IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 10. Ser. VIII (October 2020), PP 53-58
www.iosrjournals.org

Analysis of Du Pont System in Measuring the Financial Performance

[1]Bakhtiar Tijjang, [2]Irmayanti Sudirman, [3]Tomas Efendy
[1,2,3]Sekolah Tinggi IlmuEkonomiAmsirParepare, Indonesia

Abstract
Financial performance assessement is one of the way that could be done by management to understand the extent of a company in fulfilling its obligations to the funders and in achieving the goals that set by the company. There are many ways that can be implemented to analyze a company's financial performance. One of them is by calculating the rate of Return On Assets (ROA) and Return On Equity (ROE). ROA and ROE calculations can be done through Du Pont System analysis, which is an analysis that combines activity ratios and profitability. This study aims to provide an overview of the future of financial performance of PT. Makassar Raya Motor Parepare Branch to be better so that the profitability could be achieved and always increase. The research results show that PT. Makassar Raya Motor Parepare Branch for the period 2017-2019, for its financial performancecouldn't be categorized as good because the company shows fluctuating performance so that it is considered as not efficiently workin producing a satisfactory level of profitability. Therefore the author's hypothesis towards the problem that has been stated is strongly proven.

Keywords: *ROA, ROE, Financial Performance.*

Date of Submission: 15-10-2020 Date of Acceptance: 31-10-2020

I. Introduction

To decide that a business entity or company has good quality, there are two most dominant assessments that can be used as a reference to see that the business entity / company has implemented good management principles.This assessment can be done by looking at the side of financial performance and non-financial performance. Financial performance looks at the financial statements owned by the company/business entity concerned and this is reflected in the information obtained on the balance sheet, income statement, and cash flow statement as well as other matters. which also supports the assessment of financial performance.
The company'sfinancialperformanceis a descriptionofthefinancialconditionof a companywhichisanalyzedwithfinancialanalysistools, sothatitcanbeseenaboutthegoodand bad financialconditionof a companythatreflectstheworkperformance in a certainperiod.his isveryimportantsothatresources are usedoptimally in thefaceofenvironmentalchanges.(EkodanDheasey, 2015)
inancialperformanceappraisalisonewaythatmanagementcandeterminetheextenttowhich a companyfulfillsitsobligationstofundersandtoachievethegoals set bythecompany.

There are many ways that can be used to analyze a company's financial performance. One of them is by calculating the rate of Return On Assets (ROA) and Return On Equity (ROE).ROA and ROE calculations can be done through Du Pont System analysis, which is an analysis that combines activity ratios and profitability.The Du Pont systems approach was developed by management at Du Pont Corporation and has been widely used and received recognition from the business world in America.The Du Pont systems approach was developed by management at Du Pont Corporation and has been widely used and received recognition from the business world in America. (YensiPurnama Sari, 2017).

The purpose of this analysis is used to determine the extent of the company's effectiveness in turning its capital, so that this analysis includes various ratios.The Du Pont system combines the activity / asset turnover ratio with the profit / profit margin on sales ratio and shows how the two interact in determining Return On Assets (ROA),namely the profitability of the assets owned by the company.The ratio of return on sales (profit margin) is influenced by the level of sales and net income generated,so that this profit margin also includes all costs used in company operations.The activity ratio itself is influenced by sales and total assets, so that it can be said that this analysis does not only focus on the profits achieved,but also on the investment used to generate that profit. (RetnoWidiyastiti, 2016).

PT. Makassar Raya Motor is a company engaged in the sale of four-wheeled vehicles (cars).In running its business, this company cannot be separated from the activities of using funds that are very much needed to finance its operations.To be able to find out the extent of the company's financial management performance, it is necessary to analyze the level of the company's Return On Assets (ROA) and Return On Equity (ROE) through the Du pont system approach.This can be expected to provide an overview of the company's financial performance in the future so that it will be better so that the profitability achieved by the company will always increase.

Du pont analysis is a method used to assess the operational effectiveness of the company, because in this analysis it includes elements of sales, assets used and profits generated by the company.

II. Theory

The financial report is information that describes the financial condition of a company, and further this information can be used as a description of the company's financial performance.

According to Kasmir (2019: 66) Financial statement analysis is one way to find out the company's performance in a period. Financial statements are also the obligation of each company to make and report them in a certain period.

According to IrhamFahmi (2015: 21) financial statements are information that describes the financial condition of a company, and further this information can be used as a description of the company's financial performance.

According to Lyn M. Fraser and Aileen Ormiston (IrhamFahmi, 2015: 22) "a corporate annual report consists of four main financial reports", namely:

1. The balance sheet shows the financial position - assets, and shareholder equity - of a company at a specific date, such as at the end of a quarter or the end of the year.
2. The income statement presents the results of operations - net income, expenses, profit or loss and profit or loss per share - for a specific accounting period.
3. The shareholder's equity statement reconciles the beginning and ending balances of all accounts in the shareholder equity section of the balance sheet.
4. The cash flow statement provides information about cash flows into and out of operating, financing, and investing activities during an accounting period.

After the financial statements are prepared based on relevant data, and carried out with correct accounting and valuation procedures, it will reveal the true financial condition.The financial condition in question is knowing how much assets (wealth), liabilities (debt), and capital (equity) are in the balance sheet.Then it will be known the amount of income received and the amount of expenses incurred during a certain period.Thus, it can be seen how the results of operations (profit or loss) were obtained during a certain period from the income statement presented.

Financial performance

According to Sutrisno in Aldo (2016: 11) "The company's financial performance is an achievement that the company has achieved in a certain period that reflects the health level of the company."

According to Sri FitriYanti (2013: 15) Financial performance is a display of the company's financial condition during a certain period.Performance information is useful for predicting the company's capacity to generate cash flow from existing funding sources.

Du Pont System Analysis

According to Arthur J. Keown, John D. Martin, in Retno (2016: 17) that"Du Pont analysis is a method used to analyze a company's profitability and returns on equity.Using Du Pont calculations allows management to see more clearly what drives the return on equity and what is the relationship between net profit margin, asset turnover and debt ratios.Management is provided with instructions to follow in determining the effective management of the company's resources to maximize the return on investment for owners.

The Du Pont system allows financial analysis to identify the factors that affect the fluctuation of a company's ROA.If a company is financed with equity, the Du Pont formula can be modified.This formula combines the income statement and balance sheet contained in the financial statements into two profitability measurement tools,namely ROA and ROE.This expanded (modified) Du Pont equation shows how the profit margin, asset turnover ratio, and assets to equity ratio are combined to determine the return on investor's equity (ROE).This means that this ratio will change with variations in the turnover of operating assets, operating profit, and the capital multiplier (equity multiplier).By knowing these factors it is also possible for financial managers to improve their policies that cause a decrease in ROE.

III. Method

Population and Sample

The population in this study is the financial statements of PT. Makassar Raya Motor in Indonesia in the form of a Balance Sheet and Profit/Loss.While the sample used in this research is the financial statements in the form of a balance sheet and profit / loss of PT. Makassar Raya Motor Parepare Branch from 2017 to 2019.

Data analysis

Quantitative data analysis, the authors use formulas in analyzing the efficiency level of capital use through the ratio of Return On Assets and Return On Equity which is analyzed through the Du Pont system approach.The formulas include:

1. Return On Assets (ROA) = Margin laba X Perputaran total aktiva
2. Return On Equity (ROE) = ROA X Equity Multiplier

IV. Research Result

Deskripsi Data

To get an overview of the financial position and the results that the company has achieved in a certain period, the financial statements are shown in the form of a balance sheet and profit / loss report.This report is intended to determine changes in the company's capital and assets in a certain period.These changes may occur in assets and liabilities, while the profit / loss statement is intended to determine the company's activities in obtaining profits or success in achieving the desired goals of the company.

The aims and objectives of this study are to determine the financial performance of PT. Makassar Raya Motor for three periods, starting from 2017-2019.Is the company experiencing a profitable development, decreasing, or even not experiencing significant development and is able to assist the company in making financial decisions.

The description of the data processed based on the title and the formulation of the research problem consists of two independent variables and one dependent variable, namely Return On Asset (ROA) and Return On Equity (ROE) in the Du Pont System as Independent Variables, and the company's financial performance as Bound Variables.

Hypothesis Discussion

Du Pont analysis is a method used to analyze company profitability and return on equity (Brigham & Houston, 2012: 153).

Return On Asset (ROA) in the Du Pont System

According to Munawir in Sri FitriYanti (2013) return on assets (ROA) is a form of profitability ratio which is intended to be able to measure the company's ability with all funds invested in assets used for company operations to generate profits.

Based on Du Pont System Analysis, the calculation of the company's ROA is as follows:

$$ROA = \frac{\text{Net Profit}}{\text{Net Sales}} X \frac{\text{Net Sales}}{\text{Total Assets}}$$

To find out more clearly the company's ability to earn net income based on company assets for the last three years, it can be seen using the formula above as follows:

2017 year:

$ROA = \frac{10.405.631.449}{13.480.898.644} X \frac{13.480.898.644}{19.659.903.949}$ = 52,93%

2018 year:

$ROA = \frac{11.254.861.573}{12.929.562.693} X \frac{12.929.562.693}{20.041.543.004}$ = 56,16%

2019year :

$ROA = \frac{9.216.017.327}{12.997.470.143} X \frac{12.997.470.143}{18.251.086.177}$ = 50.5%

Return On Equity (ROE) Extended (Modified) Du Pont System Equation

According to AriefSugiono and Edi Untung in Retno (2016: 21) "ROE measures the rate of return of the business on all existing capital.ROE is one of the indicators used by shareholders to measure the success of the business being undertaken ".If the company funds only with its own capital, then ROA = ROE because its total assets are equal to total equity.But if the company uses debt, then ROE> ROA, the effect of using debt on ROE is described by the equity multiplier (Equity Multiplier) as follows:

$$ROE = ROA \, X \frac{\text{Total Assete}}{\text{Total Equity}}$$

To find out more clearly the company's ability to earn net profit based on the company's capital / equity for the last three years, it can be seen using the formula above as follows:

2017year :$ROE =$ $52{,}93\% \, X \frac{19.659.903.949}{14.784.393.599}$ = 70,39%

2018year :$ROE = 56{,}16\% \; X \frac{20.041.543.004}{15.590.848.573} = 72{,}19\%$

2019year :$ROE = 50{,}5\% \; X \frac{18.251.086.177}{13.843.860.327} = 66{,}58\%$

V. Discussion

Return On Asset (ROA) in the Du Pont System

From the calculations on the hypothesis test, in 2017 the company PT. Makassar Raya Motor Branch obtained an ROA of 52.93%.This means that using Rp. 100,assets will generate a net profit of Rp. 52.93.In addition, this year the company generated a profit margin of 77.19%, which means that every Rp. 100,sales will generate a net profit of Rp. 77.19.While the total assets turnover was obtained 0.68 times, this means that every Rp.10,- assets can generate 6.8 times sales per year.

In 2018 the company obtained an ROA of 56.16% which means that by using Rp. 100,company assets are able to obtain a net profit of Rp. 56.16,the profit margin is obtained at 87.05%meaning every Rp. 100,sales that occur can get a net profit of Rp. 87.05,for total asset turnover is 0.64 times,which indicates with Rp. 10,assets can generate 6.4 times the sales.

Whereas in 2019 the company was only able to obtain an ROA of 50.5%,which means that each use of Rp. 100, assets will generate Rp. 50.5 net income.For profit margin and total asset turnover, this year the company earned 70.91 percent and 0.71 times, respectively.This means every Rp. 100 sales will get a profit of Rp. 70.91 and every Rp. 10 assets will generate sales of 7.1 times.

For a clearer picture of the development of Return On Assets (ROA), please see the following table:

Table 1. PT. MAKASSAR RAYA MOTOR
RETURN ON ASSET* (ROA) *DU PONT SYSTEM
2017-2019 PERIOD

Year	Profit Margin (%)	Total Asset Turnover (Times)	ROA (%)
2017	77,19	0,68	52,93
2018	87,05	0,64	56,16
2019	70,91	0,71	50,5

Source: Data has been processed.

Based on the table above, it shows that the development of Return On Assets (ROA) of PT. Makassar Raya Motor for three years has decreased.This is due to decreased profitability.Reduced profit due to increased sales followed by increased operating expenses (inefficient),while the use of assets is not effective in generating profit.

In 2017 year, PT. Makassar Raya Motor produced an ROA of 52.93%, a profit margin of 77.19% and a total asset turnover of 0.68 times.Then in 2018 year, the company's ROA increased by 3.23% to 56.16%, profit margin to 87.05% and total assets turnover by 0.64 times.This means that there is an increase from the previous year,This increase occurred due to increased profits, increased company sales and the company was able to reduce the burden it had to finance,although it is not yet optimal, the increase can be seen compared to the previous year.

In 2019 year, the ROA rate decreased again by 5.66% to 50.5%, the resulting profit margin was 70.91% and the total asset turnover was 0.71 times.This is due to a decrease in profit, while sales and assets increase.

Return On Equity (ROE) In Du Pont System

From the calculations on the hypothesis test, it shows that in 2017 PT. Makassar Raya Motor produces a Return On Equity (ROE) of 70.39%. This means that every Rp. 100, equity is able to generate Rp. 70.39 net income.With an ROA of 52.93% and an Equity Multiplier of 1.32 times, which means every Rp. 1, - the equity can finance the assets of Rp. 1.32.In accordance with the theory, it is true that ROE> ROA where ROE = 70.39% while ROA = 52.92% in 2017 year.

In 2018 year, the company obtained an ROE of 72.19%, which means that by using Rp. 100, - the company's equity is able to get a net profit of 72.19.The ROA obtained is 56.16% and the Equity Multiplier is 1.29 times, which indicates Rp. 1, - equity can finance Rp. 1.29.In accordance with the theory used, it is true that ROE> ROA where ROE = 72.19% while ROA = 56.16% in 2018.

Furthermore, in 2019 the company was able to obtain an ROE of 66.58%, which means that every use of Rp. 100, - equity will generate Rp. 66.58 net income.For this year's ROA, the company obtained 50.5 percent and its Equity Multiplier is 1.32 times. This means every Rp. 1, - equity will be able to finance the assets of Rp. 1.32.In accordance with the above theory, it is true that ROE> ROA where ROE = 66.58% while ROA = 50.5% in 2019.

For a clearer picture regarding the development of the Return On Equity (ROE) of PT. Makassar Raya Motor for three consecutive years, starting from 2017-2019, we can see in the following table:

Table 2. PT. MAKASSAR RAYA MOTOR
RETURN ON EQUITY* (ROE) *DU PONT SYSTEM
2017-2019 PERIOD

Year	ROA (%)	Equity Multiplier (Times)	ROE (%)
2017	52,93	1,32	70,39
2018	56,16	1,29	72,19
2019	50,5	1,32	66,58

Source: Data has been processed

Based on the table above, it shows that the development of the Return On Equity (ROE) of PT. Makassar Raya Motor for three years has decreased.This is because the ROA level has also decreased due to low profits,and low use of equity indicates that high use of debt causes the expense in the company (interest expense) to increase.

In 2017, PT. Makassar Raya Motor generated an ROE of 70.39%, an ROA of 52.93% and an Equity Multiplier of 1.32 times.But in 2018 the company's ROE increased to 72.19% with an ROA of 56.16% and an Equity Multiplier of 1.29 times.This indicates an increase in the resulting ROA with an increased level of profit, but the Equity Multiplier decreases.

In 2019, the company's ROE rate decreased by 5.61% from the previous year to 66.58%.Likewise, the ROA decreased to 50.5%, but the Equity Multiplier increased to 1.32 times.This is because the profits earned by the company decrease, and profits greatly affect the level of ROA and ROE.

VI. Conclusion

Based on the results of research conducted by the author at PT. Makassar Raya Motor, especially in measuring the company's financial performance with Du Pont Analysis System, the authors put forward several conclusions, including:

1. The company's Return On Asset (ROA) is obtained based on the Du Pont System analysis, using two ratio components, namely profit margin and total asset turnover.The profit margin obtained by the company for three consecutive periods has fluctuated, namely 77.19% in 2017 was obtained, then in 2018 it increased by 87.05% and in 2019 it decreased by 70.91%.The total asset turnover rate has often increased, in 2017 it was obtained 0.68 times, in 2018 it decreased to 0.64 times and in 2019 it increased again to 0.71 times.This directly affected the company's ROA, ROA in 2017 was 52.93%, in 2018 it increased to 56.16% and in 2019 it decreased again to 50.5%.
2. The company's Return On Equity (ROE) is obtained based on the Du Pont Analysis System calculation, using the two ratio components, namely ROA and Equity Multiplier. The ROA of the company obtained during the three periods from 2017-2019 also often fluctuates which is sufficiently explained in the previous point, while for the Equity Multiplier PT. Makassar Raya Motor also experienced fluctuations, namely in 2017 it was obtained 1.32 times, for 2018 it decreased to 1.29 times and in 2019 it increased again to 1.32 times. In the Du Pont System the level of ROA and Equity Multiplier determines the level of the company's ROE, ROE in 2017 was 70.39% then increased in 2018 to 72.19% and in 2019 ROE decreased back to 66.58%.
3. From the discussions above, the overall illustrates that PT. Makassar Raya Motor for the period 2017-2019, for its financial performance it cannot be categorized as good because the company shows fluctuating performance so that it is considered unable to work efficiently in producing a satisfactory level of profitability. Thus the author's hypothesis on the problem that has been stated is fully proven.

References

[1]. Brigham dan Houston, (2012), *Dasar-dasarManajemenKeuangan*, Buku 1, Edisi 11, SalembaEmpat, Jakarta.

[2]. Dede Irmaningsih, (2017), *"AnalisisPenerapan Du Pont System untukMengukurKinerjaKeuangan Perusahaan (StudiPada Sub Sektor Perusahaan MakanandanMinuman yang Terdaftar di BursaEfek Indonesia PeriodeTahun2012-2015)"* FakultasIlmuSosialdanIlmuPolitikUniversitas Lampung Bandar Lampung.

[3]. EkodanDheasey, (2015), *"Analisis Du Pont System UntukMenilaiKinerjaKeuangan Perusahaan (Studipada PT. Mayora Indah Tbk, PT. Delta Djakarta Tbk, dan PT. Indofood SuksesMakmurTbkPeriodeTahun 2010-2015)"*FakultasEkonomikadanBisnisUniversitasPandanaran.

[4]. Evida, (2007), *"Analisis Du Pont System DalamMengukurKinerjaKeuanganPerusahaaan (StudiPada PT. Pegadaian (Persero) CabangSweta)"* FakultasEkonomiUniversitas Muhammadiyah Malang.

[5]. Hery, (2015), *PengantarAkuntansi*, PT. Grasindo, Anggota IKAPI, Jakarta., (2016), *Mengenal Dan Memahami Dasar-Dasar LaporanKeuangan*, PT. Grasindo, Anggota IKAPI, Jakarta.

[6]. IrhamFahmi, (2015), *PengantarManajemenKeuanganTeoridanSoalJawab*, Bandung: Alfabeta.

[7]. Junaedy, (2013), *"Analisis Du Pont System DalamMengukurKinerjaKeuangan Pada PT. Suraco Jaya Abadi motor KabupatenSidrap"* FakultasEkonomi STIE Amsir Kota Parepare.

[8]. Kasmir, (2019), *PengantarManajemenKeuangan*, EdisiKedua, Cetakan Ke-7, KENCANA, Jakarta.

[9]. RetnoWidiyastiti, (2016), *"MengukurKinerjaKeuangan Perusahaan Daerah Air Minum (PDAM) Kota Parepare Dengan MenggunakanAnalisis Du Pont System"* FakultasEkonomi STIE Amsir Kota Parepare.

[10]. Sri FitriYanti, (2013), *"Analisis Du Pont System DalamMengukurKinerjaKeuanganPada Perusahaan Industri Consumer Goods Di BEI"* FakultasEkonomiUniversitas Sumatra Utara Medan.

[11]. Sugiyono, (2019), *MetodePenelitianKuantitatifKualitatidan R&D,* Bandung: ALFABETA.

[12]. YensiPurnama Sari, (2017), *"AnalisisKinerjaKeuangan Dengan MenggunakanMetode Du Pont System Pada Bank UmumSyari'ahDi Indonesia"* FakultasEkonomidanBisnis Islam Prodi D3 PerbankanSyari'ahUniversitas Islam Negeri Raden Fatah Palembang.

[13]. Yuni, Yansen, Debi dan Ernest, (2019), "*AnalisisDu Pont System DalamMengukurKinerjaKeuangan Perusahaan Pada PT Fast Food Indonesia, Tbk Yang Terdaftar Di Bursa EfekIndonesia"* Vol. 5 No. 2, Program StudiAkuntansi, STIE Sultan Agng, Pematangsiantar, Sumatera Utara, Indonesia.

1Bakhtiar Tijjang, et. al. "Analysis of Du Pont System in Measuring the Financial Performance."*IOSR Journal of Business and Management (IOSR-JBM)*, 22(10), 2020, pp. 53-58.