered for collateral consideration by creditors in providing loans. Companies whose assets are suitable for credit guarantees will use more debt because investors will always provide loans if they have collateral (Hardiningsih & Oktaviani, 2012) so that if the company's asset structure is high then the level of debt owned by the company is also high.

From the explanation above, it can be known that managerial ownership variables (MOWN), sales growth (GS), free cash flow (FCF), and asset structure (AS) are suspected to be factors influencing debt policy (DER). This research examined on PT. Berlina using quarterly time series data from 2010-2020 listed on the Indonesia Stock Exchange (IDX). Empirically, research on the influence of managerial ownership on debt policy has been carried out frequently, among others (Susilawati; Agustina, 2015). Purnianti and Putra (2016) and Trisnawati (2016) found that managerial ownership did not have a significant influence on the company's debt policy. But Tjeleni (2013), Hasan (2014) and Sheisarvian (2015) found that managerial ownership (MWON) had a negative influence on the company's debt policy (DER). Naray and Mananeke (2015), Nofriani (2015) on the effect of sales growth on debt policy found that sales growth had a negative influence on debt policy.

Hardiningsih and Oktaviani (2012), Suastawan (2014) and Trisnawati (2016) the result is free cash flow has no effect on debt policy. Yuniarti (2013), Naray and Mananeke (2015) found that the proportion of the company's debt usage was not influenced by the movement of the company's asset structure. While the research Destriana (2010), Lina (2011), Susilawati and Agustina (2015) found that the asset structure affects the debt policy, this is because the higher the number of fixed assets of the company in the total assets will make it easier for the company to get debt because the fixed asset is already used as collateral to obtain debt from creditors.

From the explanation above, it can be known that the importance of debt policy in the funding structure in the company, as for several factors that affect debt policy, namely, managerial ownership variables, sales growth, free cash flow and asset structure. Previous studies have shown many inconsistencies in results between studies. Therefore, in this study will be tested again using vector error correction model (VECM) method so that this study is different from previous research. VECM method is a derivative method of VAR. Assumptions that need to be met are the same as VAR, except stationary issues. VECM is one of the time series models that directly estimates the rate at which a variable return to a balanced level after a change in another variable. VECM is useful for estimating short- and long-term effects on one variable against another.

LITERATURE REVIEW AND HYPOTHESIS DEVELPOMENT
Pecking Order Theory

Pecking Order Theory emphasizes the issue of information asymmetry. The problem of information asymmetry arises because the management has more information than the shareholders. A company that has enough slack financials doesn't need to issue new shares to fund its new projects so it won't give rise to informational asymmetry. The company will be able to accept all good projects without having to harm the shareholders. This theory explains

the behavior of companies that withhold some profits and make considerable cash reserves (Harjito, 2011). This pecking order theory adheres to funding decisions in order of investors' logical preference for the company's prospects and is consistent with the objectives, so that managers can maximize shareholder prosperity. The pecking order theory assumes that the company tends to choose internal financing to fund its projects. The company also adjusts its target dividend pay-out ratio with the opportunity to make investments. In addition, the company implements rigid dividend policies, fluctuations in profitability and unpredictable investment opportunities.

Trade-Off Theory

Trade-off theory assumes that companies that use 100 percent debt are hard to come by. The reality is that the more debt, the higher the burden that must be borne by the company. In addition, with increasing debt, the higher the probability of bankruptcy. The burden that will be borne by the company when using too large debts is the cost of bankruptcy, agency costs, interest expense and so on will be higher. Trade-off theory explains the relationship between taxes, bankruptcy risk and debt use caused by capital structure decisions taken by companies (Brealey & Myers, 1991). This theory explains the benefits and costs or balance between profit and loss over the use of debt. In this theory it is also explained that before reaching a maximum point, the use of debt will be cheaper than the issuance of new shares due to the tax shield.

Debt Policy

Debt is one of the external sources of funding used by companies to finance the needs of funds. Debt policy is a policy taken by the management in order to obtain a source of funds from third parties to finance the company's operational activities that are tested by stockholders. This is closely related to the capital structure chosen by the company, namely the balance between foreign capital or debt and own capital. The company must make the most optimal capital decision so that between debt and equity is really a combination that can generate profit or return for the company that ultimately maximizes the value of the company.

Managerial Ownership

Managerial ownership is the percentage of share ownership by management who actively participate in the company's decision making (Directors and Commissioners). In other words, managerial ownership is the party of the manager who owns the shares of the company or the manager as well as the shareholders of the company. Managers have a tendency to use high debt not on the basis of maximizing the value of the company but for their opportunistic interests. This can be seen through the selection of high-risk projects. This will lead to a higher risk of bankruptcy, resulting in higher debt agency costs. The increase in agency costs will have an effect on the decline in the value of the company.

Sales Growth

Market growth is a perception of the business opportunities available in the market that must be taken by the company. High sales will boost the company. High sales will increase the company's profit, so it will increase the value of the company and support the growth of the company. According to (Brigham & Houston, 2011), companies with relatively stable sales can more securely obtain more loans and bear a higher fixed burden compared to companies whose sales are unstable. This is because the need for funds used to finance sales growth is getting bigger. Companies with sales rates continue to increase in each period at any time need additional funds to finance investments. Weston and Copeland (2008: 36) mentioned that if

sales and profits increase then it will increase the company's revenue, otherwise if sales and profit decrease then it will decrease the company's revenue.

Free Cash Flow

Free cash flow is cash generated from operating activities minus the capital expenditures required to maintain the current operating rate, so, researchers are obliged to identify capital expenditures in investment cash flow in connection with efforts to maintain current operating activities (IFRS 2005: 47). All cash generated from operating activities can be redistributed to shareholders without affecting the current growth rate. Some Investors want to know how much cash a company can "release" in search of new opportunities. The existence of free cash flow within the company has the potential to cause agency conflicts between shareholders and managers.

Asset Structure

Assets are assets owned by the company used for its operations. In general, there are two types of assets owned by the company, namely current assets and fixed assets. Current assets are company assets that can be used within one year. Current assets can be cash, receivables, short-term investments, inventory and expenses paid upfront. Fixed assets are tangible assets that have a lifespan of more than one year and are not easily converted into cash used for operations and not for resale. Fixed assets are assets that are often used by companies as collateral to obtain loans, so if the company has large fixed assets then the company is easier to get loans or debts. Large fixed assets and the offer of ease of debt and the opportunity to make investments will be considerations for the company to take debt policy (Hardiningsih & Oktaviani, 2012).

Managerial Ownership Relationship to Debt Policy

Destriana (2010) the move to give managers a shareholding is aimed at attracting and retaining potential managers and to direct the actions of managers to approach the interests of shareholders, especially to maximize the share price. This can align interests between managers and shareholders so as to reduce agency conflicts. Managers will be careful to make decisions in managing the company including in setting the company's debt policy. Managerial ownership will create strict controls on managers where the use of debt must be at a low level in anticipation of possible financial distress and risk of bankruptcy. This is supported by pecking order theory explaining that to make investments with the use of internal funds is less risky than using external funds. The company's shareholders may prefer to use internal funds for its investments. They have a reason that by using their own funds, the profits obtained by the company should not be shared with the creditors if the company chooses to use outside funds in its investments. This was supported by research conducted by Yuniarti (2013), Setiani (2016) and Sheisarvian (2015) who obtained the result that managerial ownership negatively affects debt.

H1: Managerial ownership negatively affects debt policy in the short and long term

Sales Growth Relationship to Debt Policy

A company whose sales are relatively stable can safely take on large amounts of debt and issue higher fixed expenses compared to companies whose sales are unstable (Brigham & Houston, 2011). In addition, companies with high sales growth rates will be easier to acquire debt. Sales growth indicates the amount of investment funds allocated by the company. Therefore, sales growth will require the company to provide adequate funds. In the pecking order theory, it is stated that the company will tend to prioritize the use of internal funds, but if

insufficient, the first alternative external funds are debt. Therefore, if it is assumed that the sale of the company is growing while other factors are considered fixed (cateris paribus), then the company will use more internal funds from sales profit than using debt. This is in accordance with research presented by Susanti (2013), Naray and Mananeke (2015) that sales growth has a positive effect on the company's debt policy.
H2: Sales growth negatively affects debt policy in the short and long term

Free Cash Flow Relationship to Debt Policy

According to Jensen (1986) states that market pressures will encourage managers to distribute free cash flow to shareholders or risk losing control of the company. Managers will use free cash flow to invest in projects with negative NPV rather than returning them to shareholders as dividends. This problem in particular will be bad for emerging companies with low growth opportunities. According to pecking order theory (Myers, 1984) companies with low cash flow tend to have higher levels of debt. This behavior is caused because the company prefers to use internal funds first before using external funds (debt). The results are in accordance with other research conducted by Hasan (2014), Susilawati and Agustina (2015), Setiani (2016) stating that free cash flow has a negative influence on debt policy.
H3: Free cash flow of companies negatively affects debt policy in the short and long term

Asset Structure Relationship to Debt Policy

Assets are one of the guarantees that can convince other parties to be able to provide loans to companies, so that companies with larger asset structures will be more flexible and easier to obtain loans (Hardiningsih & Oktaviani, 2012). Assets owned by the company will have the influence of the company on its relationship with other parties. Assets are one of the guarantees that can convince other parties to be able to provide loans to companies, so that companies whose asset structure is more flexible will be easier to process loans. Companies whose assets are in accordance with the credit guarantee will use more debt because creditors will always provide loans if they have collateral (Brigham & Houston, 2011). Based on trade-off theory, the company's assets will positively affect the size of the company's debt. The results were followed by research by Destriana (2010), Hardiningsih and Oktaviani (2012), Susilawati and Agustina (2015) and Yuniarti (2013) that the asset structure has a significant positive influence on the level of debt policy.
H4: Asset structure has a positive influence on debt policy in the short and long term

RESEARCH METHODOLOGY

The research method used in this research is descriptive and verification method. The population in this study is the quarterly financial statements of PT. Berlina Tbk. during its list on the Indonesia Stock Exchange from 1989 to 2020 as many as 124 data. The method used in the selection of samples in this study is purposive sampling method, samples used based on the criteria obtained quarterly financial report data from 2010 to 2020, namely as many as 44 data. Data analysis techniques in this study used Vector Error Correction Model (VECM) analysis. VECM is a derivative method of VAR. Assumptions that need to be met are the same as VAR, except stationary issues. Stationary data on VECM must be in the first deference position and all variables must have the same stationary differentiated in the first derivative (Basuki & Prawoto, 2015). Some of the stages that researchers must go through before determining the right model are data stationary test, optimal lag length test, cointegration test, VAR model stability test, causality analysis, VAR/VECM empirical model, Impulse Response Function analysis and Variance Decomposition analysis.

RESULTS AND DISCUSSION
Stationarity Test
Table 1. Unit Root Test Results At First Difference

Variable	ADF Value	MacKinnon Crisis Value			Description
	t-statistics	1%	5%	10%	
DER	-5.880.668	-3.670.170	-2.963.972	-2.621.007	Stationary
MWON	-7.778.841	-3.679.322	-2.967.767	-2.622.989	Stationary
SG	-5.853.317	-3.679.322	-2.967.767	-2.622.989	Stationary
FCF	-5.060.072	-3.689.194	-2.971.853	-2.625.121	Stationary
AS	-6.380.682	-3.670.170	-2.963.972	-2.621.007	Stationary

Source: Data Processing Results (2021)

Based on table 1, it can be concluded that all data in this study are stationary at the level of first difference at the level of 1%, 5% and 10%. This is evidenced by the ADF t-Statistic value which is smaller than the MacKinnon critical value. Thus, it can be said that all data in the research has been integrated to the same degree, namely the first degree (first difference). Then the next step can be done in VECM estimation, namely determining the optimal lag length.

Optimum Lag Determination Test
Table 2. Optimum Lag Length Determination Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-152.9209	NA	0.036951	10.89110	11.12684	10.96493
1	-87.27962	104.1206	0.002309	8.088250	9.502694*	8.531236*
2	-69.05947	22.61812	0.004365	8.555825	11.14897	9.367967
3	-26.65195	38.02053*	0.002149*	7.355307*	11.12716	8.536604

Source: Data Processing Results (2021)

Based on table 2 above shows that the value of the lowest criterion (AIC) is at lag 3 with a value of 7.355307. Based on the results of data processing above, lag 3 is the right lag used for cointegration test, the Granger causality test, and VAR/VECM model estimation.

Cointegration Test
Table 3. Cointegration Test Results (Johansen's Cointegration Test)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0,05 Critical Value	Prob.**
None *	0.908290	**139.7904**	69.81889	0.0000
At most 1 *	0.779174	**72.89480**	47.85613	0.0001
At most 2 *	0.470108	**30.60417**	29.79707	0.0403
At most 3	0.270757	12.82186	15.49471	0.1215
At most 4 *	0.132531	**3.980914**	3.841466	0.0460

Source: Data Processing Results (2021)

Based on table 3 can be seen that the value of trace statistic and maximum eigenvalue at $r = 0$ is greater than critical value with significance of 1% and 5%. This means a zero hypothesis stating that no cointegration is rejected and an alternative hypothesis stating that there is cointegration cannot be denied. Based on the econometric analysis above it can be seen that there are four cointegrations at the significance of 1% and 5%. Thus, the results of the

cointegration test indicate that between variable movements have a relationship of stability / balance and similarity of movement in the long term. With other sentences, in each short-term period, all variables tend to adjust to each other, in order to achieve their long-term equilibrium.

Vector Auto Regression Stability Test

Table 4. VAR Stability Test Results

Root	Modulus
0.988810	0.988810
0.899802	0.899802
0.231422 - 0.639360i	0.679954
0.231422 + 0.639360i	0.679954
0.473531 - 0.388105i	0.612256
0.473531 + 0.388105i	0.612256
-0.287547 - 0.401089i	0.493513
-0.287547 + 0.401089i	0.493513
0.016792 - 0.427028i	0.427358
0.016792 + 0.427028i	0.427358

Source: Data Processing Results (2021)

From Table 4 it appears that the characteristic root values or modulus all show a number less than 1. And it is also supported from figure 4 visible point Inverse Roots of AR Characteristic Polynomial is all in the circle. So based on the test results in table 4 has met the stability of the control, which states that "No root lies outside the unit circle" this means that variables can be used on the VECM model. Thus, the results of IRF (Impulse Response Function) and VDC (Variance Decomposition) analysis are valid and can be tested further, namely granger causality test.

Granger Causality Test

Table 5. Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
MWON does not Granger Cause DER	44	0.17577	0.9116
DER does not Granger Cause MWON		0.21263	0.8866
GS does not Granger Cause DER	44	9.63647	**0.0003**
DER does not Granger Cause GS		0.50413	0.6834
FCF does not Granger Cause DER	44	1.20855	0.3300
DER does not Granger Cause FCF		7.08805	**0.0017**
AS does not Granger Cause DER	44	0.47015	0.7061
DER does not Granger Cause AS		0.31465	0.8146

Source: Data Processing Results (2021)

Based on Table 5 it can be explained that the variable that has a causality relationship is a variable with a probability value less than a = 0.05. Here's an explanation of the causality direction of the table above:

Causality Relationship between DER and MWON

The DER variable does not affect the variable MWON (0.8866) > α (0.05) at lag 3, this means that the zero hypothesis is accepted. Meanwhile, the MWON variable is statistically insignificant affecting the DER variable (0.9116) > α (0.05) at lag 3, so this means the zero hypothesis is accepted. Based on this, the probability of each is greater than 0.05 and the zero hypothesis is accepted. Thus, it can be concluded that there is no causality relationship between der and MWON variables.

Causality Relationship between DER and GS

Insignificant DER variables affect the variable GS (0.6834) > α (0.05), this means that the zero hypothesis is accepted. Meanwhile, the GS variable statistically significantly affects the DER variable (0.0003) > α (0.05), so this means the zero hypothesis is rejected. Based on this, it can be concluded that there is a one-way causality relationship between DER and GS variables.

Causality relationship between DER and FCF

Significant DER variables affect fcf variables (0.0017) < α (0.05), this > α means that the zero hypothesis is rejected. Based on this, there is a relationship between DER and FCF, but it does not happen otherwise. Thus, it can be concluded that there is a one-way causality between der and FCF variables.

Causality Relationship between DER and USA

Insignificant DER variables affect the US variable (0.8146) > α (0.05), this means that the zero hypothesis is accepted. Meanwhile, the US variable is statistically insignificant affecting the DER variable (0.7061) > α (0.05), so this means the zero hypothesis is accepted. Based on this, the probability of each is greater than 0.05 and the zero hypothesis is accepted. Thus, it can be concluded that there is no causality relationship between der and US variables.

Model VECM

VECM (Vector Error Correction Model) Estimation

Table 6. VECM (Vector Error Correction Model) Estimation Results

Short-term			
Variable	**Coefficient**	**t-statistic**	**Description**
D(DER(-1))	0.050411	[0.10292]	Insignificant
D(DER(-2))	0.541961	[1.37321]	Insignificant
D(DER(-3))	-0.042771	[-0.14914]	Insignificant
D(MWON(-1))	-0.203933	[-0.74814]	Insignificant
D(MWON(-2))	-0.206803	[-0.89084]	Insignificant
D(MWON(-3))	-0.293454	[-0.82523]	Insignificant
D(GS(-1))	0.050408	**[2.87962]**	**Significant**
D(GS(-2))	0.017908	[0.86816]	Insignificant
D(GS(-3))	-0.038687	[-1.05513]	Insignificant
D(FCF(-1))	0.003653	[0.44109]	Insignificant
D(FCF(-2))	0.000640	[0.08759]	Insignificant
D(FCF(-3))	-0.003295	[-0.76137]	Insignificant
D(AS(-1))	0.842423	**[1.75332]**	**Significant**
D(AS(-2))	0.594820	[0.44084]	Insignificant
D(AS(-3))	0.558695	[0.65688]	Insignificant
CointEq1	0.0271/90	[0.13055]	

C	-0.053434	[-1.29623]	
Long-term			
Variable	**Coefficient**	**t-statistic**	**Description**
DER(-1)	1.000000		
MWON(-1)	-0.559954	[-0.59999]	Insignificant
GS(-1)	-0.047953	**[-2.40434]**	**Significant**
FCF(-1)	-0.053140	**[-14.5675]**	**Significant**
AS(-1)	1.148274	**[3.72845]**	**Significant**
C	2.181140		
R-squared	0.806250		
Adj. R-squared	0.524431		

Source: Data Processing Results (2021)

The short-term equations generated from VECM are as follows:

$DER_{(-1)}= 0.027190 +0.050411\ D(DER_{(-1)})\ -0.203933\ (MWON_{(-1)}) + 0.050408D(GS_{(-1)}) + 0.003653\ D(FCF_{(-1)}) + 0.842423D(AS_{(-1)}) -0.053434C$

The results of the short-term estimates show that variables at lag 1 have a significant effect on DER at a real level of five percent namely GS and AS. This means that MWON and FCF variables have an insignificant short-term effect on DER Judging by the estimated GS coefficient of 0.050408 means a 1 percent increase on the previous year will increase the DER in the current year by 0.050 percent. Whereas in the U.S. variable the coefficient is worth 0.842423, which means that any 1 percent increase in the asset structure in the previous year will make THE DER increase by 0.842 percent. For VECM that is worth -0.053434 indicates that 5.343 percent is able to correct long-term balance deviation after the third lag. A negative error correction value shows a correction of a variable's movement towards its long-term balance so that the coefficient is closer to zero and the adjustment to its long-term balance is faster.

The Long-term equations generated from VECM are as follows:

$DER_{(-1)}= 2.181140\ - 0.559954\ (MWON_{(-1)}) -0.047953D(GS_{(-1)}) -0.053140\ D(FCF_{(-1)}) + 1.148274D(AS_{(-1)})$

In the period of display MWON variables show an insignificant long-term influence on DER, which means contrary to hypotheses. But the variables GS, FCF and SA show a significant influence on der variables, so the company's debt policy is largely influenced by sales growth, free cash flow and asset structure according to the proposed hypothesis. The above equation illustrates the significant effect of changes in GS, FCF and US variables on debt policy. The GS variable coefficient is -0.047953 which means a 1 percent increase in GS will result in a decrease in DER of 0.048 percent. While the estimated coefficient if FCF increases by 1 million rupiah then DER will decrease by -0.053 percent and if the U.S. goes up 1% then DER will increase by 1.14 percent.

Coefficient of Determination (R2)

The results of VECM estimates in the short and long term in this study have Adj. R-Squared was 0.524431, or 52.44 percent. This proves that changes in dependent variables (debt policies) can be explained by their independent variables (managerial ownership, sales growth,

free cash flow and structure assets), the remaining 47.56 percent of dependent variables are influenced by variables outside of research.

Effect of Managerial Ownership on Debt Policy.

The test results of hypothesis 1 (H1) showed that there is a negative correlation between managerial ownership to debt policy, i.e. if independent variables increase, it will be followed by a decrease in dependent variables. In other words, any increase in the percentage of managerial share ownership will lower the company's debt. The proportion of share ownership by managers can affect company policies, one of which is the company's debt policy. Managerial ownership will be able to align the interests of management and shareholders so that managers will feel directly the benefits of decisions taken correctly and feel losses as a consequence of wrong decision making especially on decision making regarding debt. With insignificant results, the influence of managerial ownership is not very large and the results of this study cannot be generalized in members of the population.

According to this pecking order theory adheres to funding decisions in order of investors' logical preference towards the company's prospects and is consistent with the objectives, so that managers are able to maximize the prosperity of shareholders. Therefore, managers who are also the owners of the company will be more focused and more trying to achieve the company's goal of increasing the value of the company and prospering the shareholders. Therefore, managers will reduce the use of excessive debt to minimize the excessive burden incurred by debt and cause the risk of bankruptcy for the company. This result was reinforced in the Forecast Impulse Response Function which showed the DER response to the shock given by MWON showed a negative trend until the end of the period, the balance point achieved when it was about to enter the twentieth period, and tended to be stable until the end of the period. And in testing Variance Decomposition managerial ownership has the ability to affect DER by 5.43 percent in the tenth period.

The results of this research are strengthened by the results of research conducted by (Susanti; Mayangsari, 2014) which stated that managerial ownership has a negative and insignificant effect on debt policy. However, the results of this study do not support the research conducted by (Yuniarti, 2013) and this research is also with (Destriana, 2010) stated that managerial ownership has no effect on the company's debt policy.

Effect of Sales Growth on Debt Policy

Hypothesis 2 is proven where in the short and long-term sales growth has an influence on debt policy. In the short-term sales growth has a positive and significant effect on debt policy with a coefficient value of 0.0504 which means that if sales growth increases by 1% then the debt policy will increase by 0.05 percent. This is because companies with high growth rates tend to use more debt. The higher the growth of the company, the greater the use of debt to finance the needs of the company's funds. The company's growth indicates the amount of funds allocated by the company to make investments and to finance operational activities that are the company's source of income with the belief that the company can maintain or increase their sales level in the future. One way to meet these funds is through debt.

These results are in line with research by Destriana (2010), Susanti (2013), Susanti and Mayangsari (2014), and Nofriani (2015) stating that there is a positive and significant influence between sales growth and debt policy. Meanwhile, the long-term influence is obtained that sales growth has a significant negative influence on the long-term relationship to debt policy (DER), with a coefficient value of -0.047 which means that if sales growth increases by 1% then the debt policy will fall by -0.047 percent. Long-term sales growth will make debt policy worse. These findings support pecking order theory which states that a high-growth company means it has sufficient internal resources for its activities. Companies that have a high level of sales growth can occur if the company has good performance or the company is able to make good investments. Companies that have good performance means that the company can generate profit or added value for the company so that the value of the company will be increased and means the company has a good growth rate as well.

The company's sales growth is an overview of the company's performance achieved in conducting investment and business activities, so that the greater the growth rate of the company should be the more able the company is to meet its funding needs. The negative influence of variable sales growth on debt policy indicates that the greater the sales growth, the more internal funds the company will increase, resulting in lower debt owned by the company. The results of this long-term evidence are reinforced by the results of research conducted by Hardiningsih and Oktaviani (2012), and Naray and Mananeke (2015) which stated that there is a significant negative influence between sales growth and debt policy. In Impulse Response Function (IRF) test where IRF test result showed that DER response to GS shock was on a positive trend which means that GS variable is able to influence DER, where the balance point is achieved at the 30th to end period.

This research was strengthened by Variance Decomposition (VD) testing which showed that the ability of GS to influence DER continues to decrease every period it is seen in the second period GS is a variable with the ability to affect the largest DER by 56.16 percent, which means that it exceeds the ability of other variables in affecting DER by only 43.84 percent. However, GS's ability to influence DER continued to decline until the end of the period to only about 18.35 percent. This VC test proves the hypothesis that in the short-term GS has a positive effect on DER, while in the long run GS negatively affects DER.

Effect of Free Cash Flow on Debt Policy

Based on hypothetical test results in the short term FCF has a positive and insignificant effect on DER In the short term the free cash flow variable has a positive coefficient, indicating that if the cash flow value of the beas increases then it is likely that the debt policy will also increase in value. These results showed an excess of cash for investments that had a positive effect on debt policy, with good free cash flow, prompting the company to increase debt funding as funding in the previous year resulted in favorable cash flow with a high free cash flow value. The results are also in line with the theory that in order to control excessive free cash flow by managers, the use of debt policy will be chosen as a source of corporate funding so as to reduce agency conflicts and agency cost of free cash flow. With insignificant results, the short-term influence of free cash flow is not very large and the results of this short-term study cannot be generalized in members of the population.

The results of this short-term test are supported by Susilawati and Agustina (2015) and Hasan (2014) which said that there is a positive influence between the company's free cash flow on the company's debt policy. Long-term test results show that free cash flow variables have a negative and significant long-term effect on debt policy. According to pecking order theory Myers, 1984 companies with high cash flow tend to have lower debt levels. This behavior is caused because the company prefers to use internal funds first before using the debt. This funding decision is made because the company seeks to find funding with the least level of risk first.

Free cash flow is an important factor to consider before making a decision on a company's debt policy. Because in the long run the lower the free cash flow of a company, the higher the debt level and on the contrary, the increase in free cash flow will reduce the company's debt policy. Companies with high free cash flow can be more enduring in poor conditions. While low free cash flow illustrates that the company is underfunded internally, so the company will need additional external funds in the form of debt as well as issuance of new shares.

Free cash flow has a negative effect on debt policy because shareholders prefer to share free cash flow in the form of additional 4 dividends and are used to pay the company's debt obligations to reduce the risk of bankruptcy. Shareholders are worried that large free cash flow will be used by managers to finance the company's high-risk activities and provide no added value for the company and shareholders. These findings support Pecking Order Theory and are consistent with Hardiningsih and Oktaviani (2012) who found statistically significant negative results between free cash flow to debt policy. The results of this study contradict the results of Susilawati and Agustina (2015), Hasan (2014) stating that free cash flow has a positive effect on debt policy.

Meanwhile, impulse response function test in figure 4.5(a) shows DER responding well (positive) shock given by FCF, so that there is influence between FCF to DER moving towards the balance point before the shock in the 25th period. Furthermore, the Variance Decomposition test explained that at the end of the tenth period FCF had the ability to affect DER by 1.34 percent consistently over the previous three periods. This indicates that the influence of FCF on DER is not very large among the three other variables in this study.

Effect of Asset Structure on Debt Policy

The test results are in accordance with the proposed hypothesis where in the short and long term the asset structure has a positive and significant effect on debt policy. Trade-off theory suggests that large companies in general have a relatively small chance of bankruptcy compared to smaller companies making it easier to make loans to banks. Typically, due to the cost of debt, creditors tend to need a guarantee to lend their money (embodiable in collateral assets). The collateral assets are determined in value in the event of liquidation of the company.

Large holdings of fixed assets and the offer of ease of lending and the opportunity to invest will be considered by the company to make debt policy decisions. Companies that have large fixed assets have the potential to be able to have large debts as well. Companies whose assets are in accordance with the credit guarantee will use more debt because creditors will always provide loans if they have collateral.

According to Myers (1977) the greater the fixed assets, the greater the collateral / collateral of the company, which can reduce the company's financial distress cost. So, assuming something else is constant, then when the company's fixed assets increase, the use of debt will also increase as well. In addition, the higher the guarantee given by the company to the creditor, the greater the amount of debt that can be given by the creditor to the company. Guarantees that can provide certainty of protection for the creditors are fixed assets owned by the company, so that fixed assets are the most important type of collateral for creditors.

Impulse Response Function test showed that the shock given by AS to DER was responded with a positive trend, so it is certain that there is an influence between FCF on DER and moving towards the balance point before the shock in the 32nd period. In other words, if der increases, it takes thirty-two periods for the asset structure to return to its balance point before the shock. Furthermore, the Variance Decomposition test explained that the U.S. ability to influence DER increased each period where in the second period by 1.35 percent to 26.12 percent in the tenth period, which is the largest variable that can affect DER at the end of the period. This is certainly in accordance with the hypothesis that the higher the asset structure, the higher the company's debt policy, with a coefficient value of 1.1482 which means that any increase of 1 percent in the asset structure will increase the debt policy by 1.14 percent.

Based on trade-off theory, the company's assets will positively affect the size of the company's debt. This research is in line with research conducted by Susanti (2013), Susanti and Mayangsari (2014), Hardiningsih and Oktaviani (2012) which stated that asset structure has a positive and significant effect on debt policy. However, the results of this study do not support the research conducted by Susilawati and Agustina (2015) and Yuniarti (2013) stating that the structure of assets has a positive and insignificant effect on debt policy.

CONCLUSIONS AND SUGGESTION

Based on the results of the study there are several things that can be taken as conclusions, including (1) Managerial ownership negatively affects debt policy in the long term as well as in the short term. Managerial ownership will be able to align the interests of management and shareholders so that managers will feel directly the benefits of the decisions taken, one of which is debt decisions. (2) Sales growth has a positive effect on the short term and in the long term negatively affects debt policy. Where in the short-term sales growth has a positive influence, while in the short term the effect of growth on debt policy is negative. This is because in companies that start to grow will require a lot of funds. One way to meet these funds is through debt. While in the long run the company can use internal funds for its activities due to the increasing sales growth. (3) Free cash flow has a positive influence on debt policy in the long term and negatively affects the short term. These results suggest that the higher the company's free cash flow rate, the higher the company's debt policy in the short term. In the long run, the company will lower its debt policy when the company's free cash flow is higher to reduce excessive debt. (4) Asset structure positively affects debt policy in the long term and short term. From these results it can be concluded that fixed assets will be used as collateral for creditors in lending funds. Companies that have large fixed assets have the potential to be able to have large debts as well.

To overcome the limitations in this study, researchers provide recommendations for subsequent researchers as follows: (1) For the Company should reduce the proportion of funding from debt in the implementation of its operations so as to reduce financial distress, because funding from corporate debt causes financial distress and agency costs greater than tax savings from debt interest expense, as a result of which the company is very vulnerable to economic turmoil. (2) For Creditors who provide sources of debt funding, pay more attention to aspects of the company's asset structure to be used as collateral for debt, because the company usually uses loan funds for high-risk projects. (3) For investors should take deeper considerations to invest in companies that have large free cash flow because companies that have large free cash flow tend to show good cash flow for the future. (4) For the development of science, especially to be analyzed again, it further expands the research period by extending the research period by adding to the last year and research should also add independent variables such as internal factors, namely institutional ownership, dividend payments and relative market share, while external factors are interest rates and capital market existence, as well as other variables.

REFERENCES

Basuki, A. T., & Prawoto, N. (2015). *Analisis Regresi Dalam Penelitian Ekonomi & Bisnis*. 1–239.

Brigham, E. F., & Houston, J. F. (2001). M. K. B. 1 Edisi 8. J. E. (2011). No Title. *Manajemen Keuangan. Buku 1 Edisi 8*.

Destriana, Y. (2010). Faktor – Faktor Yang Mempengaruhi Kebijakan Hutang Pada Perusahaan Non Keuangan Yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Bisnis Dan Akuntansi*, *12*(1), 1–16. Https://Doi.Org/10.25105/Jmat.V1i1.4904

Hardiningsih, P., & Oktaviani, R. M. (2012). Determinan Kebijakan Hutang (Dalam Agency Theory Dan Pecking Order Theory). *Dinamika Akuntansi, Keuangan Dan Perbankan Universitas Stikubank*, *1*(1), 11–24.

Harjito, D. A. (2011). Teori Pecking Order Dan Trade-Off Dalam Analisis Struktur Modal Di Bursa Efek Indonesia. *Jurnal Siasat Bisnis*, *15*(2), 187–196. Https://Doi.Org/10.20885/Jsb.Vol15.Iss2.Art3

Hasan, M. A. (2014). Pengaruh Kepemilikan Manajerial, Free Cash Flow Dan Ukuran Perusahaan Terhadap Kebijakan Utang (Studi Pada Perusahaan-Perusahaan Industri Dasar Dan Kimia Yang Terdaftar Di Bei). *Jurnal Akuntansi*, *3*(1), 90–100.

Lina, S. (2011). Faktor-Faktor Yang Mempengaruhi Kebijakan Hutang Perusahaan Manufaktur. *Jurnal Bisnis Dan Akuntansi*, *13*(3), 163–181.

Naray, A. R., & Mananeke, L. (2015). Pengaruh Pertumbuhan Penjualan, Struktur Aktiva Dan Ukuran Penjualan Terhadap Struktur Modal Pada Bank Pemerintah Kategori Buku 4. *Jurnal Emba*, *3*(2), 896–906.

Nofriani, I. (2015). Pengaruh Profitabilitas, Ukuran Perusahaan, Pertumbuhan Penjualan, Pertumbuhan Aset, Dan Likuiditas Terhadap Struktur Modal Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode 2010-2013. *Universitas Maritim Raja Ali Haji, Tanjungpinang*.

Purnianti, N., & Putra, I. (2016). Analisis Faktor-Faktor Yang Memengaruhi Kebijakan Utang Perusahaan Non Keuangan. *E-Jurnal Akuntansi Universitas Udayana*, *14*(1), 91–117.

Setiani, R. (2016). Analisis Pengaruh Kepemilikan Institusional Dan Free Cash Flow Terhadap Kebijakan Hutang (Studi Terhadap Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode 2011-2015). *Skripsi Jurusan Manajemen Fakultas Ekonomi Dan Bisnis*.

Http://Repositori.Uin-Alauddin.Ac.Id/Id/Eprint/15228

Sheisarvian, R. (2015). Pengaruh Kepemilikan Manajerial, Kebijakan Dividen Dan Profitabilitas Terhadap Kebijakan Hutang (Studi Pada Perusahaan Manufaktur Yang Tercatat Di Bei Periode 2010-2012). *Jurnal Administrasi Bisnis S1 Universitas Brawijaya*, *22*(1), 85888.

Suastawan, I. (2014). Pengaruh Arus Kas Bebas Dan Profitabilitas Pada Kebijakan Utang Perusahaan Real Estate Di Bursa Efek Indonesia. *E-Jurnal Akuntansi*, *9*(3), 685–694.

Susanti; Mayangsari, S. (2014). Faktor – Faktor Yang Mempengaruhi Kebijakan Hutang Pada Perusahaan Non Keuangan Yang Terdaftar Di Bursa Efek Indonesia. *E-Jorunal Magister Akuntansi Trisakti*, *1*(1), 29–50.

Susanti, F. (2013). Pengaruh Likuiditas, Kebijakan Deviden, Struktur Aset, Ukuran Perusahaan Dan Pertumbuhan Penjualan Terhadap Kebijakan Hutang Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Tahun 2010-2013. *Universitas Maritim Raja Ali Haji, Tanjungpinang*, *66*(1997), 37–39.

Susilawati; Agustina, L. (2015). Faktor-Faktor Yang Memperngaruhi Kebijakan Hutang. *Jurnal Universitas Krsiten Maranatha*, *53*(9), 1689–1699. Http://Publications.Lib.Chalmers.Se/Records/Fulltext/245180/245180.Pdf%0ahttps://Hdl.Handle.Net/20.500.12380/245180%0ahttp://Dx.Doi.Org/10.1016/J.Jsames.2011.03.003%0ahttps://Doi.Org/10.1016/J.Gr.2017.08.001%0ahttp://Dx.Doi.Org/10.1016/J.Precamres.2014.12.0

Tjeleni, I. (2013). Kepemilikan Manajerial Dan Institusional Pengaruhnya Terhadap Kebijakan Hutang Pada Perusahaan Manufaktur Di Bursa Efek Indonesia. *Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *1*(3), 129–139. Https://Doi.Org/10.35794/Emba.V1i3.1949

Trisnawati, I. (2016). Faktor-Faktor Yang Mempengaruhi Kebijakan Hutang Pada Perusahaan Non Keuangan Yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Bisnis Dan Akuntansi*, *18*(1), 33–42. Https://Doi.Org/10.34208/Jba.V19i2.278

Yuniarti, A. M. D. (2013). Pengaruh Kepemilikan Manajerial, Dividen, Profitabilitas Dan Struktur Aset Terhadap Kebijakan Hutang. *Accounting Analysis Journal*, *2*(4), 447–454. Https://Doi.Org/10.15294/Aaj.V2i4.4171