

## The Concept of Relationship Between Debt and Receivable: Evidence on Basic Industrial Companies in Indonesia

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**Abstract.** The study's purpose was to determine whether there is a two-way influence between debt and receivables, the response of a variable to sShocks that occur in other variables and the contribution of each variable to other variables. Debt and receivable data are taken from 48 of the 91 companies in the basic industrial sector listed on the IDX. The statistical model used in this study is the Vector Autoregression Model, which aims to test the direction of influence between two variables. The results show that debt affects receivables, while accounts receivable do not affect debt. So there is only a one-way relationship between debt to receivables. This finding reinforced that the debt response to the shock in receivables did not find a significant response. Meanwhile, the response of receivables variable shock to itself since period 1 has fluctuated and has been stable since period 6. The receivables response to the shock in debt began to respond in the second period and was stable from period 6. The contribution of the receivable variable to itself had a negative trend. In contrast, the contribution of the variable debt to receivables shows a positive direction.

**Keyword.** Debt; Receivable; Basic Industrial

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### INTRODUCTION

Debt financing occurs when a company raises money by selling debt instruments, most often in the form of bank loans or bonds (Altunbaş, Kara, & Marqués-Ibáñez, 2009). This type of financing is often referred to as financial leverage. Various alternative funding options are influenced by the level of returns and risks, the rules and barriers for each funding alternative, and the probability that the firm will be unable to satisfy some or all of the indenture requirements (Merton, 1974). It can be in the form of a secured or unsecured loan. A company takes out loans to finance working capital or acquisitions (Setianto & Pratiwi, 2019). Debt means the amount of money that needs to be repaid, and financing means providing funds for business activities. An essential feature of debt financing is that the business owner does not lose company ownership (Bathala, Moon, & Rao, 1994; Mehran, Taggart, & Yermack, 1999; Haron, 2017). Debt financing is a time-bound activity in which the borrower needs to repay the loan and interest at the end of the agreed period (Holmstrom, 2015). Payments can be made monthly, semi-annually, or towards the end of the loan term. Another important feature in debt financing is that the loan is secured or collateralized by the assets of the company taking the loan (Berger & Udell, 1995; John, Lynch, & Puri, 2003; Ioannidou, Pavanini, & Peng, 2022). Collateral is usually part of a secured loan. If the loan is unsecured, lines of credit are usually lacking. If a company needs a large loan, then debt financing is used, wherein the company owner attaches some of the company's assets, and a loan is granted based on the valuation of those assets.

Accounts Receivable is the result or payment the company will receive from its customers who have purchased goods and services on credit. Usually, short credit terms range from a few days to months or sometimes a year. The word receivables refer to

unrealized payments. The company must have extended the credit limit to its customers. Usually, companies sell their goods and services in cash or on credit (Cowton & San-Jose, 2017). When a company extends credit to a customer, the sale is realized when the invoice is created. The company extends the period for the customer to pay the amount after some time. The term can vary from 30 days to several months (Long, Malitz, & Ravid, 1993)

There are various considerations of the company in determining the Debt-Receivable decision:

1. **Income Generated:** Income is considered by lenders and investors (Liu, 2020). If a company does not have sufficient income, it won't be easy to repay the loan in the future.
2. **Ownership:** If a company uses the equity of another party, it means that they are giving away part of the ownership shares to investors (Wasserman, 2008 ). They will be involved in daily activities and will keep a check on them. The lender will not try to get involved in the company's management. In debt financing, after the loan is repaid, the relationship with the lender ceases (Morvinski & Shani, 2022).
3. **Cost of financing:** One of the benefits of debt financing is that interest payments are usually tax deductible (Clemente-Almendros & Sogorb-Mira, 2018). Even if interest rates rise, the costs are partially offset by a reduction in taxable income. Because debt repayment is required regardless of business income, the risk to lenders is much lower than to shareholders. Shareholders are only paid dividends if the business makes a profit, so there is a chance the investment will fail to generate adequate returns.
4. **Amount of Capital Required:** If a business is not looking for a large amount of debt, financing should be the right choice, but if the business needs a large amount of money, then looking for a private investor will be a more viable option (Besson, Dacorogna, Martin, Kastenholz, & Moller, 2009).
5. **Risks Involved:** Debt capital requires businesses to make periodic payments to lenders. These payments may include interest, principal, or both. If a company cannot make these payments, it risks losing the assets it pledged as collateral and may be forced into bankruptcy (Allayannis, Brown, & Klapper, 2003).
6. **Current Capital Structure:** Although debt is attractive because of its low cost, the downside is that interest has to be paid. If too much is borrowed, the company may not meet interest, and principal payments and liquidation may follow (Aktan, Çelik, Abdulla, & Alshakhoori, 2019).

Bad credit expense is recognized when receivables are no longer collectable because customers cannot meet their obligations to pay outstanding debts due to bankruptcy or other financial problems (Holmstrom, 2015). Companies that provide credit to their customers report bad debts as an allowance for doubtful accounts on the balance sheet, also known as a provision for credit losses. Here we can see the importance of considering the funding decision of the creditor (Santos, Pires, & Fernandes, 2018; Hunjra, Bakari, & Batool, 2018) and the consideration of using receivables for the recipient of the debt. And it appears that debt-debt decisions are interrelated in their considerations and the consequences they cause.

The critical question is whether external financing decisions through debt are influenced by the company's ability to provide and manage receivables. Or conversely, is the company's ability to provide receivables influenced by the company's ability to receive and manage debt? This answer becomes essential when the company considers debt-receivable decisions in making capital management decisions (financing and placement decisions).

## METHOD

The Vector Autoregression or VAR model was used in this study because the purpose of this study was to examine the direction of influence between two variables (Winarno, 2013). The decision on debts and receivables is suspected of having no immediate impact, requiring a certain grace period (lag). So it is hoped that the VAR model can answer this problem. For these two reasons, the VAR model is used. The steps are as follows:

1. It is determined that the data under study are payables and receivables in 48 of the 91 companies in the basic industrial sector listed on the IDX. Forty-three companies were not included because they did not have financial statements in the ten years of this research (2011-2020).
2. A stationarity test is carried out because all variables in the VAR must be stationary. If it is not stationary, it must first be transformed.
3. The optimum lag test is carried out, then estimates the VAR with the optimum lag.
4. For estimation purposes, several tests were carried out: stability requirements, cointegration test, and causality test.
5. The interpretation of the VAR model is carried out.
6. An impulse response analysis was conducted to determine the variable response to shock in other variables.
7. Analysis of variance decomposition was carried out to determine the contribution of each variable to other variables.

## RESULTS AND DISCUSSION

The analysis will be carried out with a total of 480 observations. A stationary test is carried out first to meet the requirements of the Vector Autoregression model.

1. Accounts Receivable Variable

Table 1. Receivable ADF Level

| Method                  | Statistic | Prob.** |
|-------------------------|-----------|---------|
| ADF - Fisher Chi-square | 110.838   | 0.1428  |
| ADF - Choi Z-stat       | -1.83302  | 0.0334  |

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Prob value. (0.1428) is greater than 0.05. it means that the receivables data is not stationary at the level.

Table 2. Receivable ADF 1st Diff

| Method                  | Statistic | Prob.** |
|-------------------------|-----------|---------|
| ADF - Fisher Chi-square | 188.469   | 0.0000  |
| ADF - Choi Z-stat       | -5.07683  | 0.0000  |

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Prob value. (0.000) is less than 0.05. it means that the receivable data is stationary at the 1st difference.

## 2. Debt Variable

Table 3. Debt ADF Level

| Method                  | Statistic | Prob.** |
|-------------------------|-----------|---------|
| ADF - Fisher Chi-square | 169.059   | 0.0000  |
| ADF - Choi Z-stat       | -2.95977  | 0.0015  |

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Prob value. (0.000) is less than 0.05. it means debt data is stationary at the level. The accounts receivable variable is stationary at 1st diff, and the Debt variable is stationary at the level. VAR estimation is carried out on stationary data: receivables at 1st diff and debt at the level.

Table 4. Vector Autoregression Estimates

|   | D(LOG_ Receivable)                   | LOG_ Debt                            |
|---|--------------------------------------|--------------------------------------|
| D(LOG_ Receivable (-1))                 | -0.399509<br>(0.06391)<br>[-6.25088] | -0.004711<br>(0.03579)<br>[-0.13162] |
| D(LOG_ Receivable (-2))                 | -0.128568<br>(0.04646)<br>[-2.76699] | -0.024300<br>(0.02602)<br>[-0.93383] |
| LOG_ Debt (-1)                          | 0.340688<br>(0.10970)<br>[ 3.10558]  | 1.084543<br>(0.06144)<br>[ 17.6531]  |
| LOG_ Debt (-2)                          | -0.340044<br>(0.11004)<br>[-3.09028] | -0.082909<br>(0.06162)<br>[-1.34541] |
| R-squared                               | 0.108432                             | 0.971590                             |
| Adj. R-squared                          | 0.100376                             | 0.971334                             |
| Sum sq. resids                          | 181.1007                             | 56.79904                             |
| S.E. equation                           | 0.738569                             | 0.413620                             |
| F-statistic                             | 13.45929                             | 3784.738                             |
| Log likelihood                          | -372.9297                            | -178.1279                            |
| Akaike AIC                              | 2.243629                             | 1.084095                             |
| Schwarz SC                              | 2.289071                             | 1.129537                             |
| Mean dependent                          | 0.022169                             | 27.51911                             |
| S.D. dependent                          | 0.778683                             | 2.442958                             |
| Determinant resid covariance (dof adj.) |                                      | 0.071691                             |
| Determinant resid covariance            |                                      | 0.069994                             |
| Log likelihood                          |                                      | -506.7565                            |
| Akaike information criterion            |                                      | 3.064027                             |
| Schwarz criterion                       |                                      | 3.154911                             |
| Number of coefficients                  |                                      | 8                                    |

Next is the determination of the Optimum Lag.

Table 5. VAR Lag Order Selection Criteria

Endogenous variables: LOG\_ Receivable LOG\_ debt

Exogenous variables: C

| Lag | LogL      | LR       | FPE      | AIC      | SC        | HQ       |
|-----|-----------|----------|----------|----------|-----------|----------|
| 0   | -917.4236 | NA       | 7.287128 | 7.661863 | 7.690869  | 7.673551 |
| 1   | -362.9479 | 1095.090 | 0.074186 | 3.074565 | 3.161581* | 3.109627 |

|   |           |           |           |           |          |           |
|---|-----------|-----------|-----------|-----------|----------|-----------|
| 2 | -355.3498 | 14.87950  | 0.071995  | 3.044582  | 3.189608 | 3.103017  |
| 3 | -346.2046 | 17.75692* | 0.068975* | 3.001705* | 3.204742 | 3.083514* |
| 4 | -344.0091 | 4.226273  | 0.070022  | 3.016743  | 3.277791 | 3.121926  |
| 5 | -343.6109 | 0.760018  | 0.072160  | 3.046757  | 3.365816 | 3.175315  |

\* indicates lag order selected by the criterion  
 LR: sequential modified LR test statistic (each test at 5% level)  
 FPE: Final prediction error  
 AIC: Akaike information criterion  
 SC: Schwarz information criterion  
 HQ: Hannan-Quinn information criterion

Based on the table, it can be seen that the optimum lag is three because there are many asterisks in the number 3.

Table 6. Estimasi VAR Dengan Memasukkan Lag Optimum

|   | D(LOG_ Receivable)                   | LOG_ Debt                            |
|---|--------------------------------------|--------------------------------------|
| D(LOG_ Receivable (-1))                 | -0.454667<br>(0.06453)<br>[-7.04632] | -0.022499<br>(0.03972)<br>[-0.56650] |
| D(LOG_ Receivable (-2))                 | -0.277007<br>(0.07018)<br>[-3.94691] | -0.042160<br>(0.04320)<br>[-0.97595] |
| D(LOG_ Receivable (-3))                 | -0.047905<br>(0.04497)<br>[-1.06521] | -0.016559<br>(0.02768)<br>[-0.59820] |
| LOG_Debt(-1)                            | 0.480704<br>(0.11283)<br>[ 4.26041]  | 1.130780<br>(0.06945)<br>[ 16.2823]  |
| LOG_ Debt (-2)                          | -0.732047<br>(0.16582)<br>[-4.41461] | -0.291247<br>(0.10207)<br>[-2.85350] |
| LOG_ Debt (-3)                          | 0.259081<br>(0.12140)<br>[ 2.13411]  | 0.157151<br>(0.07472)<br>[ 2.10310]  |
| C                                       | -0.122312<br>(0.47226)<br>[-0.25899] | 0.166476<br>(0.29068)<br>[ 0.57270]  |
| R-squared                               | 0.185620                             | 0.970528                             |
| Adj. R-squared                          | 0.168231                             | 0.969898                             |
| Sum sq. resid                           | 134.2760                             | 50.87142                             |
| S.E. equation                           | 0.691267                             | 0.425485                             |
| F-statistic                             | 10.67463                             | 1542.222                             |
| Log likelihood                          | -298.7732                            | -159.0074                            |
| Akaike AIC                              | 2.123425                             | 1.152829                             |
| Schwarz SC                              | 2.212455                             | 1.241859                             |
| Mean dependent                          | 0.050185                             | 27.55888                             |
| S.D. dependent                          | 0.757957                             | 2.452381                             |
| Determinant resid covariance (dof adj.) |                                      | 0.064202                             |
| Determinant resid covariance            |                                      | 0.061119                             |
| Log likelihood                          |                                      | -414.8394                            |
| Akaike information criterion            |                                      | 2.978051                             |
| Schwarz criterion                       |                                      | 3.156112                             |
| Number of coefficients                  |                                      | 14                                   |

The next step will be testing the estimation:

Table 7. Stability Requirements

Endogenous variables: D(LOG\_ Receivable) LOG\_Debt  
Exogenous variables: C  
Lag specification: 1 3

| Root                  | Modulus  |
|-----------------------|----------|
| 0.996448              | 0.996448 |
| 0.008454 - 0.505063i  | 0.505134 |
| 0.008454 + 0.505063i  | 0.505134 |
| -0.110156 - 0.311103i | 0.330029 |
| -0.110156 + 0.311103i | 0.330029 |
| -0.116933             | 0.116933 |

No root lies outside the unit circle.  
VAR satisfies the stability condition.

Based on stability testing, it was found that the optimum three-lag model is stable because its modulus is below 1.

Table 8. Cointegration Test

Series: D(LOG\_ Receivable) LOG\_Debt  
Lags interval (in first differences): 1 to 3

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|-----------------|---------------------|---------|
| None *                    | 0.330153   | 97.63512        | 15.49471            | 0.0001  |
| At most 1                 | 0.006089   | 1.465845        | 3.841466            | 0.2260  |

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|---------------------|---------------------|---------|
| None *                    | 0.330153   | 96.16928            | 14.26460            | 0.0000  |
| At most 1                 | 0.006089   | 1.465845            | 3.841466            | 0.2260  |

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b\*S11\*b=I):

| D(LOG_ Receivable) | LOG_Debt  |
|--------------------|-----------|
| -4.428877          | 0.001779  |
| 0.434123           | -0.425794 |

Unrestricted Adjustment Coefficients (alpha):

|   |                |           |
|---|----------------|-----------|
| D(LOG_ Receivable,2)  | 0.424767       | 0.021755  |
| D(LOG_ Debt)  | 0.036274       | 0.033869  |
| <hr/>   |                |           |
| 1 Cointegrating Equation(s):  | Log likelihood | -346.6511 |
| <hr/>   |                |           |
| Normalized cointegrating coefficients (standard error in parentheses) |                |           |
| D(LOG_ Receivable)  | LOG_ Debt      |           |
| 1.000000  | -0.000402      | (0.00894) |
| Adjustment coefficients (standard error in parentheses)               |                |           |
| D(LOG_ Receivable,2)  | -1.881243      | (0.19371) |
| D(LOG_ Debt)  | -0.160652      | (0.12710) |
| <hr/>   |                |           |

Based on table 9, the value of at most 1 is not significant ( $0.2260 > 0.05$ ), so the VAR model can be applied. A significant None\* value indicates that there is at least one cointegration.

Table 9. Pairwise Granger Causality Tests

| Null Hypothesis:                                 | Obs | F-Statistic | Prob.  |
|--|-----|-------------|--------|
| LOG_ Debt does not Granger Cause LOG_ Receivable | 432 | 7.18663     | 0.0076 |
| LOG_ debt does not Granger Cause LOG_ Debt       |     | 3.25414     | 0.0719 |

The first probability value of 0.0076 is significant at 5% alpha, indicating that debt affects receivables. While the second prob value of 0.0719 is not significant at alpha 5%, thus indicating that receivables do not affect debt. In conclusion, there is only a one-way relationship between debt to receivables. Further testing will be carried out. The value of t statistic, which is smaller than t table (df = 288) of 1.650162, means significant.

Table 10. Vector Autoregression Estimates

|                         | D(LOG_ Receivable)                   | LOG_ Debt                            |
|-------------------------|--------------------------------------|--------------------------------------|
| D(LOG_ Receivable (-1)) | -0.454667<br>(0.06453)<br>[-7.04632] | -0.022499<br>(0.03972)<br>[-0.56650] |
| D(LOG_ Receivable (-2)) | -0.277007<br>(0.07018)<br>[-3.94691] | -0.042160<br>(0.04320)<br>[-0.97595] |
| D(LOG_ Receivable (-3)) | -0.047905<br>(0.04497)<br>[-1.06521] | -0.016559<br>(0.02768)<br>[-0.59820] |
| LOG_ Debt(-1)           | 0.480704<br>(0.11283)<br>[ 4.26041]  | 1.130780<br>(0.06945)<br>[ 16.2823]  |
| LOG_ Debt(-2)           | -0.732047<br>(0.16582)<br>[-4.41461] | -0.291247<br>(0.10207)<br>[-2.85350] |
| LOG_ Debt(-3)           | 0.259081<br>(0.12140)<br>[ 2.13411]  | 0.157151<br>(0.07472)<br>[ 2.10310]  |

|   |                                      |                                     |
|---|--------------------------------------|-------------------------------------|
| C                                       | -0.122312<br>(0.47226)<br>[-0.25899] | 0.166476<br>(0.29068)<br>[ 0.57270] |
| R-squared                               | 0.185620                             | 0.970528                            |
| Adj. R-squared                          | 0.168231                             | 0.969898                            |
| Sum sq. resids                          | 134.2760                             | 50.87142                            |
| S.E. equation                           | 0.691267                             | 0.425485                            |
| F-statistic                             | 10.67463                             | 1542.222                            |
| Log likelihood                          | -298.7732                            | -159.0074                           |
| Akaike AIC                              | 2.123425                             | 1.152829                            |
| Schwarz SC                              | 2.212455                             | 1.241859                            |
| Mean dependent                          | 0.050185                             | 27.55888                            |
| S.D. dependent                          | 0.757957                             | 2.452381                            |
| Determinant resid covariance (dof adj.) |                                      | 0.064202                            |
| Determinant resid covariance            |                                      | 0.061119                            |
| Log likelihood                          |                                      | -414.8394                           |
| Akaike information criterion            |                                      | 2.978051                            |
| Schwarz criterion                       |                                      | 3.156112                            |
| Number of coefficients                  |                                      | 14                                  |

Based on the estimation, it is known the following things:

1. The receivables variable is influenced by the receivables variable one previous period with a negative influence direction of -0.454667
2. The receivables variable influences the receivables variable in the previous two periods with a negative influence direction of -0.277007
3. Accounts Receivable variable is influenced by Debt variable one previous period with a positive direction of influence of 0.480704
4. The Debt variable influences the Accounts Receivable variable in the previous two periods with an opposing direction of -0.732047
5. Accounts Receivable variable is influenced by Debt variable in the previous three periods with a positive direction of influence of 0.259081
6. The debt variable is influenced by its inaction in periods 1, 2 and 3, indicated by the value of t statistic, which is greater than t table. The magnitude of the effect is 1.130780, -0.291247 and 0.157151, respectively.

In the next stage, the Impulse Response Function will be seen to determine the response of one variable to the shock that occurs in another variable:

Response to Cholesky One S.D. (d.f. adjusted) Innovations

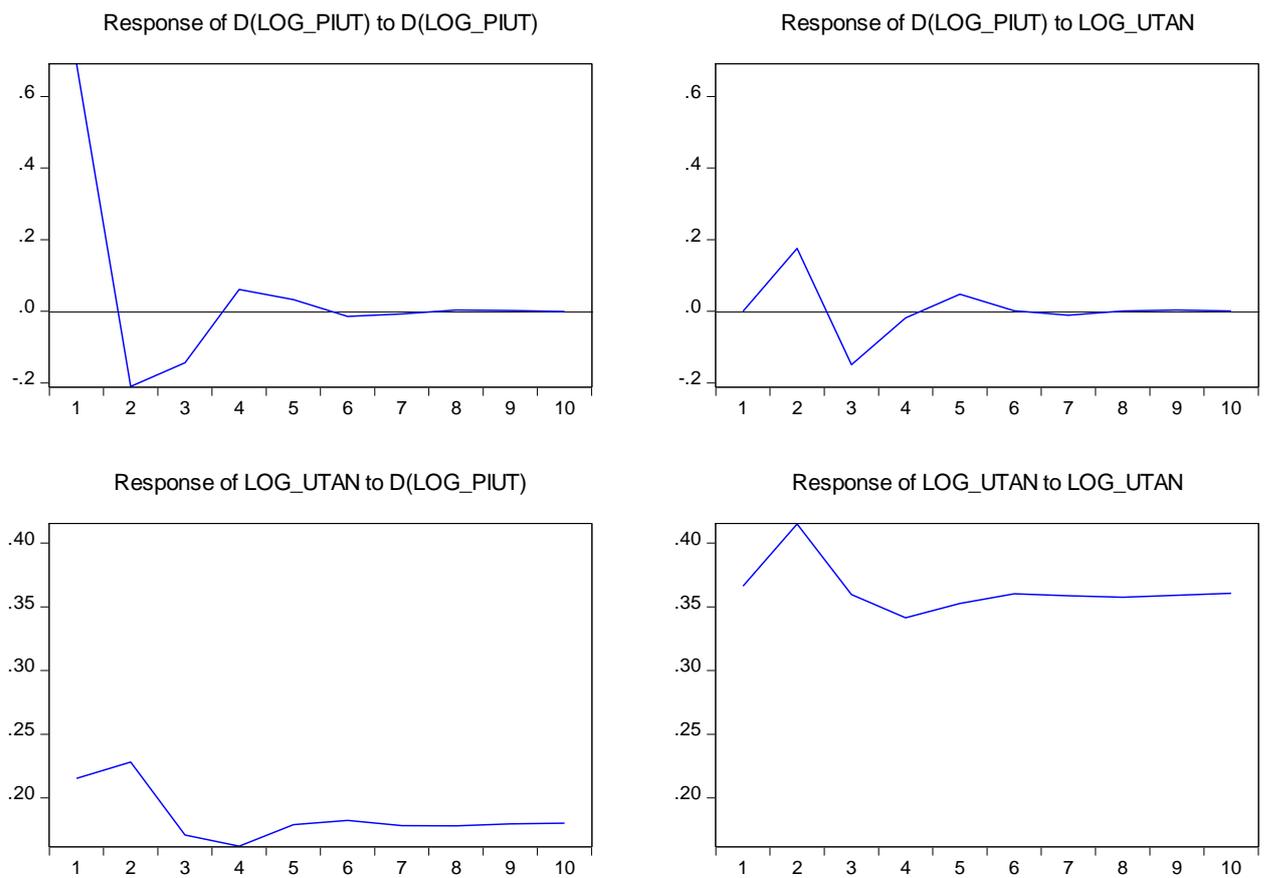


Figure 1 Impulse Response Function

Figure 1 shows the response in the form of a graph or line chart. The responses that are presented in tabular form are presented as follows to see how big the response of a variable is to the shock that occurs in other variables:

Table 11. Response of D(LOG\_ Receivable) and D(LOG\_ debt)

| Response of D(LOG_ Receivable): |                    |           |
|---------------------------------|--------------------|-----------|
| Period                          | D(LOG_ Receivable) | LOG_Debt  |
| 1                               | 0.690123           | 0.000000  |
| 2                               | -0.210241          | 0.175456  |
| 3                               | -0.143717          | -0.149033 |
| 4                               | 0.061039           | -0.018525 |
| 5                               | 0.032852           | 0.048054  |
| 6                               | -0.014090          | 0.001466  |
| 7                               | -0.007735          | -0.011111 |
| 8                               | 0.003718           | 0.000840  |
| 9                               | 0.002547           | 0.003675  |
| 10                              | -0.000388          | 0.000815  |

| Response of LOG_Debt: |                    |          |
|-----------------------|--------------------|----------|
| Period                | D(LOG_ Receivable) | LOG_Debt |
| 1                     | 0.215423           | 0.366331 |
| 2                     | 0.228094           | 0.415112 |
| 3                     | 0.170931           | 0.359622 |
| 4                     | 0.162039           | 0.341433 |
| 5                     | 0.179004           | 0.352640 |
| 6                     | 0.182296           | 0.360311 |

|    |          |          |
|----|----------|----------|
| 7  | 0.178325 | 0.358719 |
| 8  | 0.177966 | 0.357597 |
| 9  | 0.179539 | 0.359113 |
| 10 | 0.180209 | 0.360544 |

Cholesky Ordering: D(LOG\_ Receivable)  
LOG\_Debt

Figure 1.1: Response of D(LOG\_ Receivable) to D(LOG\_ Receivable) shows the response of the receivables variable in the event of a shock to itself. When the receivables variable was given a shock of 1 standard deviation in the first period, he gave a positive response of 0.69. then in the second period and when he gave a negative responses of -0.21 and -0.14. Then in the fourth and fifth periods, there was a positive response Return of 0.06 and 0.03. From periods 6 to 10, the variable response starts to stabilize (i.e. close to zero), indicated by the response line close to zero.

Figure 1.2: Response of D(LOG\_ Receivable) to DLOG\_Debt, is interesting to discuss because, in this picture, we see the responses from different variables, namely debt. When there is a shock or shock to the debt of 1 standard deviation in the first period, the receivables variable has not responded (there has not been a change). Then in the second period, the receivables variable responded positively to the shock that occurred in the debt variable of 0.17. Periods 3 and 4 receivables responded negatively to the shock in debt, which was -0.14 and -0.01. In the 5th period, they again responded positively at 0.04. while starting from period 6, the response of receivables to debt began to experience stability (close to zero).

Figure 1.3: Response of LOG\_Debt to D(LOG\_ Receivable) shows the debt's response to the shock in receivables. When there is a shock in accounts receivable, the variable responds positively throughout the period. The responses can be seen in the line above zero and in positive numbers in the table. However, we cannot use this response because, based on the test results, the receivables variable does not affect the debt variable.

Figure 1.4: Response of LOG\_Debt to LOG\_Debt, as in Figure 1.3, the debt response to the shock itself is also positive. The responses can be seen in a line above the zero line and positive values in the numbers listed in the table.

Variance Decomposition is used to see the contribution of each variable to other variables. This contribution is presented in two forms, namely pictures and tables. As follows:

Variance Decomposition using Cholesky (d.f. adjusted) Factors

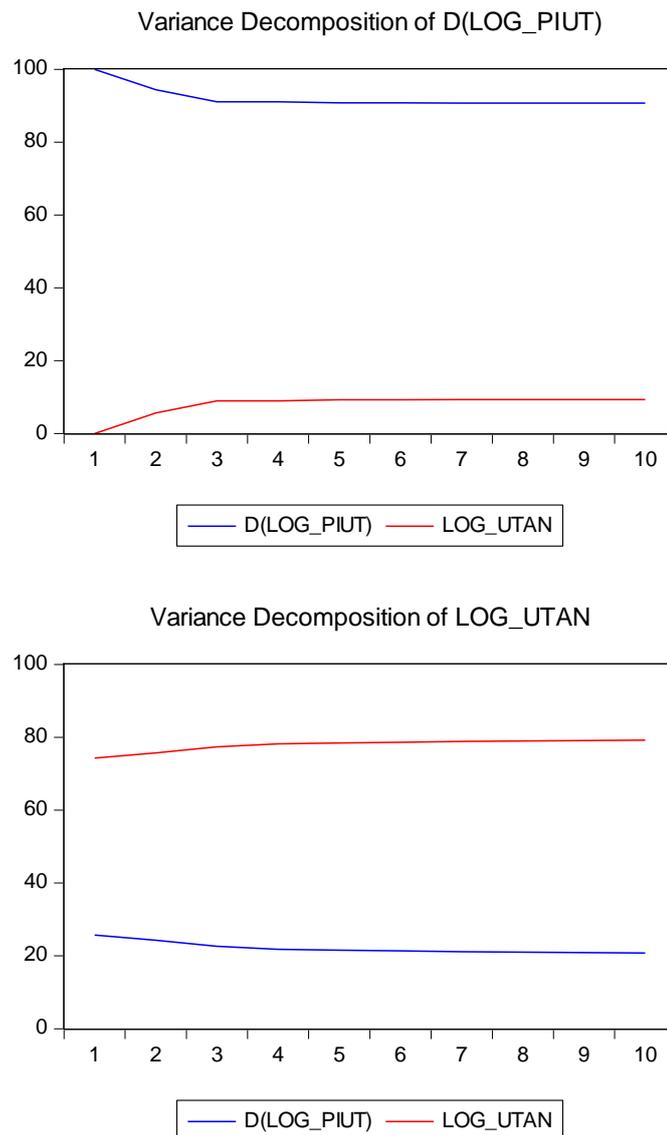


Figure 2 Variance Decomposition of D(LOG\_ Receivable)

Meanwhile, in tabular form, it is presented as follows to clarify further how much the contribution figure is.

Table 12. Variance Decomposition

| Variance Decomposition of D(LOG_ Receivable): |          |                    |          |
|---|----------|--------------------|----------|
| Period  | S.E.     | D(LOG_ Receivable) | LOG_Debt |
| 1   | 0.690123 | 100.0000           | 0.000000 |
| 2   | 0.742466 | 94.41549           | 5.584509 |
| 3   | 0.770793 | 91.07995           | 8.920050 |
| 4   | 0.773428 | 91.08325           | 8.916747 |
| 5   | 0.775615 | 90.74963           | 9.250374 |
| 6   | 0.775744 | 90.75235           | 9.247646 |
| 7   | 0.775862 | 90.73466           | 9.265339 |
| 8   | 0.775872 | 90.73477           | 9.265233 |
| 9   | 0.775885 | 90.73283           | 9.267169 |
| 10  | 0.775885 | 90.73273           | 9.267267 |

| Variance Decomposition of LOG_Debt: |          |                    |          |
|-------------------------------------|----------|--------------------|----------|
| Period                              | S.E.     | D(LOG_ Receivable) | LOG_Debt |
| 1                                   | 0.000000 | 100.000000         | 0.000000 |
| 2                                   | 5.584509 | 94.415491          | 5.584509 |
| 3                                   | 8.920050 | 91.079950          | 8.920050 |
| 4                                   | 8.916747 | 91.083253          | 8.916747 |
| 5                                   | 9.250374 | 90.749626          | 9.250374 |
| 6                                   | 9.247646 | 90.752354          | 9.247646 |
| 7                                   | 9.265339 | 90.734661          | 9.265339 |
| 8                                   | 9.265233 | 90.734767          | 9.265233 |
| 9                                   | 9.267169 | 90.732831          | 9.267169 |
| 10                                  | 9.267267 | 90.732733          | 9.267267 |

|    |          |          |          |
|----|----------|----------|----------|
| 1  | 0.424977 | 25.69521 | 74.30479 |
| 2  | 0.636357 | 24.30765 | 75.69235 |
| 3  | 0.750663 | 22.65348 | 77.34652 |
| 4  | 0.840434 | 21.78984 | 78.21016 |
| 5  | 0.928830 | 21.55380 | 78.44620 |
| 6  | 1.012809 | 21.36731 | 78.63269 |
| 7  | 1.089156 | 21.15740 | 78.84260 |
| 8  | 1.160090 | 21.00254 | 78.99746 |
| 9  | 1.227601 | 20.89496 | 79.10504 |
| 10 | 1.292081 | 20.80677 | 79.19323 |

Cholesky Ordering: D(LOG\_ Receivable) LOG\_Debt

Based on the Variance Decomposition figure and table, it is known the following things:

1. Variance Decomposition of D(LOG\_ Receivable)

Figure 2.1 shows the contribution of the receivable variable to itself (blue line) has a negative trend. The shock is initially high and, over time, continues to decrease until it experiences stability (the formation of a straight line). In comparison, the contribution of the variable debt to receivables (red line) shows the opposite, positive direction. Shocks in debt initially have a negligible impact (small shock contribution). Then over a period, the impact of the shock gets higher (the contribution of the debt shock gets bigger on receivables) until a stable shock occurs (a straight line is formed). For more details, the contribution can be seen in the table. The effect of debt on receivables will not be seen in the short term but will be increasingly visible in the long term.

2. Variance Decomposition of LOG\_Debt

Figure 2.2 shows the accounts receivable and payable variables' contribution to the debt variable. Figure 2.2 shows a different trend than the previous figure, where the shock on the receivables variable contributes positively to changes in the debt variable (can be seen in the line that continues to increase but is not so significant). And the second line (blue) shows the contribution of the debt shock to itself, which has a declining trend but is also not significantly decreased. The contribution can be seen in the table.

The one-way debt-receivable relationship shows that only debt affects receivables. Meanwhile, it was found that receivables did not affect debt. This finding further strengthens the theory that companies determine funding policies after making investment decisions (Hertina, Sumiyati, & Astama, 2020). Receivables are one form of investment decision (Lucas & McDonald, 1992; Michalski, 2008). Delay in payment indicates the company's capital placement with other parties in business contact with it. The source of this capital placement (receivable) can be obtained from equity or funding/debt.

It was also found that the effect of debt on receivables did not last immediately, but there was a delay in influence. On the other hand, it is found that receivables are influenced by their growth. What is interesting is that the effect, although the same height, but in the opposite direction. If the direction of debt is positive, the direction of receivables is negative.

It is interesting to investigate whether these results are consistent in all IDX sectors. Because specifically, this research is only examined the basic industrial sector. Second, how is the ability of receivables to generate profits, and how is the position of debt in the ability of receivables to generate profits? Because whatever the company's decision is, of course, the end goal of the company's decisions and policies must be profits that will be received by the company, by the owner of the company.

## CONCLUSION

Based on the stationarity test, it was found that the Accounts receivable variable is stationary at 1st diff, and the Debt variable is stationary at level. So the next test of Vector Autoregression Estimates will use this database. Furthermore, the following are obtained: first, debt affects receivables, while receivables do not affect debt. So there is only a one-way relationship between debt to receivables. Second, the debt response to the shock in receivables did not find a significant response. The debt response to the shock that occurs in itself has a positive effect. Meanwhile, the receivables response to the shock itself since period 1 has fluctuated and has been stable since period 6. The receivables response to the shock in debt began to respond in the second period and was stable from period 6. The contribution of the receivable variable to itself had a negative trend. In contrast, the contribution of the variable debt to receivables shows a positive direction. So the contribution of debt to receivables does not occur immediately, but in the long term, it is positive and increases until it is stable.

These results indicate that in making a debt decision, the company does not need to consider the decision on capital placement in the form of a credit decision. On the other hand, companies must consider their debt decisions in determining accounts receivable decisions. In measuring the effect of debt on receivables, the company must also consider the long-term effect on the company.

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