



THE EFFECT OF FIRM SIZE AND DER ON FINANCIAL PERFORMANCE IN BUMN COMPANIES

Sri Dwiningsih¹, Ike Ratnasari², Annisa Putri Handita³

Sekolah Tinggi Ilmu Ekonomi Kertanegara, Malang

sridwi76@yahoo.com¹, ratnamnz.ir@gmail.com², annisahandita@gmail.com³

ABSTRACT

This research was conducted to analyze financial performance (ROE) with analytical tools using Firm Size and Debt to Equity Ratio. The population of this study is all state-owned companies in 2018-2021 on the Indonesia Stock Exchange with the number of samples taken according to the researcher's criteria of 10 state-owned companies. The data collection technique used is the documentation method. Data analysis techniques used normality, multicollinearity, heteroscedasticity, multiple regression analysis, hypothesis testing t-test and F-test, Coefficient of Determination (R^2). The results of the study partially show that the Firm Size (FS) variable has a positive and significant effect on financial performance (ROE) in BUMN companies, the Debt to Equity (DER) variable has no significant effect on financial performance (ROE) in BUMN companies, simultaneously the Firm Size variable (FS).

Keywords: Financial Performance (ROE), Firm Size, Debt to Equity Ratio.

A. INTRODUCTION

One of the reasons it is important for a company to evaluate financial performance is because this assessment can be used as a measure of the success of a company over a certain period of time. In addition, an assessment of financial performance can also be used as a guide in efforts to improve or increase the company's financial performance. One measurement method that can be used to measure a company's financial performance is to analyze the company's financial statements.

Based on the theory of modern financial management put forward by (Lockwood et al., 2004:115) Factors that affect the company's financial performance include: risk and company size. Meanwhile according to (Helfert Erich, 1996:87) factors affecting financial performance include: liquidity, profitability, and solvency. For this study, the factors that affect financial performance are used, namely firm size, solvency (Debt to Equity Ratio (DER)), and profitability: Return on Equity (ROE). The performance of a company can be measured from several aspects, namely financial aspects through analysis of financial ratios (Simbolon, 2015) and non-financial aspects, namely Company Performance through analysis of employee performance through work performance, product quality, company development, and work environment. (Supit, 2014)

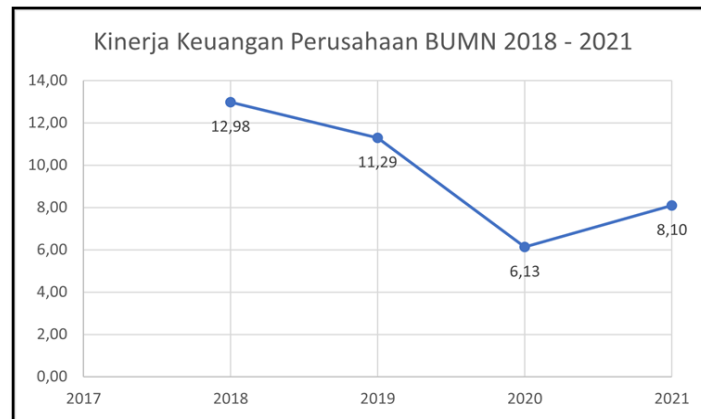
The company's performance factor in the financial aspect is the achievement of the prosperity of the company owner by achieving profits in accordance with what has been planned. This can be analyzed through financial ratio analysis, namely liquidity, profitability and solvency analysis. (Astutic, 2019)

Firm size is one of the important variables in company management. Firm size reflects how much total assets the company has (Rompas et al., 2018). The larger the size of a company seen from the number of assets owned, the greater the company's wealth will be so that it can be used to support its operational activities.

Debt to Equity Ratio (DER) is the ratio of debt to equity (equity). This ratio serves to find out how many rupiahs of capital are used as collateral for debt. (Hidayah et al., 2023) In other

words, the debt-to-equity ratio compares the total debt to the total equity owned by the company in a certain period.

This research takes the object of 10 state-owned companies listed on the IDX in 2018-2021. The selection of the sample in BUMN companies is because these companies play an important role as pioneers and/or pioneers in business sectors that are not yet attractive to private businesses. In addition, SOEs also have a strategic role as executors of public services, balancing large private forces, and helping develop small businesses/cooperatives.



Source: www.idx.com (data processed by the author, 2023)

Figure 1 Financial performance (ROE) of BUMN companies period 2018 – 2021

Figure 1 shows that the company's financial performance as reflected in the average Return On Equity (ROE) for the 10 state-owned companies listed on the Indonesia Stock Exchange during the 2018-2021 period continued to fluctuate. In 2018 it was 12.98, dropping to 11.29 in 2019, then in 2020 it experienced a drastic decrease again, namely to 6.13 and in 2021 it experienced a slight increase to 8.10. The condition of the ups and downs of financial performance in state-owned companies was caused by the COVID-19 pandemic which appeared in mid-2019.

Several studies prove that Firm size and Debt To Equity Ratio have a significant effect on Financial Performance, but there are also several research results which prove that Firm size and Debt To Equity Ratio have no significant effect on Financial Performance.

This study will re-examine the effect of Firm Size and Debt To Equity Ratio on Company Financial Performance at State-Owned Companies listed on the IDX for the period 2019 to 2021. Formulation of the problem is does Firm Size (FS) partially affect Financial Performance, does the Debt to Equity Ratio (DER) partially affect the Company's Financial Performance, do Firm Size (FS) and Debt to Equity Ratio (DER) simultaneously affect Financial Performance.

B. RESEARCH METHODS

The scope of the problems discussed in this study is about how Firm Size (FS) and Debt to Equity Ratio (DER) influence the financial performance (ROE) of BUMN companies listed on the Indonesia Stock Exchange (IDX), while these limitations include:

1. Financial performance of the annual financial reports issued by state-owned companies listed on the Indonesia Stock Exchange (IDX).
2. The data analyzed in this study are annual financial reports issued by the company during the period 2018 to 2021 where there is a Firm Size (FS) value report taken from the logarithm of total assets and the Debt to Equity Ratio (DER) in the Annual Report.

This research is located on the Indonesia Stock Exchange (IDX) by downloading the company's annual financial reports at the website address www.idx.co.id. The time of the research was conducted from December 2022 to February 2023. The population is the entire collection of elements that show certain characteristics that can be used to make conclusions (Sanusi, 2003). In terms of numbers, population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Setyaningsih, 2008). The population of this study is all state-owned companies in 2018-2021 that are on the Indonesia Stock Exchange, a total of 27 state-owned companies. The research sample (Pratama et al., 2022) states that a small part of all the characteristics possessed by the population that can be selected for research so that the sample is selected to represent the population. If the population is large and it is impossible for the researcher to study everything in the population, this is due to limited manpower and time, therefore researchers can use samples taken from the population.

According to (Sugiyono, 2004) states that purposive sampling is a sampling technique with certain considerations. The reason researchers chose to take sampling because not everything in the population can be used as research. The sample selection criteria are:

1. BUMN companies listed on the Indonesia Stock Exchange in 2018-2021 and have been audited by a Public Accountant.
2. BUMN companies have positive variable values.
3. BUMN companies have complete and accurate data needed by researchers.

Based on the criteria above, the samples in this study were 10 BUMN companies that were used as research samples, namely as follows:

Table 1. Research Sample

No.	Company name
1.	PT. Adhi Karya (Persero) Tbk.
2.	PT. Aneka Tambang Tbk.
3.	PT. Elnusa
4.	PT. PP Presisi Tbk
5.	PT. Bukit Asam Tbk.
6.	PT. Semen Baturaja (Persero) Tbk.
7.	PT. Jasa Marga (Persero) Tbk.
8.	PT. Property Housing Development (Persero) Tbk.
9.	PT. Telekomunikasi Indonesia Tbk.
10.	PT. Wijaya Karya Tbk.

Source: Data Processed in 2023

This research uses multiple linear regression analysis method, this method was chosen because this research consists of more than one independent variable. Data processing techniques were carried out using the SPSS 21 program, to find out whether the data were normally distributed and there were no multicollinearity and heteroscedasticity problems. The analytical method used consists of Descriptive Data Analysis, Classic assumption test, Multiple Linear Regression Analysis, Hypothesis testing and Coefficient of Determination (R²)

C. RESEARCH RESULTS AND DISCUSSION

Descriptive Data Analysis

Descriptive to view image data. In this study, the data that will be described are Firm Size, Debt to Equity Ratio, Financial Performance in state-owned companies listed on the

Indonesia Stock Exchange for the period 2018-2021. The results of the descriptive statistics are as follows:

Table 2. Descriptive Statistical Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
FS	40	29.34	33.26	30.9338	1.18372
DER	40	.80	5.91	4.3575	1.30414
KK	40	.30	32.61	9.6240	8.88528
Valid N (listwise)	40				

Source: SPSS Data Output 21

Based on the results of the descriptive statistical test above, it can be concluded that Firm Size (FS) has the smallest value of 29.34 and the largest value of 33.26. The average value is 30.9338 and the Firm Size standard deviation value is 1.18372 (below the average) which means that Firm Size has a low level of data variation.

Debt to Equity (DER) has the smallest value of 0.80 and the largest value of 5.91. The average value is 4.3575 and the Debt-to-Equity standard deviation value is 1.30414 (below average) which means that Debt to Equity has a low level of data variation.

Financial Performance has the smallest value of 0.30 and the largest value of 32.61. The average value is 9.6240 and the standard deviation value for Financial Performance is 8.88528 (below average) which means that Financial Performance has a low level of data variation.

Classic assumption test

In this test the aim is to test whether in the regression model, the confounding or residual variables have a normal distribution. And in this test using the non-parametric Kolmogorov-Smirnov test. Data is said to be normally distributed if the significance value is more than 0.05 (5%). The results of the normality test are as follows:

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		40
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	7.92376012
Most Extreme Differences	Absolute	.125
	Positive	.125
	Negative	-.080
Kolmogorov-Smirnov Z		.793
Asymp. Sig. (2-tailed)		.556

a. Test distribution is Normal.

b. Calculated from data.

Source: SPSS Data Output 21

Based on the results of the data above, it can be seen that the residual value for Firm Size and Debt to Equity Ratio is 0.556, which means that the residual value is > 0.05 , which is significant. So that according to the conditions for making a decision on the Kolmogorov-Smirnov sample test the data is normally distributed.

Multicollinearity Test

In this test aims to test whether the regression model found a correlation between independent variables. To detect the presence or absence of multicollinearity symptoms, namely by analyzing the correlation matrix of the independent variables.

Multicollinieritas, namely the existence of a perfect or definite linear relationship, among all the variables that explain the regression model. This test is carried out by calculating the VIF (Variance Inflation Factor). This test is said to be free from multicollinearity symptoms if the VIF (Variance Inflation Factor) value is less than (<) number 10. The results of the multicollinearity test are as follows:

Table 4. Multicollinearity Test Results

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	-87.559	35.086		-2.496	.017		
	FS	3.234	1.108	.431	2.919	.006	.986	1.014
	DER	-.658	1.006	-.097	-.654	.517	.986	1.014

a. Dependent Variable: KK

Source: SPSS Data Output 21

Based on the results of the multicollinearity test above in the Collinearity Statistics section, it can be concluded that the Firm Size (FS) (X1) and Debt to Equity (DER) (X2) variables do not show symptoms of multicollinearity with the value of VIF being less than 10.00 or the value of Tolerance is greater than 0.10, which means that the data does not show symptoms of multicollinearity from each independent variable.

Heteroscedasticity Test

In this test, the way to detect whether there are symptoms of heteroscedasticity in the regression model is by using the Glejser test. The principle of the heteroscedasticity test using the Glejser test is by regressing the independent variables to the absolute residual value.

Data is said to be free from symptoms of heteroscedasticity if the significant value is more than 0.05. And besides using the Glejser test, in this study also used the scatterplot as a heteroscedasticity test. The results of the heteroscedasticity test using the Glejser test are as follows:

Table 5. Heteroscedasticity Test Results

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	-87.559	35.086		-2.496	.017		
	FS	3.234	1.108	.431	2.919	.006	.986	1.014
	DER	-.658	1.006	-.097	-.654	.517	.986	1.014

a. Dependent Variable: KK

Source: SPSS Data Output 21

Multiple Linear Regression Analysis

Multiple linear regression analysis was used in this study and to determine Firm Size and Debt to Equity Ratio on Financial Performance in transportation companies listed on the Indonesia Stock Exchange. The results of the regression equation are as follows:

Table 6. Test Results of Multiple Linear Regression AnalysisCoefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-87.559	35.086		-2.496	.017		
	FS	3.234	1.108	.431	2.919	.006	.986	1.014
	DER	-.658	1.006	-.097	-.654	.517	.986	1.014

a. Dependent Variable: KK

Source: SPSS Data Output 21

Based on the table above, a regression equation can be made to measure the level of influence of the independent variables on the dependent following the regression equation from the table above:

$$Y = -87.559 + 3.234X_1 - 0.658X_2$$

From the results of the regression equation above, the following results can be obtained:

1. Y (Financial Performance) is the dependent variable whose value is predicted by the independent variables. And this research uses Firm Size (FS) (X1), and Debt to Equity (DER) (X2).
2. The constant value (a) is -87.559 indicating the value of the stock price variable, if Firm Size (FS) (X1) and Debt to Equity (DER) (X2) are zero, then the magnitude of financial performance is -87.559 meaning before or without variables Firm Size (FS), and Debt to Equity (DER) then the share price will be -87.559.
3. Firm Size (FS) (b₁) which is 3.234 is the regression coefficient Firm Size (FS) (X1) with a positive sign. In this case it states that the variable Firm Size (FS) (X1) has a positive influence on financial performance (Y). This regression coefficient shows that if the Firm Size (FS) is getting better or increasing by one unit, the financial performance will increase by 3.234 units and vice versa if the Firm Size (FS) variable decreases by one unit, the stock price will decrease by 3.234 units.
4. Debt to Equity (DER) (b₂), namely -0.658, is the Debt to Equity (DER) regression coefficient (X2) with a negative sign. In this case it states that the variable Debt to Equity (DER) (X2) has a negative influence on financial performance (Y). This regression coefficient shows that if the Debt to Equity (DER) increases by one-unit, financial performance will decrease by -0.658 units and vice versa if the Debt to Equity (DER) variable decreases by one unit, then financial performance will increase by -0.658 units.

Hypothesis testing

Partial Test (t test)

This test is used to determine individually the magnitude of the influence of the FS (X1) and DER (X2) variables on Financial Performance (Y) in state-owned companies listed on the Indonesia Stock Exchange in the 2018-2021 period partially, which can be seen from the magnitude t count against t table. In this study it is known that n = 40 at a significant level of 5%. At the error rate (α= 0.05) and obtained a t table value of 2.026.

Table 7. Partial Test Results (t test)Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-87.559	35.086		-2.496	.017		
	FS	3.234	1.108	.431	2.919	.006	.986	1.014
	DER	-.658	1.006	-.097	-.654	.517	.986	1.014

a. Dependent Variable: KK

Source: SPSS Data Output 21

The results from the table above can be explained as follows:

1. The results of the FS test are suspected to be variables that affect stock prices. sig. value FS is $0.006 < 0.05$ with a t count value of $2.919 > t$ table which is 2.026. In accordance with the conditions of the t test where the sig. $0 > 0.05$ and the value of t count $< t$ table, then FS has a significant positive influence on the financial performance of BUMN companies. Thus, H_1 is accepted.
2. The results of the DER are thought to be variables that affect stock prices. sig. value The DER is $0.517 > 0.05$ with a t count of $-0.654 < t$ table which is 2.026. In accordance with the conditions of the t test where the sig. $0 < 0.05$ and the value of t count $> t$ table, then DER has no significant effect on the financial performance of BUMN. Thus, H_2 is rejected.

Simultaneous Test (Test F)

The F test is used to test whether there is an effect of Firm Size (FS) and Debt to Equity (DER) on the financial performance of state-owned companies listed on the Indonesia Stock Exchange in 2018-2021 simultaneously. This test was carried out using multiple regression with the help of SPSS. To test simultaneously carried out an analysis of each regression coefficient. The results of the simultaneous multiple regression analysis test are as follows:

Table 8. Simultaneous Test Results
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	630.327	2	315.163	4.762	.014 ^b
	Residual	2448.653	37	66.180		
	Total	3078.980	39			

a. Dependent Variable: KK

b. Predictors: (Constant), DER, FS

Source: SPSS 21 Output Data

The results from the table above can be explained as follows, then from the formula find F table = 3.245. In the calculation, the calculated F value is greater than the F table, namely $4.762 > 3.245$. Meanwhile, if seen from the value of sig. count is 0.014 that is < 0.05 . In accordance with the requirements of the F test where the calculated F value $> F$ table and sig. < 0.05 , this indicates that there is a simultaneous and significant influence of FS and DER on the financial performance of state-owned companies listed on the Indonesia Stock Exchange in the 2018-2021 period. Thus, H_4 is accepted.

Determination Coefficient Test (R²)

This test is used to measure the ability of the independent variables, namely Firm Size (FS) (X1), and Debt to Equity (DER) (X2) by explaining the variation of the dependent variable, namely Financial Performance (Y). The coefficient of determination is between 0 and 1. The small R² value means that the ability of the independent variable to explain the dependent variable is very limited. A value close to 1 means that the independent variables cover almost all of the information needed to predict the variation of the dependent variable. The results of the coefficient of determination test are as follows:

Table 9. Results of the Coefficient of Determination (R²)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.452 ^a	.205	.162	8.13510	.205	4.762	2	37	.014	.999

a. Predictors: (Constant), DER, FS

b. Dependent Variable: KK

Source: SPSS 21 Output Data

The results from the table above yield the Adjusted R square of 0.162 which means that 16.20% of the independent variable (X) consisting of Firm Size (FS) (X1) and Debt to Equity (DER) (X2) can explain the dependent variable, namely Financial Performance (Y). and while the remaining 83.80% is influenced by other factors that are not explained by this study.

Adjusted R square is the adjusted R Square, R Square is the coefficient of determination but the weakness of the coefficient of determination is the bias towards the number of independent variables included in the capital, so in this study chose to use the Adjusted R square to see the coefficient of determination.

Discussion

Partial Testing

The results of the partial test show that the Firm Size (FS) (X1) shows a value of $0.006 > 0.05$, which means it is smaller than 0.05. So that it has a significant influence on financial performance (Y) in state-owned companies. So, this shows that investors in investing must consider the size of the Firm Size (FS). Firm Size with a high value indicates that the company is getting bigger, and Firm Size (FS) with a low value indicates that the company is getting smaller. The results of this study are in accordance with previous studies, namely (Diana & Osesoga, 2020), (Hossain & Saif, 2019), and (Ismi et al., 2021) which states that Firm Size has a positive and significant effect on financial performance.

Debt to Equity (DER) (X2) shows a value of $0.517 > 0.05$, which means it is greater than 0.05. So that it does not have a significant influence on financial performance (Y) in BUMN companies. So, in this case showing the high and low DER is not a consideration for investors in making investments. The results of the research above indicate that the DER value does not support financial performance. The results of this study are in accordance with previous research, namely Jufrizen and Maya Sari, (2019) which stated that Debt to Equity (DER) has no significant effect on financial performance.

Simultaneous Testing

The results of the simultaneous test are that the Firm Size (FS) (X1) and Debt to Equity (DER) (X2) variables simultaneously have a significant effect on financial performance (Y) in BUMN companies with a calculated F value of (4.762) and a calculated F value of (4.762) and the significance is (0.014) with an adjusted r squared value of (0.162).

The results of the study proved that the financial performance of BUMN companies was influenced by 16.20% by Firm Size (FS) (X1) and Debt to Equity (DER) (X2) while the other 71.60% were influenced by other factors which are not explained in this research.

Debt to Equity (DER) which has a low value and Firm Size (FS) which has a high value. The hope of investors when investing in a company is to get a high rate of return on invested capital. Companies that are able to provide large returns to investors are companies that have excellent performance. Financial Performance is an indicator of company management.

In the success of generating profits and providing satisfaction for rational investors. High financial performance will provide benefits in the form of capital and a better company name so that it can make it easier for company management to obtain funds from outside the company. And while the financial performance of the company is low, it will be detrimental to the

company, namely the company will experience capital loss and investors will become less interested in the company.

D. CONCLUSION AND SUGGESTIONS

Based on the discussion of data analysis to prove the hypothesis, it can be concluded from the research above as follows Partially, the Firm Size (FS) variable has a positive and significant effect on financial performance (ROE) of state-owned companies listed on the Indonesia Stock Exchange in the 2018-2021 period. Partially, the Debt to Equity (DER) variable has no significant effect on the financial performance (ROE) of state-owned companies listed on the Indonesia Stock Exchange in the 2018-2021 period. Simultaneously the Firm Size (FS) and Debt to Equity (DER) variables have a significant effect on the financial performance (ROE) of state-owned companies listed on the Indonesia Stock Exchange in the 2018-2021 period.

E. REFERENCES

- Astutik, E. P. (2019). Analisis Pengaruh Rasio Likuiditas, Solvabilitas dan Profitabilitas Terhadap Kinerja Keuangan Perusahaan Manufaktur. *Prosiding Seminar Nasional Fakultas Ekonomi Untidar 2019*.
- Diana, L., & Osesoga, M. S. (2020). Pengaruh likuiditas, solvabilitas, manajemen aset, dan ukuran perusahaan terhadap kinerja keuangan. *Jurnal Akuntansi Kontemporer*, 12 (1), 20–34.
- Helfert Erich, A. (1996). Teknik Analisis Keuangan. *Erlangga, Jakarta*.
- Hidayah, N., Arifin, S., Pratama, D. P. A., Kurniawati, Dominggus, T. B., Suprpto, A. A., & Nurcahyanti, A. (2023). Community Empowerment Through Optimizing Local Wisdom as a Support for The Value of Economic Life. *TGO Journal of Community Development*, 1(2), 30–38. <https://doi.org/https://doi.org/10.56070/jcd.v1i2.35>
- Hossain, M. S., & Saif, A. N. M. (2019). Impact of firm size on financial performance of banking companies in Bangladesh. *Journal of Banking & Financial Services*, 11 (2), 143–160.
- Ismi, N., Cipta, W., & Yulianthini, N. N. (2021). Analisis Pengaruh Debt to Equity Ratio dan Firm Size Terhadap Return On Equity Pada CV. Dwikora Usaha Mandiri. *Jurnal Manajemen Indonesia*, 9(1), 10–17.
- Lockwood, M. E., Jones, D. L., Bilger, R. C., Lansing, C. R., O'Brien Jr, W. D., Wheeler, B. C., & Feng, A. S. (2004). Performance of time-and frequency-domain binaural beamformers based on recorded signals from real rooms. *The Journal of the Acoustical Society of America*, 115 (1), 379–391.
- Pratama, D. P. A., Sakti, N. C., & Listiadi, A. (2022). Pengembangan Media Pembelajaran Interaktif Berbasis Mind Mapping pada Era Pembelajaran Jarak Jauh. *Jurnal Pendidikan Ekonomi Undiksha*, 14 (1), 146–159. <https://doi.org/10.23887/jjpe.v14i1.47710>
- Sanusi, A. (2003). Metodologi Penelitian Praktis Untuk Ilmu Sosial dan Ekonomi. *Edisi Pertama. Cetakan Pertama. Penerbit Buntara Media. Malang*.
- Simbolon, F. (2015). Perbandingan sistem pengukuran kinerja perusahaan. *Binus Business Review*, 6 (1), 91–100.
- Sugiyono, P. (2004). *Dr.(2009). Metode Penelitian Bisnis*. Bandung: CV. Alfabeta. The Incredible Shrinking Country. *Economist*, November, 45–46.
- Supit, A. A. N. (2014). Analisis Kinerja Non Keuangan PT. Otsuka Indonesia Cabang Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 2(2).