

Variables Performance Impact on the Solvency Position of Selected Private Banks in Ethiopia

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Abstract— Financial variables are a key role of the promotion of business organizations but some financial variables are active some financial variables are inactive so the present study will focus on which variables are playing the key role of promoting stability, profitability, the solvency of the banking sector. Here the study analyzing the key variable purpose adopt correlation and multiple regression model. So here the bankometer formula considers as dependent variables, and Business size, Asset management, operational efficiency considers as the independent variable. In the overall study examine and find three dependent variables out of six variables is predictive on independent variables, the remaining three variables do not influence on independent variables. The end of the report said that Equity to total assets, Loan to Assets, and Capital Adequacy ratio performance will depend upon Business Size, Asset Management, and Operational Efficiency.

Keywords: Bankometer, R-square, Multiple Regression, Variables, solvency

1. 1. INTRODUCTION

The banking sector is a key role in every country's economic performance, so every bank should be carefully followed by monetary norms. The present research will focus on the banking sector. This research will be helpful for the baking sector for predictive of which financial variables are key role-playing on business growth, asset management, and operational efficiency. It is not a vague statement because this

formula already succeeded by Turoczy Zsuzsanna, Liviu Marian (2012) [1], reported that research on performance indicators in the ceramic industry with the use of multiple regression analysis. They confined the size of the profit as the dependent variable and self-financing capacity, degree of technical endowment, return on equity, personnel cost per employee, and investment per person employed as independent variables. Finally, they conclude three independent variables are strongly significant predictors of the magnitude of the profit. For that my research added a correlation tool also for predicting positive or negative correlation between the variables, it is also proved by Syed Qasim Shah, Rizwan Jan (2014) [2], reported on the analysis of financial performance in private banks in Pakistan. They used correlation and multiple regression analysis for research analyzing purposes. They classified variables as dependent are ROA, IN and independent variables are BS, AM, and OE. Finally, they conclude ROA is strongly influenced by BS, AM, and OE. Coming to another dependent variable (IN) strongly positively influenced on the BS, AM, and OE. This study helps for bankers in their decision making. This study is not only helpful for business organizations even though we can have applied for individual financial appraisal purposes. It is explained

by Vlasta Bahovec, Dajana Barbic, Irena Palic (2017) [3], who reported concentrating on the regression analysis of individual financial performance: evidence from Croatia. The overall research study will examine on Gender category and Financial literacy level that will impact on financial performance. This study purpose selected multiple regression analysis as a measurement scale. The end of the study they disclosed men category variable is more influenced on financial performance then compare to women category variable. Financial literacy variables are a major impact on financial performance. Finally but not least with the use of the altaman & bankometer formula we are predicting the risk level this is proved by T.Durga Prasad, Surendra Verru (2019) [4], both the authors are the focused evaluation of the solvency position of 19 nationalized banks in India with the use of Altaman's (z-score) & Bankometer (s-score) techniques. As per altamans score allotted to a safe zone or danger zone for every bank. As per the recommendation of the bankometer whichever bank will be got less than 50% of the solvency rate is a high risk if 50% to 70% solvency rate is grey area if crossed 70% solvency rate healthy area. Finally, both the authors are concluded from the results of the altamans (z-score) technique two banks are danger zone out of 19 banks, and from the results of the bankometer (s-score), all banks are health zone.

2. RESEARCH MODEL:

2.1 Research Question

This research has targeted to which financial variables are strongly influencing on the solvency position of the selected private banks in Ethiopia.

2.2 Data

Data has been collected from financial statement analysis of the financial sector 2015-2019 issued by selected private banks in Ethiopia. The top five of the private banks were taken as a sample for analysis of financial performance, which holds a 40% market share.

2.3 Regression Model

- I. $CA = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$
- II. $EA = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$
- III. $NPL = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$
- IV. $CI = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$
- V. $LA = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$
- VI. $CAR = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon$

The regression model describes forecasting between the two variables performance, so as per formula (refer 2.3 equation), CA, EA, CAR, NPL, CI & LA is standing variables, β_1 , β_2 & β_3 is dependent variables, here β_1 is Business Size, β_2 is Asset Management, and β_3 is Operational Efficiency.

2.4 Hypothesis of the Study

- $H_0 =$ Dependent variables = Independent Variables (null hypothesis)
- $H_1 =$ Dependent variables \neq Independent Variables (alternative hypothesis)

TABLE I
EXPLANATION OF VARIABLES

Dependent Variables	Independent Variables
Capital to Asset Ratio (CA)	Business Size (BS) (X ₁)
Equity to Asset Ratio (EA)	Asset Management (AM) (X ₂)
Capital Adequacy Ratio (CAR)	Operational Efficiency (OE) (X ₃)
Non-performing Loans to Total loans ratio (NPL)	
Cost to Income Ratio (CI)	
Total Loans to Assets Ratio (LA)	

From the Table I representing explanation of variables. Variables are categorized into two parts, those are Dependent Variables and Independent Variables.

3. RESULTS AND DISCUSSIONS

3.1. Descriptive and Statistics

From Table II representing the performance of the descriptive statistics of dependent variables. If you observe all dependent variables CA variable is showed the lowest standard deviation that is 0.395891, it showed more consistency that means private banks are maintained in every year's proper capital funds depends upon levels of assets. Loans to asset variable record the highest standard deviation that is 6.411098, it means its recorded highest deviations. Generally, loans to asset ratio indicate (≤ 1) means the company owns more assets than liabilities and can meet its obligations by selling its assets if needed. Here banks are maintaining more fluctuating results of loans to assets variable.

TABLE II
DEPENDENT VARIABLES DESCRIPTIVE STATISTICS PERFORMANCE

	CA	EA	NPL	CI	LA	CA R
Mean	6.764	11.748	1.964	56.22	52.574	16.238
Median	6.88	11.57	1.47	57.49	52.94	16.7
Maximum	7.28	12.42	3.02	58.89	59.67	17.64
Minimum	6.34	11.29	1.36	51.49	43.34	13.98
Std.dev.	0.395891	0.503408	0.783728	3.085774	6.411098	1.49944

TABLE III
INDEPENDENT VARIABLES PERFORMANCE

	BS	AM	OE
Mean	29.228	7.924	51.15
Median	27	8.38	50.48
Maximum	46.08	8.66	54.29
Minimum	16.98	7.04	48.7
Std.dev.	11.79728	0.804164	2.089641

From Table III representing the performance of the descriptive statistics of the independent variable. The overall observation of all independent variables, asset management variable results is more consistent because its recorded lowest standard deviation is 0.804164, so selected private banks maintain proper and stable utilizing their assets to generate the revenues. The business Size variable is not consistent because it is recorded the highest standard deviation value so selected private banks do not maintain any stable business growth rate.

3.2. Correlation Analysis

TABLE IV
CORRELATION ANALYSIS between DEPENDENT Vs. INDEPENDENT VARIABLES

	CA	EA	CAR	NPL	CI	LA	BS	AM	OE
CA	1.000	0.928	(0.430)	0.535	0.346	(0.595)	(0.847)	0.956	(0.516)
EA	0.928	1.000	(0.488)	0.408	0.282	(0.545)	(0.848)	0.824	(0.626)
CAR	(0.430)	(0.488)	1.000	0.365	0.517	(0.446)	0.173	(0.376)	0.941
NPL	0.535	0.408	0.365	1.000	0.367	(0.791)	(0.354)	0.423	0.391
CI	0.346	0.282	0.517	0.367	1.000	(0.829)	(0.716)	0.479	0.249
LA	(0.595)	(0.545)	(0.446)	(0.791)	(0.829)	1.000	0.736	(0.578)	(0.262)
BS	(0.847)	(0.848)	0.173	(0.354)	(0.716)	0.736	1.000	(0.882)	0.418
AM	0.956	0.824	(0.376)	0.423	0.479	(0.578)	(0.882)	1.000	(0.491)
OE	(0.516)	(0.626)	0.941	0.391	0.249	(0.262)	0.418	(0.491)	1.000

The above Table IV explains the correlation between the dependent and between the independent variables and vice-versa. Based on the results Loans to assets variable recorded a negative correlation with the remaining dependent variables, which means loans to assets variable acting like an independent variable, so banker should take any financial decision on loans to assets ratio, it does not effect on other dependent variables. Coming to the Independent variable of Business Growth (BS) is

maintaining a negative correlation with all dependent variables except Capital adequacy ratio (CAR) but it is also recorded lowest correlation, so the business size growth rate is depending upon CAR and OE. Another independent variable is Asset Management (AM) is a negative correlation with CAR and LA. Coming to the last independent variable is Operational Efficiency (OE) maintains a strong correlation with CAR only.

3.3 Regression Analysis

TABLE V
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- CA)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	10.643	0.830	12.822	2.123	8.917	12.370
X ₁	-0.043	0.009	-4.452	0.000	-0.063	-0.022
X ₂	-0.138	0.070	-1.973	0.061	-0.284	0.007
X ₃	-0.029	0.009	-3.192	0.004	-0.048	-0.010
R-square	0.633					
Adjusted R-square	0.581					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	19.695	6.565	12.125	8.059	
Residual	21	11.370	0.541			
Total	24	31.066				

3.3.1 CA Vs. Independent Variables

From the Table V representing the regression variation between the dependent variable (CA) with Independent Variables (BS, AM, & OE). The R square (0.63) indicates that 63% of the variance in between the variables. The simultaneous multiple regression analysis is statistically (df=3,21, F=12.125, p=8.059) is explained by the predictive variable is not eligible (0.05 ≤ 8.059), showed equation no. (I), for growth rate (BS), asset management, and operational efficiency.

3.3.1.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.1.1.1 Bank size: it has been observed that bank size (X1) is negatively correlated with Capital to total assets (CA) with the coefficient of (0.043) this results indicates that with a 1% increase in the firm’s bank size, there is (0.043) percent decrease in CA of a firm. However, the relation in this study

proves to be statistically significant with a 0% level of significance (p ≥ 0.000), which makes the First Hypothesis to be accepted.

3.3.1.1.2 Asset Management: according to the results Asset management (X2) is negatively correlated with CA with a coefficient of (0.138). there is an insignificant (p≤0.061) relationship between CA and AM. Thus we reject our second hypothesis about CA Vs. AM.

3.3.1.1.3 Operational Efficiency: according to the results, operational efficiency (X3) was found to be negatively correlated with CA with a coefficient of (0.029). however, the relation in this study proves to be statistically significant with a 0% level of significance, which makes the third hypothesis to be accepted (p≥0.004).

$$HI = CA \neq \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (I)$$

TABLE VI
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- EA)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	13.106	1.095	11.966	7.665	10.828	15.384
X ₁	-0.038	0.012	-2.979	0.007	-0.064	-0.011
X ₂	-0.062	0.092	-0.672	0.508	-0.254	0.130
X ₃	0.004	0.012	0.399	0.693	-0.020	0.030
R- square	0.301					
Adjusted R-square	0.202					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	8.556	2.852	3.025	0.052	
Residual	21	19.795	0.942			
Total	24	28.352				

3.3.2 EA Vs. Independent Variables

From the Table VI representing the regression variation between the dependent variable (EA) with Independent Variables (BS, AM, & OE). The R square (0.30) indicates that 30% of the variance in between the variables. The simultaneous multiple regression analysis is statistically (df=3,21, F=3.025, p=0.052) is explained by the predictive variable is eligible (0.05 = 0.05), it is showed under equation no. (2), for growth rate (BS), asset management and operational efficiency.

3.3.2.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.2.1.1 Bank size: it has been observed that bank size (X₁) is negatively correlated with Equity to total assets (EA) with a coefficient of (0.038). However, the relation in this study proves to be statistically

significant with a 0% level of significance (p≥0.007), which makes the First Hypothesis to be accepted.

3.3.2.1.2 Asset Management: according to the results Asset management (X₂) is negatively correlated with CA with a coefficient of (0.062). there is an insignificant (p≤0.508) relationship between EA and AM. Thus we reject our second hypothesis about EA Vs. AM.

3.3.2.1.3 Operational Efficiency: according to the results, operational efficiency (X₃) was found to be positively correlated with EA with a coefficient of 0.004. however, the relation in this study proves to be a statistically insignificant (p≤0.693) relationship between EA and OE, which makes the third hypothesis to be rejected.

$$H0 = EA = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (2)$$

TABLE VII
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- NPL)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	1.043	1.667	0.626	0.537	-2.423	4.510
X ₁	0.012	0.019	0.626	0.537	-0.028	0.052
X ₂	-0.008	0.140	-0.058	0.953	-0.301	0.284
X ₃	0.012	0.018	0.665	0.512	-0.026	0.051
R- square	0.046					
Adjusted R-square	-0.089					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	3	2.260	0.753	0.344	0.793	
Residual	21	45.861	2.183			
Total	24	48.122				

3.3.3 NPL Vs. Independent Variables

From the Table VII representing the regression variation between the dependent variable (NPL) with Independent Variables

(BS, AM, & OE). The R square (0.04) indicates that 4% of the variance in NPL to Independent variables. The simultaneous multiple regression analysis is statistically (df=3,21, F=0.344, p=0.793) is explained by

the predictive variable is **not eligible** ($0.05 = 0.793$), it is showed under equation no.3, for growth rate (BS), asset management and operational efficiency.

3.3.3.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.3.1.1 Bank size: it has been observed that bank size (X_1) is positively correlated with Non-performing loans to total loans ratio (NPL) with a coefficient of 0.012 this result indicates that with a 1% increase in the firm’s bank size, there is 1.2 percent increase in NPL of a firm. However, the relation in this study proves to be statistically insignificant with a 0% level of significance ($p \geq 0.537$), which makes the First Hypothesis to be **rejected**.

3.3.3.1.2 Asset Management: according to the results Asset management (X_2) is negatively correlated with NPL with a coefficient of (0.008). there is an insignificant ($p \leq 0.953$) relationship between NPL and AM. Thus we **reject** our second hypothesis about NPL Vs. AM.

3.3.3.1.3 Operational Efficiency: according to the results, operational efficiency (X_3) was found to be positively correlated with NPL with a coefficient of 0.012. however, the relation in this study proves to be a statistically insignificant ($p \leq 0.512$) relationship between NPL and OE, which makes the third hypothesis to be **rejected**.

$$H1 = NPL \neq \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (3)$$

TABLE VIII
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- CI)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	118.869	7.070	16.811	1.170	104.165	133.574
X ₁	-0.203	0.082	-2.470	0.022	-0.374	-0.032
X ₂	-3.837	0.598	-6.416	2.324	-5.081	-2.593
X ₃	-0.513	0.079	-6.494	1.959	-0.678	-0.349
R- square	0.797					
Adjusted R-square	0.768					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	3	3241.754	1080.584	27.505	1.816	
Residual	21	825.022	39.286			
Total	24	4066.777				

3.3.4 CI Vs. Independent Variables

From the Table VIII representing the regression variation between the dependent variable (CI) with Independent Variables (BS, AM, & OE). The R square (0.79) indicates that 79% of the variance in between the variables. The simultaneous

multiple regression analysis is statistically ($df=3,21, F=27.505, p=1.816$) is explained by the predictive variable is not eligible ($0.05 \leq 1.816$), it is showed under equation no. (4), for growth rate (BS), asset management, and operational efficiency.

3.3.4.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.4.1.1 Bank size: it has been observed that bank size (X₁) is negatively correlated with cost to income (CI) with a coefficient of (0.203). However, the relation in this study proves to be statistically significant with a 0% level of significance (p≥0.022), which makes the First Hypothesis to be accepted.

3.3.4.1.2 Asset Management: according to the results Asset management (X₂) is negatively correlated with CA with a

coefficient of (3.837). there is an insignificant (p≤2.324) relationship between CI and AM. Thus we reject our second hypothesis about EA Vs. AM.

3.3.4.1.3 Operational Efficiency: according to the results, operational efficiency (X₃) was found to be negatively correlated with CI with a coefficient of (0.513). however, the relation in this study proves to be a statistically insignificant (p≤1.953) relationship between CI and OE, which makes the third hypothesis to be rejected.

$$H1 = CI \neq \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (4)$$

TABLE IX
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- LA)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	53.583	8.062	6.645	1.4E-06	36.816	70.351
X ₁	0.279	0.093	2.977431	0.007	0.084	0.475
X ₂	-0.396	0.681	-0.58128	0.567	-1.814	1.021
X ₃	-0.118	0.090	-1.30945	0.204	-0.305	0.069
R- square	0.324					
Adjusted R-square	0.227					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	515.273	171.757	3.362	0.038	
Residual	21	1072.811	51.086			
Total	24	1588.085				

for growth rate, asset management, and operational efficiency.

3.3.5 LA Vs. Independent Variables

From the Table IX representing the regression variation between the dependent variable (LA) with Independent Variables (BS, AM, & OE). The R square (0.32) indicates that 32% of the variance in between the variables. The simultaneous multiple regression analysis is statistically (df=3,21, F=3.362, p=0.038) is explained by the predictive variable eligible (0.05 ≥ 0.038) it is showed under equation no. (5),

3.3.5.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.5.1.1 Bank size: it has been observed that bank size (X₁) is positively correlated with Loans to total assets (LA) with a coefficient of 0.279. However, the relation in this study proves to be statistically significant with a 0% level of significance

($p \geq 0.007$), which makes the First Hypothesis to be accepted.

3.3.5.1.2 Asset Management: according to the results Asset management (X_2) is negatively correlated with CA with a coefficient of (0.396). there is an insignificant ($p \leq 0.567$) relationship between LA and AM. Thus we reject our second hypothesis about EA Vs. AM.

3.3.5.1.3 Operational Efficiency: according to the results, operational efficiency (X_3) was found to be negatively correlated with LA with a coefficient of (0.118). however, the relation in this study proves to be a statistically insignificant ($p \leq 0.204$) relationship between EA and OE, which makes the third hypothesis to be rejected.

$$H_0 = LA = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (5)$$

TABLE X
RESULTS of REGRESSION ANALYSIS (DEPENDENT VARIABLE- CAR)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	6.252	3.695	1.691	0.105	-1.432	13.937
X_1	0.012	0.043	0.288	0.775	-0.077	0.101
X_2	0.296	0.312	0.947	0.354	-0.353	0.946
X_3	0.142	0.041	3.442	0.002	0.056	0.228
R- square	0.377					
Adjusted R-square	0.288					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	136.391	45.463	4.236	0.017	
Residual	21	225.375	10.732			
Total	24	361.766				

3.3.6 CAR Vs. Independent Variables

From the Table X representing the regression variation between the dependent variable (CAR) with Independent Variables (BS, AM, & OE). The R square (0.37) indicates that 37% of the variance in between the variables. The simultaneous multiple regression analysis is statistically ($df=3,21, F=4.236, p=0.017$) is explained by the predictive variable is eligible ($0.05 \geq 0.017$), it is showed under equation no. (6), for growth rate, asset management, and operational efficiency.

3.3.6.1 Examination of the Regression Coefficient of Independent Variables wise

3.3.6.1.1 Bank size: it has been observed that bank size (X_1) is positively correlated with Capital adequacy (CAR) with a coefficient of 0.012. However, the relation in this study proves to be statistically insignificant with a 0% level of insignificance ($p \leq 0.775$), which makes the First Hypothesis to be rejected.

3.3.6.1.2 Asset Management: according to the results Asset management (X_2) is positively correlated with CAR with a coefficient of 0.296. there is an insignificant

($p \leq 0.354$) relationship between CAR and AM. Thus we reject our second hypothesis about CAR vs. AM.

3.3.6.1.3 Operational Efficiency: according to the results, operational efficiency (X_3) was found to be positively correlated with CAR with a coefficient of 0.142. however, the relation in this study proves to be a statistically insignificant ($p \geq 0.002$) relationship between CAR and OE, which makes the third hypothesis to be accepted.

$$H_0 = CAR = \beta_0 + \beta_1 (BS) + \beta_2 (AM) + \beta_3 (OE) + \epsilon \dots \dots \dots (6)$$

4. CONCLUSION

The overall the study is explained by three dependent variables are influenced on independent variables, those dependent variables are Equity to total assets, loans to total assets, and capital adequacy ratio, so as per the results we can strongly predict CAR, EA, and LA, that means if you any changes in tier 1 & 2 capital, equity performance and strategy of loans disbursement then it directly impacts on business growth, asset management, and operational efficiency. The remaining variables are capital to total assets, the cost to income ratio and non-performing to loan ratios are negatively influenced by independent variables. So if bankers will increase the financial performance then they will more concentrate on influenced variables only they don't give priority about uninfluenced variables, but this research is exempted from concern period, applicable to market economic condition, and government taxation policy.

REFERENCES

[1] Turoczy Zsuzsanna, Liviu Marian, Multiple regression analysis of performance indicators in the ceramic industry, *Procedia – Economics and Finance*, 3:509-514, 2012.

[2] Syed Qasim Shah, Rizwan Jan, Analysis of financial performance of private banks in Pakistan. *Procedia – Social and Behavioral Sciences*, 109: 1021-1025, 2014.

[3] Vlasta Bahovec, Dajana Barbic, Irena Palic, The regression analysis of individual financial performance: evidence from Croatia, *Business System Research*, 8(2): 1-13, 2017.

[4] T.Durga Prasad and Surendra Verru., Evaluation of Solvency Position of Nationalized Banks in India: with use of the bankometer & altamans technique, *International Journal of Recent Technology and Engineering (IJRTE)*, 8,(IS-4):1119-1125, 2019.

[5] Mohamed H.Rashwan, Heba Ehab, Comparative Efficiency Study between Islamic and Traditional Banks. *Journal of Finance and Economics*, 4(3):74-87, 2016.

[6] Qamar Abbas, Ahmed Imrna Hunjra, Analysis of Pre and Post Merger and Acquisition Financial Performance of Banks in Pakistan, *Information Management and Business Review*, 6(4):177-190, 2014.

[7] Ritesh Patel., Pre & Post Merger Financial Performance: An Indian perspective, *Journal of Central Banking Theory and Practice*, 181-200, 2017.

[8] Syed qasim shah, Rizwan Jam., Analysis of financial performance of private banks in Pakistan, *procedia-social and behavioral science*, 109:1021-1025, 2014.

[9] Al (aloke) Ghosh, Prem C.Jain., Financial Leverage Changes Associated with corporate Mergers. *Journal of Corporate Finance*, 6(4):377-402, 2000.

[10] Ritesh Patel., Pre & Post Merger Financial Performance: an Indian perspective, *Journal of Central Banking Theory and Practice*, 181-200, 2017.

[11] Ahmed, M. and Ahmed, Z, Mergers and Acquisition: Effect on Financial Performance of Manufacturing Companies of Pakistan. *Middle East Journal of Scientific Research*, 21(4): 689-699, 2014.

[12] Dr.T. Durga Prasad and Tarekegn Tariku Ebissa, Online Banking Impact on Profitability and Market Share: Evidence of Ethiopian Banking published in the book of *Exponential Transition of Management Practices and Implications for*

- Sectorial Prosperity, pp-180-186, Published by Forum for Intellectual Academicians and Researchers Publications. ISBN:978-81-935201-9-2,2020.
- [13] Ganesan.P. Determinants of profits and profitability of public sector banks in India: A profit function approach. Journal of of financial management and analysis, 14, 1: 27-37, 2001.
- [14] Lloyd-Williams, D.M., Phillip Molyneux and John Thornton, Market Structure and Performance in Spanish Banking, Journal of of Banking and Finance, 18, 433-443, 1994.