

THE EFFECT OF LEVERAGE AND PROFITABILITY ON FIRM DECISION TO PAY DIVIDENDS

Evi Yanti S. Surbakti¹ Keni C. Hernadi² Manasye H. Sudiby³ Bram Hadianto⁴

^{1,2,3} Student of Master in Accounting Program of Economics Faculty, Maranatha Christian University, Bandung, INDONESIA;

⁴ Management Department of Economics Faculty, Maranatha Christian University, Bandung, INDONESIA.

¹eviyanti.s.surbakti@gmail.com, ²keniclauu@gmail.com, ³manasye23@gmail.com, ⁴tan_han_sin@hotmail.com

ABSTRACT

The dividend becomes an issue not only for creditors but also for public investors. If the firms pay dividends, creditors suspect that debt firms get is used to be paid as dividends. If the firms do not pay dividends, public investors suspect that controlling shareholders use profits to fulfill their interests. To make this condition clear, this research uses the leverage and profitability to be related to dividends. Therefore, this research intends to examine and analyze the effect of leverage and profitability on the firm decision to do it.

The population of the firms is from the food and beverage sector listed on the Indonesia Stock Exchange between 2010 and 2017. Moreover, the samples are chosen from the population by a simple random sampling method. The logistic regression model with pooled data is utilized as the method of data analysis.

The research infers that debt policy owns a negative effect on the firm probability to pay dividends. Conversely, profitability owns a positive effect on this probability. It also means two things. Firstly, the firms do not pay dividends from debt they get so that the conflict between firms and their creditors does not happen. Secondly, paying the dividends means the public shareholders get the same portion of the profit as controlling shareholders get so that no conflict between them happens.

Keywords: agency theory, dividend policy, leverage, profitability.

INTRODUCTION

The sub-sector of food and beverage is one of the firm groups in the consumer and goods industry listed on the capital market of Indonesia (Hartono, 2017). This firm group has some advantages: giving a significant contribution to the gross domestic product, reducing unemployment, owning a large market share (Ministry of Industry, 2017). The existence of a large market share certainly depends on a large population in Indonesia (Husin, 2015).

When a large market share supports the activity of the firms in this sub-sector, it is easy for them to get the profits from their business. Ideally, when they get profits, they should pay dividends to public investors as compensation for receiving risk because of having stocks (Black, 1976) and to overcome the potential conflict between the controlling and the public shareholders (Gugler & Yurtoglu, 2003). The public shareholders will be suspicious if the firms do not pay dividends. They suppose controlling shareholders use the money to extremely pay the salary of top managers and give the position of top managers to their underqualified family members (LaPorta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

From the information in Table 1, it can be seen that not all of the firms pay dividends for their shareholders. In this table, the portion of firms that do not pay dividends tends to go down

from 2010 to 2013, tends to go up from 2013 to 2014, and tends to go down from 2014 to 2017.

Table 1. The number of food and beverage firms listed on the Indonesia Stock Exchange from 2010 to 2017

Year	2010	2011	2012	2013	2014	2015	2016	2017
The number of firms	15	14	16	16	16	15	16	22
The number of firms paying dividends (%)	6	8	7	11	5	6	9	13
	40.00	57.14	43.75	68.75	31.25	40.00	56.25	59.09
The number of firms that do not pay dividends (%)	9	6	9	5	11	9	7	9
	60.00	42.86	56.25	31.25	68.75	60.00	43.75	40.91

Source: Reprocessed Secondary Data From IDX Fact Book from 2011 -2018

Mentioning this fluctuation shown in Table 1, the determinants of the firm decision to pay dividends are essential to reveal. At least, there are two determinants of this decision. The first determinant is leverage and the second one is profitability.

- i. Interconnected with the effect of leverage on this firm decision, the study of Hadianto & Herlina (2010), Awad (2015), as well as Sindhu, *et al.* (2016) displays that a positive effect occurs, but the study of Hadianto & Sahabuddin (2016), Mossadak *et al.* (2016), as well as Gusni (2017) indicates that a negative happens.
- ii. Associated with the effect of profitability on this firm decision, the study of Alzomaia & Al-Khadiri (2013), Imran (2011), Hadianto & Herlina (2010), Tamimi, Takhtaei, & Malchi (2014), Awad (2015), Hadianto & Sahabuddin (2016), as well as Al-Qahtani & Ajina (2017) demonstrates that a positive effect is present. On the other hand, the study of Suharli (2007), Gusni (2017), as well as Jatmiko & Kusumastuti (2017) performs that a negative effect is available.

These contradictory results of the previous studies stimulate this research. This research aims to investigate and analyze the effect of leverage and profitability on the firm decision to pay dividends in the food and beverage sub-sector.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

This section explains the theoretical relationship between leverage and dividend policy and profitability and dividend policy

The effect of leverage on the firm probability to pay dividends

Leverage indicates the application of debt in the firms. According to the debt restriction theory of dividends by Easterbrook (1984), the debt is used by firm shareholders to enhance their own welfare by executing risky projects. Debt holders knowing this tendency try to restrict dividends payment through the contract of liabilities. Therefore, this theory predicts the firm employing more debt will pay fewer dividends. This theory is also supported by the research result of Tamimi, *et al.* (2014), Hadianto & Sahabuddin (2016), Mossadak *et al.* (2016), as well as Gusni (2017). Referring to this information, the first hypothesis can be declared as follows:

H₁: Leverage owns a negative effect on the firm probability to pay dividends.

The effect of profitability on the firm probability to pay dividends

Profitability reflects the capacity of a firm to create profits (Hanafi, 2017) and becomes a prime pointer to disburse dividends (Anil & Kapoor, 2008). A disbursement of dividends needs a high amount of cash that can be only provided by the firm with a good prospect (Megginson, 1997). Besides that reason, the rent extraction theory states the dividend payment to the public shareholders directly gives the signal that the controlling shareholders do not use their control on the cash flow to enrich themselves (Gugler & Yurtoglu, 2003). These reasons get supported by the study of Imran (2011), Hadianto & Herlina (2010), Tamimi *et al.* (2014), Awad (2015), Hadianto & Sahabuddin (2016), as well as Al-Qahtani & Ajina (2017) demonstrates the higher firm profitability, the higher dividends payment will be. Referring to this information, the second hypothesis can be declared as follows:

H₂: Profitability owns a positive effect on the firm probability to pay dividends.

RESEARCH METHOD

This section describes four points. They are: (a) the type of research, (b) the variable definition, (c) population and sample, and (d) the method of data analysis.

a. The type of research

The type of this research is causality. As stated by Zikmund, Babin, Carr, & Griffin (2010), casual research looks for testing the association of the consequence with its causes.

b. The variable definition

There are three variables employed. The first variable is the decision to pay dividends acting as the dependent variables. This variable is quantified by the dummy variable of 0 and 1 at the end of the year (DDIV). The value of 1 is given for firms paying dividends and 0 is given for firms that do not pay dividends (Hadianto & Herlina, 2010; Hadianto & Sahabuddin, 2016).

The second variable is the leverage. This variable is quantified by the debt to asset ratio (DAR) of the firm at the end of the year. The use of this measurement refers to Tamimi, *et al.* (2014), Awad (2015), Hadianto & Sahabuddin (2016), Mossadak, *et al.* (2016), Sindhu *et al.* (2016), Gusni (2017), and Al-Qahtani & Ajina (2017).

The third variable is the profitability. This variable is quantified by earnings per share (EPS) of the firm at the end of the year. The use of this measurement refers to Tamimi *et al.* (2014), Awad (2015), and Hadianto & Sahabuddin (2016).

c. Population and sample

The firms in the food and beverage sector between 2010 and 2017 become the population of this research. Based on our observation on the available data, the members of the relevant population are 13 firms. To acquire the number of samples, the calculation of the quantity samples (n) standing for the number of population (N) is required. To accommodate it, the Slovin formula, referring to Suliyanto (2009), with a margin of error (e) of 10%, is applied. According to this formula, the number of samples (n) is $\frac{N}{1+Ne^2} = \frac{13}{1+13(10\%)*(10\%)} = 11.50 \approx 12$ firms (rounded). Furthermore, 12 firms are taken by the simple random sampling method. After randomly doing it, the names of the firms that we get are as follows.

1. Akasha Wira International Tbk. (ADES);

2. Tiga Pilar Sejahtera Food Tbk. (AISA);
3. Wilmar Cahaya Indonesia Tbk. (CEKA);
4. Delta Djakarta Tbk. (DLTA);
5. Indofood CBP Sukses Makmur Tbk. (ICBP);
6. Indofood Sukses Makmur Tbk. (INDF);
7. Multi Bintang Indonesia Tbk. (MLBI);
8. Mayora Indah Tbk. (MYOR);
9. Prsidha Aneka Niaga Tbk. (PSDN);
10. Nippon Indosari Corpindo Tbk. (ROTI);
11. Siantar Top Tbk (STTP);
12. Ultrajaya Milk Industry & Trading Company Tbk (ULTJ).

d. The method of data analysis

By considering the variable definition, the data of each variable are analyzed by the logistic regression model. This model is suitable for a dependent variable having a nominal scale of 0 and 1 as well as for independent variables having a ratio scale. Furthermore, the regression model can be located in equation one as follows.

$$\text{Ln} \frac{p_{it}}{(1-p)_{it}} = \beta_0 + \beta_1 \text{DAR}_{it} + \beta_2 \text{EPS}_{it} + \epsilon_{it} \dots \dots \dots \text{(Equation 1)}$$

To estimate the regression coefficients (β), the logistic model adopts the maximum likelihood method. The logistic model does not require the normality of residuals (Ghozali & Ratmono, 2013). To prove this condition, Jarque-Bera is used as the normality test (Widarjono, 2013). Besides that, the logistic model also has to achieve the goodness of fit test. To prove it, the Hosmer-Lemeshow test is utilized (Ghozali & Ratmono, 2013).

RESULTS AND DISCUSSION

This section has five points. Point a is the test results related to the required condition before the estimation of the logistic regression coefficients. Point b is the result of the logistic regression model estimation. Point c is the result associated with the hypothesis testing, point d is discussion, point e is the managerial implication.

a. The test results conducted before the estimation of the logistic model.

There are two required tests before estimating the regression coefficients. The first is the normality test, the second is the goodness of the model test.

- The normality condition of the residuals is proven by the Jarque-Bera test (Ghozali & Ratmono, 2013). This test is conducted by the comparison of the probability value of the Chi-square statistic of Jarque-Bera and the significance level value (α) of 5% to prove the null hypothesis stating residuals are normally distributed. Moreover, this probability value can be obtained in Figure 1. In this figure, this probability value is 0.005887. In fact, this value is lower than 5% so that the null hypothesis is rejected. This means the residuals of the regression model do not follow the normal distribution.

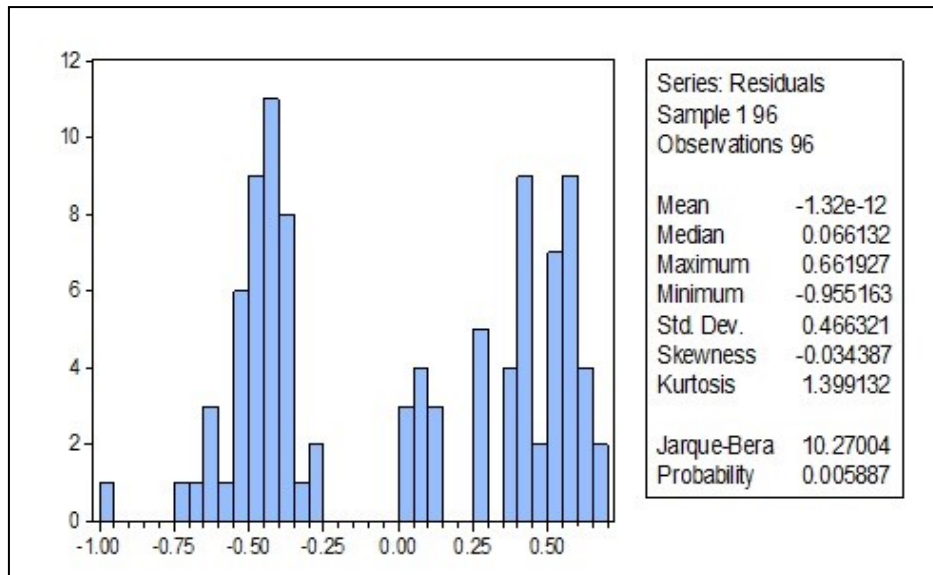


Figure 1. The normality test result of Jarque-Bera
Source: Output of E-Views 6.

- The goodness of model fit is proven by the test of Andrew and Hosmer-Lemeshow (H-L) (Ghozali & Ratmono, 2013). This test is executed by comparing the probability value of the Chi-square statistic of Andrew and H-L with the significance level value (α) of 5% to prove the null hypothesis stating the data reflecting variables are suitable for the logistic model. Moreover, this probability value can be attained in Table 1. In this table, this probability value of the Chi-square statistic of H-L is 0.7790 and Andrew's statistic is 0.5424. In fact, these two values are higher than 5% so that the null hypothesis is accepted. This means the data are suitable for the logistic model.

Table 1. The Result of Goodness-of-Fit Evaluation for Binary Specification: Hosmer-Lemeshow and Andrews Tests

Grouping based upon predicted risk (randomize ties)

	Quantile of Risk			Dep=0		Dep=1		Total Obs	H-L Value
	Low	High	Actual	Expect	Actual	Expect			
1	0.2869	0.3681	5	5.96060	4	3.03940	9	0.45840	
2	0.3772	0.4067	8	6.06762	2	3.93238	10	1.56500	
3	0.4079	0.4337	5	5.20211	4	3.79789	9	0.01861	
4	0.4343	0.4508	5	5.56814	5	4.43186	10	0.13080	
5	0.4509	0.4803	7	5.38214	3	4.61786	10	1.05314	
6	0.4866	0.5384	4	4.40813	5	4.59187	9	0.07406	
7	0.5404	0.5741	3	4.43419	7	5.56581	10	0.83343	
8	0.5829	0.6346	4	3.53044	5	5.46956	9	0.10277	
9	0.6442	0.8652	2	2.81632	8	7.18368	10	0.32938	
10	0.8952	0.9993	1	0.63033	9	9.36967	10	0.23139	
	Total		44	44.0000	52	52.0000	96	4.79698	
H-L Statistic			4.7970	Prob. Chi-Sq(8)		0.7790			
Andrews Statistic			8.8923	Prob. Chi-Sq(10)		0.5424			

Source: Modified Output of E-Views 6.

b. The estimation result of the regression model

Referring to the previous results in the previous point, the required tests are already achieved. After that, the next step is estimating the logistic model. This model can be found in Table 2 as follows:

Table 2. The estimation result of the logistic model

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.575678	0.818821	1.924326	0.0543
DAR	-3.559947	1.713936	-2.077060	0.0378
EPS	0.000131	6.87E-05	1.902830	0.0571
McFadden R-squared	0.100885	Mean dependent var		0.541667
S.D. dependent var	0.500876	S.E. of regression		0.471309
Akaike info criterion	1.302687	Sum squared residual		20.65826
Schwarz criterion	1.382823	Log-likelihood		-59.52900
Hannan-Quinn criterion	1.335080	Restricted log-likelihood		-66.20841
LR statistic	13.35883	Avg. log-likelihood		-0.620094
Prob(LR statistic)	0.001257			
Obs with Dep=0	44	Total obs		96
Obs with Dep=1	52			

Source: Modified Output of E-Views 6.

c. The result of the hypothesis test

To statistically test the research hypothesis, the null hypothesis (H_0) and the alternative hypothesis (H_a) need to be stated. For the first research hypothesis, the statistical hypothesis can be stated as follows.

H_{01} : $\beta_1 \geq 0$: Leverage owns a positive effect on the firm probability to pay dividends or does not own the effect on the firm profitability to pay dividends.

H_{a1} : $\beta_1 < 0$: Leverage owns a negative effect on the firm probability to pay dividends.

Furthermore, this null hypothesis is verified by comparing the probability value of Z-statistic for DAR with the 5% significance value. This probability value is 0.0378 (see Table 2). Because this probability value is lower than 5%, the null hypothesis is rejected. Instead, the alternative hypothesis declaring leverage owns a negative effect on the firm probability to pay dividends is accepted.

For the second research hypothesis, the statistical hypothesis can be stated as follows.

H_{02} : $\beta_2 \leq 0$: Profitability owns a negative effect on the firm probability to pay dividends or does not own the effect on the firm profitability to pay dividends.

H_{a2} : $\beta_2 > 0$: Profitability owns a positive effect on the firm probability to pay dividends.

Moreover, the null hypothesis is verified by comparing the probability value of Z-statistic for EPS with the 10% loosen significance value. This probability value is 0.0571 (see Table 2). Because this probability value is lower than 10%, the null hypothesis is rejected. Instead, the alternative hypothesis declaring profitability owns a positive effect on the firm probability to pay dividends is accepted.

d. Discussion

The test result of the first null hypothesis declares that leverage owns a negative effect on the firm probability to pay dividends. The acceptance of the negative effect confirms the debt restriction theory of dividends and the previous study result of Hadiano & Sahabuddin (2016), Mossadak *et al.* (2016), and Gusni (2017). It also means all firms in this sub-sector

respect the banks and bondholders by obeying the contract of liabilities. In other words, all firms protect their debt holders by not paying the debts as dividends.

The test result of the second null hypothesis declares that profitability owns a positive effect on the firm probability to pay dividends. The acceptance of the positive effect confirms the previous study result of Alzomaia & Al-Khadiri (2013), Imran (2011), Hadianto & Herlina (2010), Tamimi *et al.* (2014), Awad (2015), Hadianto & Sahabuddin (2016), as well as Al-Qahtani & Ajina (2017). This also confirms the rent extraction theory. In other words, the controlling shareholders already protect the interest of public shareholders by allocating the profits to be dividends.

e. Managerial implication

This research has the implication for two stakeholders. The first stakeholder is the banks or the candidate of bondholders. They do not have to be fearful if they want to lend their money to the food and beverage firms because the firms tend to obey and follow the debt agreement by avoiding the use of debt to pay dividends for their shareholders.

The second stakeholder is the investors as the public shareholders. They do not need to worry if they want to buy the stocks because the controlling shareholders protect their right by paying dividends when the firms can successfully generate profits.

CONCLUSION AND SUGGESTIONS

The purpose of this research is to examine and analyze the effect of leverage and profitability on the firm decision to pay dividends. The analysis result concludes two things. Firstly, the firm probability to pay dividends is negatively affected by leverage. This tendency happens because controlling shareholders prioritize the debt agreement that top managers and debt holders make. They do not have the intention to pay dividends from the debt they borrow.

Secondly, the firm probability to pay dividends is positively affected by profitability. This tendency happens because controlling shareholders aware to protect the right of public shareholders. In addition, firms paying dividends can easily get the funds of public shareholders from the right issue.

The suggestions are given to the next researchers having the intention of the dividend policy topic. The suggestions are as follows:

- a. The next researchers can add some variables in their model to overcome the limitation of this research. Some variables intended are institutional ownership, managerial ownership, firm size, liquidity, operating cash flow, tax, investment opportunity, the board of directors, systematic risk, free cash flow, sales growth, firm age, retained earnings to total equity ratio, and change in earnings.
- b. The next researchers can utilize all firms in the manufacturing sector on the stock exchange of Indonesia as their population or combine all manufacturing sectors from various countries around Southeast Asia by using the suggested additional variables in point a and treat the countries as the moderating variable. To test this variable, the analysis of the sub-group method can be applied.

REFERENCES

- [1]. Al-Qahtani, T., & Ajina, A. (2017). The Impact of Ownership Structure on Dividend Policy the Evidence from Saudi Arabia. *Journal of Emerging Issues in Economics, Finance, and Banking*, 6(1), 2187-2202.
- [2]. Alzomaia, T., & Al-Khadhiri, A. (2013). Determination of Dividend Policy: The Evidence from Saudi Arabia. *International of Business and Social Science*, 4(1), 181-192.
- [3]. Anil, K., & Kapoor, S. (2008). Determinant of Dividend Payout Ratio – A Study of Indian Information Technology Sector. *International Research Journal of Finance and Economics*, 15, 63-71.
- [4]. Awad, B. (2015). Determinant of Dividend Policy in Kuwait Stock Exchange. *International Journal of Business and Management Review*, 3(7), 72-78.
- [5]. Black, F. (1976). Dividend Puzzle. *The Journal of Portfolio Management*, 2, 5-8.
- [6]. Easterbrook, F. (1984). Two Agency-Cost Explanations of Dividends. *The American Economic Review*, 74(4), 650-659.
- [7]. Ghozali, I., & Ratmono, D. (2013). *Analisis Multivariat dan Ekonometrika: Teori, Konsep, dan Aplikasi dengan EvIEWS 8*. Semarang: Badan Penerbit Universitas Diponegoro.
- [8]. Gugler, K., & Yurtoglu, B. B. (2003). Corporate Governance and Dividend Pay-Out Policy in Germany. *European Economic Review*, 47, 731-758.
- [9]. Gusni. (2017). The Determinants of Dividend Policy: A Study of Financial Industry. *Jurnal Keuangan dan Perbankan*, 21(4), 562–574.
- [10]. Hadianto, B., & Herlina. (2010). Prediksi Arus Kas Bebas, Kebijakan Utang, dan Profitabilitas Terhadap Kemungkinan Dibayarkannya Dividen: Studi Empirik Pada Emiten Pembentuk Indeks Kompas 100 di Bursa Efek Indonesia. *Integritas-Jurnal Manajemen Bisnis*, 3(1), 53-74.
- [11]. Hadianto, B., & Sahabuddin, Z. A. (2016). The Impact of Debt Policy, Profitability, and Liquidity on Dividend Policy of the Manufacturing Firms listed in Indonesia Stock Exchange. *Asian Journal of Management Sciences & Education*, 5(4), 27-41.
- [12]. Hanafi, M. (2017). *Manajemen Keuangan* (2 ed.). Yogyakarta: Badan Penerbit Universitas Gadjah Mada.
- [13]. Hartono, J. (2017). *Teori Portofolio dan Analisis Investasi* (11 ed.). Yogyakarta, Indonesia: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.
- [14]. Husin, S. (2015, March 28). Menperin: Sejumlah Masalah Hantui Prospek Industri Makanan. (N. A. Hasibuan, Interviewer) Retrieved July 1, 2019, from <https://www.cnnindonesia.com/ekonomi/20150328090028-92-42522/menperin-sejumlah-masalah-hantui-prospek-industri-makanan>
- [15]. Imran, K. (2011). Determinants of Dividend Payout Policy: A Case of Pakistan Engineering Sector. *The Romanian Economic Journal*, XIV(41), 47-60.
- [16]. Jatmiko, I., & Kusumastuti, R. (2017). Ownership Structure and Dividend Policy in Non-Financial Company. *Mimbar*, 33 (1), 21-28.

- [17]. LaPorta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Agency Problem and Dividend Policy around the World. *The Journal of Finance*, 55(1), 1-33.
- [18]. Megginson, W. (1997). *Corporate Finance Theory*. Corporate Finance Theory, New York: Addison-Wesley.
- [19]. Ministry of Industry. (2017, September 24). *Industri Makanan dan Minuman Masih Jadi Andalan*. (Press Release) Retrieved May 9, 2019, from <https://kemenperin.go.id/artikel/18465/Industri-Makanan-dan-Minuman-Masih-Jadi-Andalan>.
- [20]. Mossadak, A., Fontaine, R., & Khemakhem, H. (2016). The Relationship between Ownership Structure and Dividend Policy in an Emerging Market: A Moroccan Study. *Universal Journal of Accounting and Finance*, 4(2), 89-95.
- [21]. Sindhu, M. I., Hashmi, S. H., & Haq, E. (2016). Impact of ownership structure on dividend payout in Pakistani non-financial sector. *Cogent Business & Management*, 3, 1-11.
- [22]. Suharli, M. (2007). Pengaruh Profitability dan Investment Opportunity Set Terhadap Kebijakan Dividen Tunai dengan Likuiditas Sebagai Variabel Penguat (Studi pada Perusahaan yang Terdaftar di Bursa Efek Jakarta Periode 2002-2003). *Jurnal Akuntansi dan Keuangan*, 9(1), 9-17.
- [23]. Tamimi, M., Takhtaei, N., & Malchi, F. (2014). Relationship between Firm Age and Financial Leverage with Dividend Policy. *Asian Journal of Finance & Accounting*, 6(2), 53-63.
- [24]. Widarjono, A. (2013). *Ekonometrika: Pengantar dan Aplikasinya disertai Panduan EViews*. Yogyakarta: UPP STIM YKPN.
- [25]. Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2010). *Business Research Methods* (8 ed.). Canada: South-Western Cengage Learning.