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A STUDY ON PATTERN OF ROE OF SELECTED INDIAN PRIVATE BANKS

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Abstract

Return on Equity (ROE) portrays the profitability of an institution. ROE compares the profit after tax with equity of the company. Better ROE reveals better utilisation of resources, resulting in better returns for owners. ROE is important for banks as they need high returns to meet their operational and administrative expenses and honour their obligations towards deposit-holders in the form of payment of interest and principal. This descriptive research intends to trace the pattern of ROE of 13 selected private banks of India using Du Pont Analysis and tries to identify the impact exerted by Margin on Sales, Asset Turnover and Leverage on ROE. This research is based on five year figures of these 13 private banks relating to the period of 2008-09 to 2012-13. Results suggest that Asset Turnover exerts the maximum impact on ROE followed by Margin on Sales, and Leverage exerts the least impact. Furthermore, the study has revealed that banks with high margin on sales and modest leverage are associated with banks with high ROE.

Keywords :*Leverage, Asset Turnover, Return on Equity, Margin on Sales, Panel Data.*

Short Profile

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INTRODUCTION

Return on Equity (ROE) portrays the profitability of an institution. ROE compares the profit after tax with equity of the company. ROE reveals earnings of owners of company in respect of their investment. ROE reflects capability of firms to yield returns for a unit of investor funds. Better ROE reveals better utilisation of resources, resulting in better returns for owners. Hence, ROE suggests shareholders about efficient utilisation of their resources by the company. A ROE of 15-20% is accepted by experts as attractive for shareholders.

ROE is generally calculated as percentage using the formula:

ROE = Profit After Tax (PAT) / Equity

PAT refers to the net income of the company after paying interest, tax and preference dividend but before paying dividend on equity shares. Equity excludes Preference share capital and includes equity share capital and accumulated revenue reserves.

Companies with identical quantum of funds employed in business and profits may still have different ROE because of composition of borrowed funds in capital structure. A company with larger debts will have more ROE because of utilisation of financial leverage concept to maximize earnings of owners. Hence, ROE needs to be analysed by investors in the light of debt-equity composition of companies.

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ROE for Banks

ROE is calculated for banks to assess returns managed by them on their capital investment. Banks have the social responsibility of serving the downtrodden masses by providing them with loans at economic rates and running the risk of such loans being irrecoverable, thereby resulting in Non Performing Assets. There are arguments against banks focusing on profits. However, banks with low ROE will be suffering from low income, which might disable them from providing for their operational and administrative expenses. The other important issue worth considering is that banks operate largely with public funds in the form of mobilization of public deposits and sufficient income is indispensable to pay the interest on such deposits and honouring the repayment of principal on demand or maturity. Furthermore, shares of banks have also become listed in stock exchanges and open for investors. Furthermore, banks have always showcase higher ROE for gaining competitive advantage to attract investors. Finally, ROE is an indicator of efficiency of banks. They can identify their weaknesses in utilisation of funds through a decreasing ROE so that alternative investment policies may be formulated and implemented to enhance profitability. Hence, banks have to focus on ROE to attract more investors and honour their financial and operational obligations. Henceforth, banks are also confronted with the important task of increasing their ROE.

On the other side of the coin, banks are operating in immensely regulated environment. They needs to manage an adequately robust ROE. However, too high ROE can also be problematic for banks as they may be criticized for exploiting customers with high interest rates. Banks can counter this criticism by concentrating on more socially responsible activities.

ROE Using Du Pont Analysis

ROE can be assessed using DuPont Analysis(also known as du Pont identity, DuPont equation, DuPont Model or DuPont method), which was propagated by DuPont Corporation during the early 1920s,by splitting the ROE into three components of Net Margin, Assets Turnover and Financial Leverage. Increase in Net Margin enhances sales, bringing more money, resulting in increased ROE. Enhanced Asset Turnover results in generation of additional sales for each unit of assets, leading to higher ROE. Lastly, utilisation of borrowed funds through Leverage increases ROE as interest payment is available for tax deduction.

By virtue of splitting ROE into three elements of Sales Margin, Asset Turnover and Leverage, the Du Pont identity facilitates financial analysts to comprehend the sources of ROE by assessing the impact exerted by the three elements on ROE. The analysis can also be used to compare and contrast the trend prevalent among the firms in the same industry or among different industries. Du Pont analysis enables grouping of firms surveyed as High margin firms, High Turnover firms and High Leveraged firms. ROE of some firms might be immensely influenced by their sales margin while those of others might be due to greater operational efficiency revealed by asset turnover. Many other firms may rely on high leverage to generate high ROE. Du Pont Analysis enables identification of the components exerting dominant impact on ROE.

Ascertainment of ROE Using Du Pont Model

The formula for ascertaining ROE using Du Pont Analysis is

ROE=Sales Margin * Asset Turnover * Leverage.

This study has ascertained ROE of 13 selected private banks using Du Pont Model and tried to analyse the impact exerted by these three components on ROE.

REVIEW OF LITERATURE

ROE has been used by many banks to measure their performance even in present day context (Jenkins 2011). Those banks which managed higher ROE were able to sustain the pressure of the 2008 recession. ROE has facilitated appropriate allocation of limited resources among profitable avenues. Despite equity capital being costly, ROE can still be enhanced by utilising cheaper deposits and debts (Admati et al. 2011). Banks are generally reluctant to deleverage to avail the advantages of leverage, which however might lead to a debt overhang effect (Admati et al. 2012).

It is generally accepted that returns shall increase with level of risk. However, a rational risk assessment and with a binding capital constraint, ROE may not increase due to a riskier portfolio investment (Kim and Santomero 1988).This implies that higher ROE results in enhanced value creation, and is not associated with high risks. This justifies the utilisation of ROE to ascertain performance of banks and discharge the function of capital allocation.

However, appraising the actual performance of banks is a complex phenomenon as it might be a result of two components of value creation and risk taken. These two aspects have to be separated to assess the real performance and the fact that the former is unobservable complicates this process (Rajan 2005).More risk taken enhances returns which results in value enhancement. Further literature reveals an inverse relationship between risk-taking and compensation to employees (Bolton, Mehran and Shapiro 2011; Cheng, Hong and Scheinkman 2011).However, Bhattacharyya and Purnanandam (2012) have found that compensation package offered to executives of US commercial banks had significant impact on Earnings per Share.A well-compensated executive gets satisfied and strives for maximising returns for shareholders thus leading to wealth maxi misation.

OBJECTIVES OF THE STUDY

1.To analyse the trend of ROE and Margin on Sales, Asset Turnover and Leverage of 13 selected private banks over the five year period of 2008-09 to 2012-13;

2.To identify the impact exerted by Sales Margin, Asset Turnover and Leverage on ROE of the private banks collectively and individually;

3.To assess the prevalence of association between Margin on Sales, Asset Turnover and Leverage and ROE of private banks.

METHODOLOGY

The proposed research is descriptive in nature, based purely on secondary data, collected from Online Database maintained by BLOOMBERG database and reliable websites such as www.rbi.org.in and www.moneyc ontrol.com. The ROE of 13 selected private banks were arrived at using Du Pont Analysis.Value of interest earned by the banks were considered as sales for the purpose of Du Pont Analysis as interest constitute the major portion of revenue from operations for banks. The figures were appropriately tabulated and analysed using MS Excel, Statistical Package for Social Sciences (SPSS) and EViews, employing the statistical tools of Panel Data, Regression Analysis, Cluster Analysis and Correspondence Analysis. Time period of the study is 2008-09 to 2012-13 while the 13 private banks selected for this study are South Indian Bank, JK Bank, HDFC Bank, City Union Bank, Lakshmi Vilas Bank, Karnataka Bank, KarurVysya Bank, Indusind Bank, ING Vysya Bank, ICICI Bank , Axis Bank , Yes Bank and Kotak Mahindra Bank.

Data Analysis and Interpretation

ROE of 13 Selected Private Banks

ROE of the selected private banks ascertained using DuPont Analysis is portrayed in Table 1.

Table 1: ROE of Private Banks

Bank	Margin on Sales	Asset Turnover	Leverage	ROE
Axis Bank	0.198121993	0.071407026	12.26101207	0.171045
City Union Bank	0.160064676	0.088186361	14.25213003	0.201038
HDFC	0.179598603	0.080401538	11.15724586	0.159852
ICICI	0.17525217	0.071978807	7.632289825	0.095732
INDUSIND Bank	0.131240876	0.085819507	13.91106981	0.146614
ING Vysya Bank	0.111088093	0.075360477	13.10904439	0.101706
JK Bank	0.161701053	0.078081771	14.49908526	0.183289
KarurVysya Bank	0.095741565	0.082125159	14.1797915	0.112432
Karnataka Bank	0.164954263	0.084188218	13.69283763	0.188043
Kotak Mahindra	0.160491514	0.093264504	8.022029118	0.118749
Lakshmi Vilas Bank	0.065528766	0.087993514	16.922036	0.09779
South Indian Bank	0.116233997	0.08234104	17.78374225	0.169738
Yes Bank	0.168978337	0.078084566	14.84868698	0.193243

It can be inferred from Table 1 that average ROE for the five year period of 2008-09 to 2012-13 has been good for Yes Bank, Axis Bank, City Union Bank, HDFC, INDUSIND Bank, JK Bank, KarurVysya Bank, Karnataka Bank and South Indian Bank as the figure hover around 15-20%. However, the figure hovers around the 9-11% level for ICICI, ING Vysya Bank, Kotak Mahindra and Lakshmi Vilas bank.

Impact Exerted by Sales Margin, Asset Turnover and Leverage on ROE of Private Banks

The nature of impact exerted by the three components of Sales Margin, Asset Turnover and Leverage on ROE of the private banks in general has been explored using Panel Data Analysis and the results are discussed in the following paragraphs.

Table 2: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	R^2
Cross-section random	0.000000	3	1.0000	0.966577

It can be inferred from Table 2 that the independent variables of Margin of sales, Leverage and Asset Turnover explains 96.6577% variance of ROE. It can further be inferred from the table that the value of Probability exceeds the 0.05 threshold limit, suggesting that the influence of independent variables on the dependent variable is due to Random or company effect.

Table 3: Coefficients Summary (Private Banking Sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.263136	0.025610	-10.27467	0.0000
Asset Turnover	1.908199	0.186579	10.22733	0.0000
Leverage	0.008702	0.000630	13.81965	0.0000
Margin on Sales	0.973941	0.059898	16.25987	0.0000

It can be inferred from Table 3 that Asset Turnover exerts the maximum impact on ROE of the private banking sector followed by Margin on Sales while Leverage makes only a slight impact.

Bank-wise Determinants of ROE

It can be inferred from Table 4 that the R Square value in respect of the Regression Model for all the 13 banks exceed 0.9 mark, suggesting that the independent variables explain more than 90% variance of the dependent variable in the case of all the banks.

Table 4 further highlights that all the three variables of Margin on Sales, Leverage and Asset Turnover exerts significant impact on ROE of Yes Bank, Axis, City Union Bank, HDFC, INDUSIND Bank, JK Bank, Karnataka Bank, KarurVysya Bank and Kotak Mahindra Bank. Margin on Sales and Asset Turnover alone influences ROE of ICICI and Asset Turnover while Leverage alone influences ROE of South Indian Bank. Margin on Sales alone influences ROE of Laksmi Vilas Bank while none of the three variables influences the ROE of ING Vysya Bank.

Table 4: Bank-wise Determinants of ROE (Model Summary)

Bank	R^2	Margin on Sales		Asset Turnover		Leverage	
		T	P	T	P	T	P
Axis Bank	0.992	6.996	0.040	7.069	0.039	10.694	0.031
City Union Bank	1.000	22.898	0.028	30.514	0.021	20.774	0.017
HDFC	0.998	19.824	0.032	18.453	0.038	11.191	0.047
ICICI	0.995	7.027	0.001	3.558	0.014	1.778	0.326
INDUSIND Bank	0.997	15.238	0.042	19.758	0.032	7.689	0.022
ING Vysya	0.969	0.989	0.504	1.212	0.439	1.694	0.340
JK Bank	1.000	101.814	0.006	58.018	0.011	11.923	0.043
Karnataka Bank	1.000	94.253	0.007	25.595	0.025	13.955	0.046
KarurVysya	1.000	104.545	0.002	75.957	0.002	53.414	0.004
Kotak Mahindra	1.000	18.959	0.034	8.460	0.045	15.522	0.041
Laksmi Vilas	0.992	6.876	0.047	2.015	0.293	2.621	0.232
South Indian Bank	0.999	1.539	0.367	4.170	0.045	23.764	0.027
Yes Bank	1.000	25.942	0.025	33.555	0.019	107.154	0.006

Table 5: Bank-wise Coefficients Summary (B Values)

Bank	Sales Margin	Asset Turnover	Leverage
Axis Bank	0.990	2.691	0.015
City Union Bank	0.987	1.898	.022
HDFC	0.964	2.185	0.011
ICICI	0.640	1.569	0.010
INDUSIND Bank	2.574	0.685	2.163
ING Vysya	1.830	0.773	0.009
JK Bank	1.163	2.508	0.012
Karnataka Bank	1.220	1.244	0.007
KarurVysya	1.220	1.440	0.007
Kotak Mahindra	0.775	1.387	0.018
Laksmi Vilas Bank	1.274	0.869	0.005
South Indian Bank	1.355	2.052	0.010
Yes Bank	1.038	2.353	0.014

It can be inferred from Table 5 that ROE is influenced by Asset Turnover, followed by Margin on Sales and Leverage in the case of Kotak Mahindra Bank, KarurVysya Bank, JK Bank, Karnataka Bank, HDFC, City Union Bank, Yes Bank and Axis Bank which is in consistency with the industry trend. However, in the case of South Indian Bank, Asset Turnover followed by Leverage influences ROE while in the case of ICICI, Asset Turnover followed by Margin on Sales casts the impact. ROE of Laksmi Vilas Bank is influenced merely by Margin on Sales while ROE of ING Vysya Bank is not influenced by any of the variables. The trend is just the reverse in the case of INDUSIND Bank where ROE is influenced by Margin on Sales followed by Leverage and finally, Asset Turnover. Hence, it can be said that majority of the private banks follow the industry trend as far as determinants of ROE.

Segmenting Banks Based on Margin on Sales

Depending on Margin on Sales accomplished, the private banks have been clustered into three groups using Cluster Analysis and the results are displayed in Table 6.

Table 6: Final Cluster Centres (Margin on Sales)

Factor	Banks with High Sales Margin	Banks with Moderate Sales Margin	Banks with Truncated Sales Margin
Margin on Sales	0.1711453261977458	0.1135761325394837	0.0655287656549117
Frequency	8	4	1
F=43.035		P=0.000	

It can be observed from Table 6 that the private banks have been grouped into three clusters based on Margin on Sales of the banks and these groups have been designated as “Banks with High Sales Margin” (consisting of 8 banks), “Banks with Moderate Sales Margin” (comprising of 4 banks) and “Bank with Truncated Sales Margin” (comprising of a solitary bank).

Grouping of Banks Based on Leverage

On the basis of Leverage, the private banks have been grouped into three clusters and the details of the Cluster Analysis has been portrayed in Table 7.

Table 7: Final Cluster Centres (Leverage)

Factor	Banks- Modest Leverage	Banks-High Leverage	Banks-Truncated Leverage
Leverage	13.545655947147460	17.352889126694640	7.827159471635425
Frequency	9	2	2
F=40.009		P=0.000	

It can be inferred from Table 7 that the private banks have been grouped into three groups which have been labelled as “Banks with Modest Leverage”, “Banks with High Leverage” and “Banks with Truncated Leverage”. The cluster with modest leverage comprise of 9 banks while the other two clusters consist of two banks each.

Grouping Banks Based on ROE

On the basis of ROE, the private banks have been segmented into three clusters and the details are discussed in Table 8.

Table 8: Final Cluster Centres (ROE)

Factor	Banks with Modest ROE	Banks with High ROE	Banks with Truncated ROE
ROE	0.1618123335013850	0.1914031693112505	0.1052819050712338
Frequency	4	4	5
F = 91.717		P = 0.000	

Table 8 portrays that the banks have been segmented into three groups based on their ROE.These three clusters have been labelled as “Banks with Truncated ROE”, “Banks with Moderate ROE”and “Banks with High ROE”. Five banks constitute the cluster with Truncated ROE while four banks constitute the other two clusters.

Grouping Banks Based on Asset Turnover

On the basis of Asset Turnover, the private banks have been grouped into three clusters and the details are portrayed in Table 9.

Table 9: Clusterisation of Banks Based on Asset Turnover

Factor	Banks with Truncated ATo	Banks with High ATo	Banks with Modest ATo
Asset Turnover	0.0729154365459737	0.0888159714291082	0.0808703820849999
Frequency	3	4	6
F=31.490		P=0.000	

It can be inferred from Table 9 that three groups have been formed using Cluster Analysis and these banks may be designated as “Banks with Truncated Asset Turnover” (comprising of 3 banks), “Banks with High Asset Turnover” (encompassing 4 banks) and “Banks with Modest Asset Turnover” (consisting of 6 banks).

Association Between ROE and Margin On Sales (MOS)

The association between ROE and MOS has been explored using Correspondence Analysis and the results have been displayed in Figure 1.

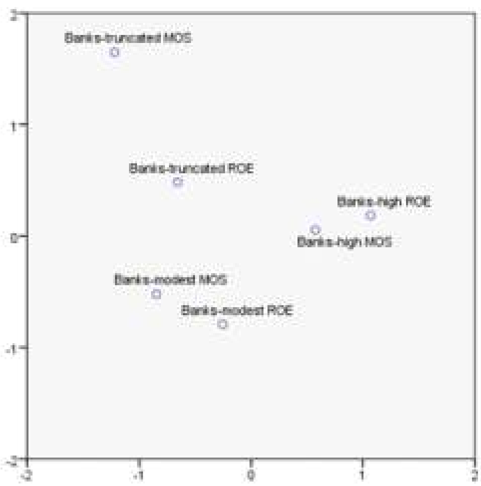

Fig 1: Association Between ROE and MOS of Private Banks

Figure 1 highlights that banks with high MOS are associated with those with high ROE and banks with moderate MOS are associated with those with high ROE.

Association Between Asset Turnover (ATo) and ROE

The association between ATo and ROE of private banks have been explored using Correspondence Analysis and the results have been displayed in Figure 2.

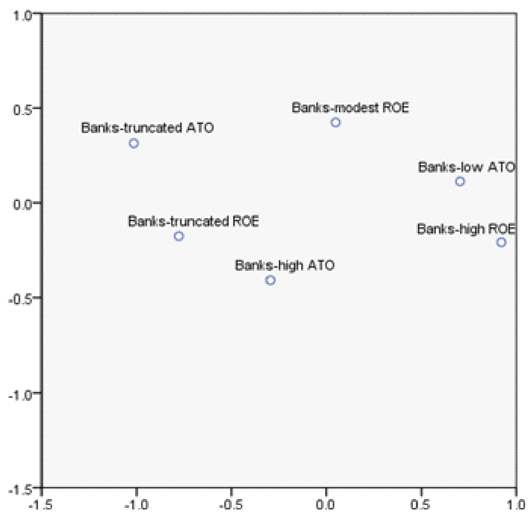

Fig 2: Association BetweenATo and ROE

Figure 2 highlights that banks with High Asset Turnoverare associated with banks with truncated ROE while banks with Truncated Asset

Turnover are associated with banks with High ROE.

Association Between Leverage and ROE

The association between Leverage and ROE of the private banks have been explored using Correspondence Analysis and the results have been depicted in Figure 3.

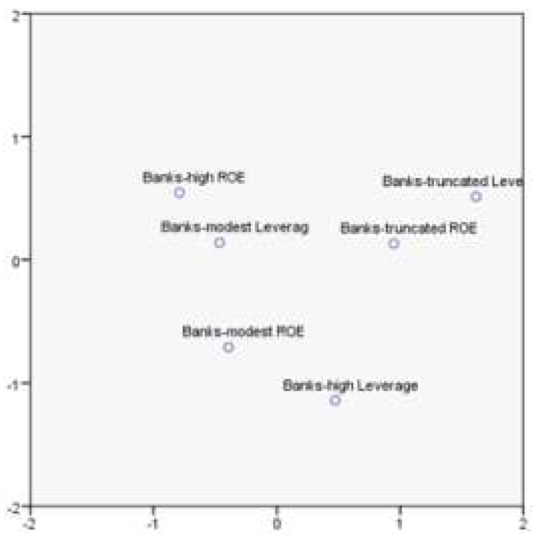

Fig 3: Association Between Leverage and ROE

Fig 3 portrays that Banks with Modest Leverage are associated with banks with high ROE and banks with Truncated Leverage are associated with those with Truncated ROE.

INFERENCES AND CONCLUSION

Yes Bank, Axis Bank, City Union Bank, HDFC, INDUSIND Bank, JK Bank, KarurVysya Bank, Karnataka Bank and South Indian Bank have managed a good ROE of 15-20%. It is surprising to note that a big private bank such as ICICI has managed lower ROE than most of its competitors. This necessitates these banks to concentrate on cost minimisation and revenue generation through better customer service.

Asset Turnover exerts the maximum impact on ROE, suggesting that the banks should concentrate on maximising operational efficiency through rational utilisation of assets to maximise ROE. In addition, sales margin has a direct association with ROE, warranting banks to concentrate on enhancing sales margin by increasing interest earned and minimising operational and administrative expenses. Further, a moderate leverage is associated with high ROE. Hence, banks should consider applying financial leverage concept to a modest level to maximise profits. However, this study has revealed that higher Asset Turnover diminishes ROE of banks which merits a detailed investigation.

It can hence be concluded that operational efficiency coupled with good sales margin and modest leverage shall enhance the ROE of Indian private banks.

LIMITATIONS OF THE STUDY

This study has considered only five year data. Perhaps, Regression Analysis could yield better results if the number of observations is on the higher side. Availability of data compelled the researcher to use five year figures.

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