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IMPACT OF THE FINANCIAL FACTORS ON RETURN ON ASSETS (ROA): A STUDY ON ACME

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Abstract: *Among the many return indicators, Return on Assets (ROA) is mostly used by firms' managers to measure the performance of a company. This paper studies the factors that influence the ROA. There are different types of financial factors[current asset (CR), quick ratio (QR), cash ratio (CSR), operating profit margin (OPM), net profit margin (NPM), total asset turnover (TAT), current asset turnover (CAT), fixed asset turnover (FAT), account receivable turnover (ART), inventory turnover (IT), inventory holding period (IHP), debt to equity (DTE), debt to total asset (DTTA), debt ratio (DT), return on equity(ROE), earning per share (EPS)] used to measure return on assets (ROA). A multiple linear regression model is used to measure the influence of these factors on ROA where ROA is used as a dependent variable and rest of the factors are used as independent variables. This study has found that most of the factors have positive relationship with ROA; however some of the factors have negative relationship with ROA.*

Keywords: *Return on assets, Return on equity and Debt to equity.*

1. Introduction

Firms' managers are now concerned about utilization of its assets to increase the performance of the company. To keep the competitiveness of a firm and limitation of fund, managers are in pressure to enhance the efficiency of assets. For this reason and to attain the goal, businesses need to look at return on assets (ROA) properly (Siminica et al., 2012). To assess the performance of companies, the stakeholders use many indicators. Among them, return indicators (return on assets, return on equity, return on sales, and return on investment) are crucial to evaluate the condition of a company. ROA is the indicator of how firm is doing relative to its assets. It also shows how efficiently a company uses its assets to generate income (Tamuntuan, 2015). Now-a-days, profitability and sustainability of the profitability are becoming major goal of the firms to measure the performance. And this can be done by analyzing and investigating different internal and external factors. Identifying the performance indicators is still a big concern among the researchers (Alarussi & Alhaderi, 2018). Different studies used different indicators to measure the performance of the company and most of the studies focus on the profitability as proxy to evaluate the performance. Previous studies used different factors including firm size (Yazdanfar, 2013; Zaid., et al., 2014), age of the firm (Bhayani, 2010; Agiomirgianakis et al., 2013), leverage (Mistry, 2012; Boadi et al., 2013) and working capital management (Alipour, 2011; Charumathi, 2012) to evaluate the performance.

To measure the performance of firms, return on assets (ROA) is mostly used in previous studies (Lindo, 2008; Bosch-Badia, 2010;Youn&Gu, 2010; Marian et al., 2011; Gul et al., 2011; Tamuntuan, 2015; Sorana, 2015;Issah&Antwi, 2017). Some other papers also considered Return on Equity (ROE) as the performance indicators and also investigated the factors that influence the ROE to evaluate the impact of those factors on the performance of firms (Kharatyan et al., 2016). In this paper, an attempt is made to analyze the factors that influence the ROA since it's one of the major return indicators used by the firm. To analyze the factors which influence the ROA, pharmaceutical sector especially ACME Laboratories Ltd, a pharmaceutical company listed in the Dhaka Stock Exchange, has been considered. Bangladeshi pharmaceutical sector is one of the high-tech sectors in Bangladesh. Currently, this sector fulfills 97% demand of the local market and also exports to more than 100 countries including USA, UK, Australia, and European Union. This sector has some advantages like supports from the government, huge local market, low cost production, available technological know-how and many more. This study is to measure the factors influencing the ROA. Data from the ACME, a leading pharmaceutical company, have been used to analyze these factors. ACME incorporated and commenced its commercial operation in 1954 as a sole proprietorship concern. In 1976, it became a private limited company and was listed in the Dhaka Stock Exchange in 2011. Gradually, it has changed itself from good to better and it has been moving towards the exceptional from better through changing into a public limited company. At this moment, it is peeping into the capital market. The company has been manufacturing and distributing the generic pharmaceuticals, finished products since its inception.

2. Literature Review

Now-a-days all financial managers of companies mostly look at its asset utilization since return on assets (ROA) is one of the major indicators of a firm's performance (Al-Matari et al., 2014). The importance of ROA is also recognized in previous literature to measure the performance of a company. Return on assets (ROA) is used to measure the performance and utilization of assets and it's also used as a baseline to measure the return contribution from new investment in assets. Lind identified that it is considered as a minimum rate of return to approve all new investment since it has become a hurdle rate (Lindo, 2008). Gallinger (2000) had made a comprehensive analysis on return on assets and developed a model. He showed that the following variables; return on sales, financial leverage, interest expenses and return on equity have an influence on ROA. His model also examines the asset management of a company. Bosch-Badia (2010) found a functional relation of total factor productivity and labor productivity with return on operating assets (ROOA). He proved that both indicators of productivity, together with value change of input and output, are the drivers that decide the estimation of ROOA. This connection can be viewed as the extension of the DuPont analysis where ROOA is used as the product of operating margin per asset turnover. He developed a model where he used productivity and price changes as independent variables and ROOA as the dependent variable.

Fairfield & Yohn (2001) showed that ROA is used to make predictions for the company and they stated that "disaggregating return on assets into asset turnover and profit margin does not provide incremental information for forecasting the change in return on assets one year ahead, but that disaggregating the change in return on assets into the change in asset turnover and the change in profit margin is useful in forecasting the change in return on assets one year ahead". Sorana (2015) used ROA as the proxy of the performance and he found that debt and firm size has influenced the ROA negatively. Whereas these factors including liquidity, tangibility and volatility of earning with different level of taxation have influenced the ROA positively. Alarussiand Alhaderi (2018) used five variables to measure the profitability as proxy of firms' performance measurement. They used assets turnover ratio (to measure company's efficiency), firm size (magnified by total sales), working capital, current ratio (to measure liquidity) and leverage (debt/equity ratio and leverage ratio). They have found that profitability has positive relationship with size, efficiency and working capital whereas leverage ratios have negative relation with firm's profitability. In another study, Tamuntuan (2015) found that ROA, ROE, and EPS have significant effect towards the share price performance (proxy of firm's performance). Issah and Antwi (2017) considered macroeconomic variables and ROA to measure the firm's performance and they found that prior year ROA and macroeconomic variables can have an influence on the future performance of the company. Gul et al., (2011) examined the influence of assets, equity, deposits, loans, few macro-economic variables (including economic growth, inflation) and market capitalization on the profitability indicators like ROA and other indicators. They found strong influence of these factors on ROA and other profitability indicators. In their study, Youn and Gu (2010) used again ROA to measure the firms' performance in Korean Lodging Industry. They found that EBITDA (Earnings before Interests, Taxes, Depreciation, and Amortization) to total liabilities and debt ratio are the major determinants of ROA. Tight control over operating costs and conservative debt financing policy may help to improve ROA.

Siminică et al., (2011) shows correlation among these independent factors such as Financial stability ratio (FSR), Self-financing ratio (SFR), Financial leverage (FL), Capital employed ratio (CER), Current liquidity (CL), Quick ratio (QR), Overall solvency (OS), Working capital (WC), Need for working capital (NWC), Treasury (T), Rate of financing the fixed assets (RFFA), Coverage of capital invested (CCI), Coverage of need for working capital (CNWC), Rate of financing the turnover (RFT), Rate of need for working capital (RNWC), Average term for paying the suppliers (TS), Average term for collecting the commercial receivables (TC), Average number of turnovers of the current assets (NCA), Average duration in days for the turnover of current assets (DCA), Cash conversion cycle (CCC), Return on equity (ROE), Return on operating expenses (ROEx), Return on sales (ROS) with dependent factor return on assets (ROA).Though most of the previous studies used ROA to measure the performance of the firms, a study conducted by Kharatyan et al., (2016) used ROE as the performance indicator. Besides they wanted to find the drivers of ROE. They used 8 ratios/indicators including Tax burden (TB), Interest burden (IB), Operating margin (OM), Asset turnover (AT), Financial leverage (FL), Price-to-earnings (PE), Price-to-book (PB), Current ratio (CR).

They found that TB, IB, OM, AT and FL are the most relevant ratios/indicators that determine the ROE. Form the above literature review, it is found that different authors used different indicators to measure the firms' performance and used different variables to measure their influence on ROA and other indicators. In this paper, ROA has been considered as the performance indicators and 16 independent variables are used to measure their influence on ROA in the context of Bangladesh. The study has been conducted on ACME Laboratories Ltd, a leading pharmaceutical company, listed in the Dhaka Stock Exchange and 18 years data have been used to complete the analysis.

3. Methodology

This section describes the proposed methodology for estimating the Return on Asset (ROA) using Multiple Linear Regression. First, it is important to have a process of organizing the data. For this, a series of formulations that determine the values of the variables for the modeling process are performed. In doing so, yearly data have been collected from the company's (ACME) annual reports. The next level will examine whether there is restructured data as per needs of different financial variables. Once the values of each and every variable have been calculated, then it will be necessary to exclude those variables where measurement errors have occurred to make a representative ROA estimation model. Multiple Linear Regression is the most effective method for the resolution of a problem that depends on a large variety of variables. The multiple linear regression (MLR) equation is as follows:

$$\hat{Y} = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + \ldots\ldots\ldots + B_p X_p$$

Equation indicator is the expected or predicted value of the based variable, X_1 via Xp are P distinct independent or predictor variables, B_0 is the price of Y while all of the independent variables (X1 through Xp) are identical to zero, and B_1 through Bp are the expected regression coefficients. Each regression coefficient represents the change in Y relative to a one unit change within the respective independent variable. In the multiple regression situation, B_1, as an example, is the change in Y relative to a one unit alternate in X_1, protecting all different independent variables regular. Once more, statistical checks can be achieved to assess whether each regression coefficient is drastically distinctive from zero. Now, the dependent factor is return on asset (ROA) and rest of all factors are independent and those are current asset (CR), quick ratio (QR), cash ratio (CSR), operating profit margin (OPM), net profit margin (NPM), total asset turnover (TAT), current asset turnover (CAT), fixed asset turnover (FAT), account receivable turnover (ART), inventory turnover (IT), inventory holding period (IHP), debt to equity (DTE), debt to total asset (DTTA), debt ratio (DT), return on equity(ROE), earning per share (EPS). Then the MLR become:

$$ROA = B_0 + B_1\,CR + B_2\,QR + B_3\,CSR + B_4 OPM + B_5 NPM + B_6 TAT + B_7 AT + B_8 FAT + B_9 ART + B_{10}\,IT + B_{11} IHP + B_{12} DTE + B_{13} DTTA + B_{14} DT + B_{15} ROE + B_{16}\,EPS$$

Using the above data we want to develop multiple regression model to identify the (ROA). Here ROA is dependent variable and rest of the variables will be independent variables.

4. Analysis

The secondary data of the ACME are given below. Here we want to show the yearly data of different financial factors (Variables) of the ACME from 2000 to 2017. Data are basically collected from annual report from 2000-2017 and website (https://acmeglobal.com) and some data are restructured according to other data. The data are shown in Table-1.

Table1: **Yearly data of different financial factors.**

Year	ROA	CR	QR	CSR	OPM	NPM	TAT	CAT	FAT	ART	IT	IHP	DTE	DTTA	DR	ROE	EPS
2017	4.68%	1.25	0.94	0.15	22.39%	10.30%	0.46	1.16	0.74	12.81	2.84	128.41	0.17	0.37	34.67%	14.56%	6.61
2016	3.81%	1.35	1.03	0.13	21.23%	8.71%	0.44	1.09	0.73	15.21	2.97	122.93	0.25	0.35	21.54%	15.71%	6.55
2015	3.97%	1.03	0.68	0.06	19.09%	8.02%	0.49	1.6	0.72	15.42	3.06	119.41	0.19	0.47	19.48%	12.56%	5.7
2014	4.03%	0.79	0.52	0.05	20.12%	8.76%	0.46	1.54	0.66	16.14	3.04	120.23	0.23	0.44	35.92%	16.86%	5.65
2013	2.66%	1.33	0.59	0.03	18.56%	5.00%	0.49	1.44	0.64	15.34	3.02	117.43	0.14	0.37	23.54%	11.90%	4.19
2012	3.20%	1.005	0.51	0.07	16.52%	5.02%	0.94	1.89	0.71	14.12	3.01	119.34	0.34	0.44	35.12%	13.67%	4.1
2011	3.50%	1.01	0.48	0.05	13.02%	4.91%	0.8	1.67	0.68	14.86	2.97	116.08	0.48	0.39	47.09%	14.32%	2.97
2010	5.38%	0.84	0.43	0.04	10.93%	4.10%	0.76	1.39	0.7	15.76	2.95	125.03	0.26	0.41	39.43%	10.48%	1.96
2009	5.44%	1.05	0.45	0.06	9.42%	3.41%	0.82	1.1	0.76	13.59	3.1	122.02	0.36	0.49	29.43%	8.54%	16.94
2008	4.75%	0.94	0.58	0.03	10.14%	3.39%	0.53	1	0.69	14.47	2.89	116.91	0.32	0.25	21.08%	5.25%	16.29
2007	2.31%	0.94	0.47	0.03	7.42%	4.48%	0.69	1.34	0.63	14.45	2.78	112.08	0.27	0.19	32.98%	6.85%	12.64
2006	2.14%	1.02	0.73	0.02	9.36%	4.12%	0.57	1.49	0.59	13.95	2.72	134.19	0.34	0.28	34.21%	7.09%	9.01
2005	3.32%	1.04	0.87	0.09	8.56%	4.72%	0.78	1.01	0.49	14.01	2.67	136.7	0.29	0.32	31.01%	8.45%	8.45
2004	3.13%	0.99	0.97	0.07	8.12%	5.79%	0.92	1.85	0.97	14.67	2.63	138.78	0.26	0.29	28.93%	10.23%	10.34
2003	2.89%	0.91	1.01	0.04	8.33%	6.54%	0.44	0.97	0.54	13.88	2.6	140.38	0.34	0.21	29.03%	9.23%	7.86
2002	3.76%	1.23	1.05	0.12	13.13%	6.79%	0.51	0.99	0.78	12.97	2.48	147.18	0.27	0.34	33.54%	9.01%	5.15
2001	3.13%	1.03	0.99	0.08	13.59%	8.12%	0.67	1.13	0.42	13.09	2.51	145.42	0.24	0.36	30.37%	8.56%	11.08
2000	2.49%	0.98	0.75	0.06	11.88%	7.97%	0.73	1.07	0.53	11.78	2.39	152.72	0.31	0.41	36.07%	8.42%	7.87

Now at the initial level, we run the regression model of the above data. Table-2 shows the regression coefficient.

Table 2: Initial Regression

. regressroacrqrcsropmnpm tat cat fat art it ihpdtedttadt roe eps

Source	SS	df	MS	Number ofobs=18
				F(16,1) =14636.50
Model	.001653758	16	.00010336	Prob>F = 0.0065
Residual	7.0618e-09	1	7.0618e-09	R-squared= 1.0000
				AdjR-squared=0.9999
Total	.001653765	17	.00009728	RootMSE=8.4e-05

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cr	-.0605419	.0004298	-140.87	0.005	-.0660027	-.0550811
qr	.099169	.0009015	110.01	0.006	.0877144	.1106235
csr	-.2366274	.0033209	-71.25	0.009	-.2788238	-.1944311
opm	.3079325	.00249	123.67	0.005	.2762935	.3395715
npm	-.0923387	.006348	-14.55	0.044	-.1729972	-.0116801
tat	.0524903	.0004921	106.67	0.006	.046238	.0587426
cat	-.0491309	.000261	-188.23	0.003	-.0524474	-.0458144
fat	.0690661	.0003476	198.69	0.003	.0646494	.0734828
art	.0001242	.000073	1.70	0.338	-.0008033	.0010518
it	.0372618	.000755	49.36	0.013	.0276691	.0468545
ihp	-.0009744	.0000179	-54.35	0.012	-.0012022	-.0007466
dte	-.0257761	.000696	-37.04	0.017	-.0346194	-.0169329
dtta	.0885644	.001394	63.53	0.010	.070852	.1062768
dt	.1362378	.0009983	136.47	0.005	.1235533	.1489224
roe	-.0040524	.0000408	-99.32	0.006	-.0045708	-.0035339
eps	-.0005678	.0000109	-52.23	0.012	-.000706	-.0004297
_cons	-.0081226	.004703	-1.73	0.334	-.0678804	.0516352

In the above table the P-Value is less than 0.05 and this shows that the model is significant. We also got adjusted R-squared model whose value is 0.99 (about 1), this means these variables 99.99% represent the Return on Asset (ROA).Again, in this table all P-Values of the independent variables are less than (0.05) except account receivable turnover (art) (0.338) which is greater than (0.05). This result indicates that all the independent variables are properly associated with the dependent variable (roa) except account receivable turnover. The above table shows that cr, csr, npm, cat, ihp, dte, roe and eps are negatively influencing the ROA. It means that if these variables increase then ROA will also increase. Similarly, others like qr, opm, tat, fat, art, it, dtta and dt are positively influencing ROA. Therefore the regression model is-

roa –0.0605419 cr +0.099169 qr +0.3079329 opm–0.2366274 csr +0.3079325 tat –0.0491309 cat +0.0690661 fat +0.0001242 art +0.0372618 it –0.0009744 ihp – 0.0257761 dte +0.0885644 $dtta$ +0.1362378 dt –0.0040524 roe –0.0005678eps – 0.0081226

In further analysis, we have to check if the residual is normally distributed or not. Figure-01 shows the residual are normally distributed and for further conformance, we have to test Jarque-Bera normally test. In this test we set null hypothesis as the residual is normal. Since the chi- square value (0.637) is greater than 0.05. So we fail to reject the null hypothesis that means the residual is normal.

Figure-01**:** Residuals Value

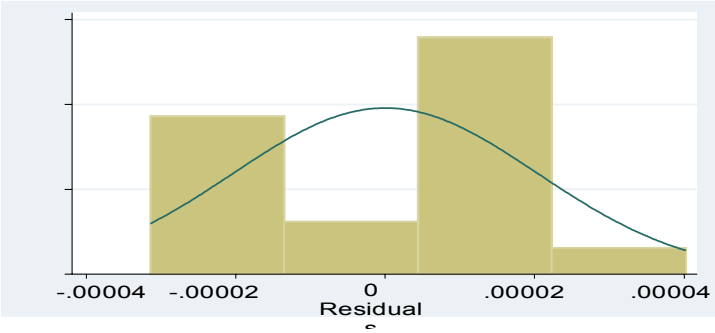

Table 3: Jarque-Bera Normality Test

. jbresid

Jarque-Beranormalitytest: .9021Chi (2) .637 Jarque-Bera test for Ho: normality:

The R-square and adjusted R-square in initial regression are so high and some multicollinearity exists among the independent variables. To justify this we have to test variance influence factor (VIF). Table 4 shows the VIF result.

Table 4: Variance Influence Factor

.estatvif

Variable	VIF	1/VIF
ihp	116.93	0.008552
qr	103.03	0.009706
it	67.96	0.014715
roe	44.06	0.022696
npm	42.44	0.023563
opm	36.90	0.027103
csr	35.68	0.028030
dtta	34.19	0.029249
tat	16.99	0.058851
art	16.28	0.061423
cat	14.98	0.066761
dt	11.52	0.086771
cr	10.66	0.093846
dte	7.24	0.138087
eps	4.89	0.204299
fat	4.52	0.221179
Mean VIF	35.52	

The above table mentions that average VIF is 35.52 that is greater than 3. So there is multicollinearity among independent variables. To overcome the problem the simple way is to eliminate the highest VIF variable. We eliminate current ratio (cr), quick ratio (qr), cash ratio (csr), net profit margin (npm), account receivable turnover (art), inventory holding period (ihp), debt ratio (dr) variables to minimize the multi-collinearity problem and minimum VIF is 6.28 (Show table-5).

Table5: VIF

.vif

Variable	VIF	1/VIF
opm	15.78	0.063383
roe	14.61	0.068438
it	9.83	0.101697
qr	8.58	0.116497
tat	4.67	0.214108
dt	4.28	0.233594
cat	3.56	0.280861
eps	3.37	0.296613
cr	3.10	0.322359
dtta	3.04	0.329009
dte	2.54	0.394144
fat	1.97	0.507952
Mean VIF	6.28	

Now we are testing Heteroscedasticity. Breusch-pagan is the best test to identify the Heteroscedasticity. Table-6 shows the test result. The chi-square value (0.1116) is higher (0.05); this means we fail to reject the null hypothesis. So data is heteroscedasticity.

Table 6: Breusch-Pagan

. hettest
Breusch-Pagan / Cook-Weisberg test for
heteroskedasticityHo: Constant
variance
Variables: fitted values ofroa
chi2(1) = 2.53
Prob > chi2 =0.1116

Now we have to check the serial of auto-correlation using Durbin's alternative test for autocorrelation. Our result (Table-7) provides P value of 0.5035 which is higher than 0.05. So we accept null hypothesis which indicates that the data are not serially correlated.

Table 7: Durbin's Alternative Test for Autocorrelation

. estatdurbinalt

Durbin's alternative test for autocorrelation

lags(*p*)	chi2	df	Prob > chi2
1	0.447	1	0.5035

H0: no serial correlation

Table 8: Final Regression

.regress roacrqropm tat cat fat it dtedttadt roe eps

Source	S	df	MS
Model	.001604128	12	.000133677
Residual	.000049637	5	9.9275e-06
Total	.001653765	17	.00009728

Number of obs= 18
F(12, 5) = 13.47
Prob>F =0.0049
R-squared
AdjR-squared = 0.8979
Root MSE = .00315

roa	Coef.	Std. Err.	t	P>|t|	[95%Conf.	Interval]
cr	-.0501787	.0086944	-5.77	0.002	-.0725284	-.0278291
qr	.0399306	.0097564	4.09	0.009	.0148509	.0650102
opm	.1935577	.0610507	3.17	0.025	.0366219	.3504934
tat	.0292391	.0096727	3.02	0.029	.0043746	.0541035
cat	-.0321515	.0047714	-6.74	0.001	-.0444167	-.0198862
fat	.0509938	.0086001	5.93	0.002	.0288865	.0731012
it	.0636916	.0107676	5.92	0.002	.0360126	.0913706
dte	-.0086716	.0154456	-0.56	0.599	-.0483759	.0310327
dtta	.0214816	.0155839	1.38	0.227	-.0185782	.0615414
dt	.0732529	.0228127	3.21	0.024	.0146111	.1318948
roe	-.0035003	.000881	-3.97	0.011	-.0057649	-.0012358
eps	-.0006285	.0003383	-1.86	0.122	-.0014981	.0002411
_cons	-.1418601	.0352589	-4.02	0.010	-.2324959	-.0512243

So again, we set the regression model that is shown in Table-8**.**

5. Discussion

These regression coefficients represent that if one unit of independent variable changes then dependent variable will also change with same amount (coefficient). These effects can either be positive or negative depending on the independent variables' coefficient sign. However, the final multiple regression model is given below;

roa –0.0501787 *cr* +0.0399306 *qr* +0.1935577 *opm* +0.0292391 *tat* –0.0321515 *cat* +0.509938 *fat* +0.0636916 *it* –0.0086716 *dte* +0.0214816 *dtta* +0.0732529 *dt* –0.00035003 *roe* –0.000628 *eps* –0.1418601

This study focuses on the financial indicators that influence the ROA and this study considered ROA as the indicator of the firm's performance. We used 16 different independent variables and ROA as dependent variable. The results are elaborated and we have seen that current asset (CR), current asset turnover (CAT), debt to equity (DTE), return on equity (ROE) and earnings per share (EPS) are negatively influencing the ROA. That means an increase in these variables is linked to a decrease in Return on Assets (ROA). However, if return on equity (ROE) and earnings per share (EPS) increase then ROA also increases. In the case of ACME, this study found that there is a negative relation. Other ratios like Current asset (CR), current asset turnover (CAT), debt to equity (DTE) also influence ROA positively. If CAT increases then ROA may increase. If the company is able to reduce expenses, ROA won't increase. In comparison with Siminică et al., (2011) study, they found that the following indicators named financial stability ratio (FSR), coverage of capital invested (CCI) and fixed asset ratio (FAR) negatively influenced the ROA. In comparison with Sorana (2015), we have seen that debt ratio, tangibility, size and the inflation and crisis variable significantly negatively influenced the ROA. On the other hand, this study has found that quick ratio (QR), cash ratio (CSR), operating profit margin (OPM), net profit margin (NPM), total asset turnover (TAT), fixed asset turnover (FAT), accounts receivable turnover (ART), inventory turnover (IT), inventory holding period (IHP), debt to total asset (DTTA), debt ratio (DT) are positively influencing ROA. In contrast with Sorana (2015), Younand Gu (2010) & Siminică et al., (2011) studies, we have seen that Fixed asset ratio (FAR) and debt ratio are having negative influence on ROA, whereas in this study, it has been seen that these two variables are having positive impact on ROA along with other variables.

6. Conclusion

This study aims to determine the factors influencing the ROA of a company. Considering the previous literature, total 16 independent variables and 1 dependent variable (ROA) have been considered. A Multiple Linear Regression model is used to measure the influence of these factors on ROA and total 18 years data have been used. The study found that most of the factors maintain positive relation with ROA and some factors have irregular relationship with ROA. And compared with previous study, we have found some anomalies with few factors influencing the ROA. The findings of this study bear significance both in theoretical and managerial aspects. This study is only an initial investigation of the factors or indicators that influence the ROA. To find the impact of these factors, this study only used ACME, a pharmaceutical company. The future studies may include other factors or all listed companies in the Dhaka Stock Exchange (DSE).

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