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A Study of Impact of Leverage on the Profitability of Indian Banking Industry

Dr S.M.Tariq Zafar, Dr Adeel Maqbool and Anju Fortyal

Abstract

With increasing Industrialization, investment decisions in banking sector becoming more critical. Ever since Indian economy adopted globalization and opened its doors to MNCs, the Indian banking industry has been witnessing new products, efficient services and stiff competition. Its survival in competitive environment largely depends on its efficient fund generation policies, profitability and efficient management which requires a careful analysis of the profitability, competitive policies and massive investment which can be achieved with reliable saving and investor's durability to absorb competitive market risks. Thus in the light of recent developments, a careful analysis of the profitability of Indian banking sector is inevitable. The present study attempts to analyze the leverage position of Indian banking industry and its impact on EPS, its risk and return and profitability. For the purpose10 year data from 2000-01-20009-10 of ten Indian banks SBI, BOB, AB, SB, ICICI, HDFC, DB, CB, IDBI, and OBC have been taken, the value of leverages has been calculated and on the calculated leverages value Mean, Standard deviation, Skewness and Kurtosis has been calculated. After the calculation of the leverages relationship has been calculated of all leverage with EPS value.

Keywords: DFL, OL, CL, EPS, Correlation, SBI, BOB, AB, SB, ICICI, HDFC, DB, CB, IDBI, and OBC.

JEL Classification: G18, G21, G24, G29, G30, N20, F30

1. Introduction

With increasing globalization industrialization has increased too many folds and requires massive resources to produce expected returns to end users and investors. Thus in confused socio- eco- political environment the study of leverage has became important to identify and define the risk undertaken by the investors / shareholders which arise due to variability of EBIT (Operating Risk, due to variability of sales and variability of expenses) and Variability of EPS or ROE (Financial Risk, due to the impact of interest charges). Generally it refers to meeting out fixed assets or paying out fixed return for employing debt resources or funds for enhanced profitability to shareholders trading on thin equity. It is strategic advantage gained for financial requirement and also reliable instrument to force the organizations to generate and pay out cash through use of fixed charge financial instrument raised on the strength of net worth. It can be acknowledged as a tool to minimize the agency costs and is efficiently used by business entities to quantify the risk–return relationship of different alternative capital structures. The induction of fixed charges financial instruments /securities (debt) with the owner's equity in the capitalization of economic entity is regarded as financial leverage. It occurs when it includes debt content in its capital structure and pay fixed financial charges. These fixed financial charges are to be paid irrespective of level of EBIT as they are fixed in nature and do not vary with EBIT. Hence an increase in EBIT will result to a higher percentage increase in EPS. It is because degree of financial leverages largely depends on the magnitude of interest and fixed financial charges. If the cost is higher,

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DFL is higher and vice-versa. Further high DFL reveled that fixed interest charges are high which ultimately means financial risks are higher and consecutively it also measures the impact of change in EBIT on EPS which is considered favorable when it earns more on its total investment than what it pays towards debt capital, means ROCE should be greater than rate of interest on debt. It is also considered as "Trading on Equity" when shareholders gain in a situation where the organization earns a high rate of return and pays a lower rate of return to the supplier of long term debt funds. The difference between the return (EBIT) and the cost of debt funds would enhance the earning of shareholders. Further, in case of debt funds the interest cost is also tax deductible. Hence gains from DFL arise due to excess of return on investment over effective cost of debt and reduction in the number of shares issued due to the use of debt funds.

Introduction to Indian Banking Industry

With growing business opportunity and competition demand for finance has grown many folds. To avail the opportunity many innovative financial instrument have came out in market to support the growing economic and financial apatite. Banking industry being an important part of nation economy and custodian of socio- economic integrity played instrumental role and have a deep impact on over all employment in the nation. Its advancement and development advertise and promote the nation's growth. Being a key player in shaping the nation economy it require heavy investment which are largely borrowed funds. With leverage financing in its capital structure it have social obligation to satisfy the investor in all regards. Since half century world has witness cataclysmic change in the sphere of commercial banking. Indian banking industry being among the oldest banking system also experiencing a rapid growth in its different modes with global competitive development and increasing involvement of foreign investments in banking sector. Its Business environment has altered radically, changes in the economic policies, introduction of new institutional mechanisms, economic liberalization and financial sector reforms, explored competition to a great extent.

To become a global leader and to match the economic pace with growing private and foreign competition Indian banking system has adopted protective and balance approach to cater the competitive demand for smooth future. It basically aimed at ensuring the safety and soundness of financial institutions and making system strong, effective, efficient, functionally diverse and competitive. In due process to flourish its economic strength it has been varying its origin and sizes. At the apex nation's Central bank the Reserve banks of India (RBI), followed by State bank of India (SBI), major nationalize scheduled banks, other joint stock banks, co-operatives banks, Regional rural Banks.

Indian banking sector comprises the public sector commercial banks, private sector banks, co-operative banks and regional rural banks which are highly fragmented with 30 banking units contributing to almost 50% of deposits and 60% of advances and runs on two major wheels, "scheduled and non scheduled banks". Scheduled banks which operate under strict regulation of RBI are constituted of commercial banks and co-operative banks and presently have more than 76003 operational branches. In order to develop healthy and effective over all banking system India adopted phase wise nationalization and during the first phase of financial reforms in 1969, 14 major Indian banks were nationalized. This move of nationalization of banks promoted confidence among general citizen and transformed class banking into mass banking with futuristic aim to develop balance economic growth and serve un-banked areas of the country. Since then the growth and modernization of the Indian banking industry has been a continuous process.

Strategically nationalization of Indian banking industry leads unprecedented expansion of its operations and explored economic revolution with some explicit and implicit draw backs. With efficient utilization of internet, e-commerce explored the business landscapes and enabled economic houses to expand beyond the frontiers of the country. Which increases the expectation of business houses for financial requirement and emphasizes banks to act as financial super market with an inside range of products at a lower transaction cost? It is noted that in India state owned banks accounts more than 78 per cent of total banking industry assets with growing Non Performing Assets (NPAs) dormant and inefficient manpower, obsolete technology, political interference and corruption. On the other hand with increasing global competition the Private Sector and multinational Banks in India is witnessing immense progress. This scenario forced the public sector banks to take up the operations in a large scale manner to meet the competition brought by new private sector banks equipped with latest technology

(Internet banking, mobile banking, phone banking, ATMs) and effective professional manpower through which they expanded their presence in financial market.

Current Scenario of Indian Banking Industry

The present structure of Indian banking industry is due to prudent process of expansion, reorganization and consolidation. In early banking era economic considerations was the sole motive and it govern the growth of banks nationalization but with economy expansion objective of banking shifted to social balance in country and thus greater emphasis having being accorded on social objectives which resulted into network expansion penetrating deeply in all part of the nation. With social expansion and penetration to achieve balance economic objective Indian banking system emerged as one of the largest in the world and is fairly mature in term of product range, supply and urban reach in comparison to competitor private sector and foreign banks to whom rural penetration still remains a challenge. Generally social sector banks enjoy advantage of mass faith over private sector in terms of quality of assets and capital adequacy. To protect this faith Reserve Bank of India (RBI) as an centralized and autonomous body plays a parental role and shoulder the responsibility to manage rupee volatility without any fixed exchange rate and is accountable to all financial decisions with minimal pressure from the government and monitors discrepancies and shortcomings in the system.

In present volatile global economic rescission India has managed balance economic and services sector growth which ultimately accounted demand for banking services especially retail banking, mortgages and investment services which will lead to M&As, takeovers, and asset sales in large. According to a report by ICRA Limited, a rating agency, the public sector banks hold over 75 percent of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively.

At Present India has 88 scheduled commercial banks (SCBs) - 28 public sector banks (that is with the Government of India holding a stake), 29 private banks (these do not have government stake; they may be publicly listed and traded on stock exchanges) and 31 foreign banks. They have a combined network of over 53,000 branches and 44,000 ATMs, 22 million internet banking users. It is estimated that, with growing number of private banks and their services, the domestic credit market of India is expected to grow from US$ 0.4 trillion in 2004 to US$ 23 trillion by 2050 and will become third largest banking hub of the globe by 2040.

Indian Banks Future Challenge in Global Competition

With prudent expansion of economy and effective structural reforms Indian banks are growing their strength and emerging global competitor along with major source of financial sector revenue. With balance futuristic structural reforms the Indian financial services penetration continues to be healthy though it has not achieved the predetermined target. It is noted that just 40% of the Indian population has bank accounts and many of these accounts are defunct. Banks have also opened 5.06 crore no-frills accounts which are having san transaction and became white elephant for banks and curbing their profitability. In comparison to global standard only 30,000 (5%) out of six lakh Indian habitations have commercial bank branches, less than three banks branches per 100 sq-km of land area. With social objectivity in policy and to increase credit flow in due balance, RBI has set target to establish operational bank branch by 2012 into all habitations with 20000 populations, which is uphill task for banks. In addition, only 9% of total deposits were mobilized during the year 2009 in rural bank branches and share of total credit of banks was 7 %. The share of mass having any kind of insurance cover is just 10 % and of non life insurance is just 0.6%. It is evident that generally banks have flaws in appraisal which become cause of NPAs like (borrowers' viability, lenders viability, unique identity (UID) and coverage).

It has been acknowledged that every possible indicator of profitability, including return on equity, return on assets and net interest margin and spread has drastically declined. NPA swelled and aggregated to 2.39% in FY10, Profitability declined as return on assets in FY10 came down to 1.05%, return of funds to 9.29%, spreed by 0.10%, net profit to 8.3%, operating profit to 10.4%, failing Securitization / Reconstruction companies, going forward (liquidity management), repo rate which has emerged as policy rate, growing inflation (hidden tax), credit recovery, progressive withdrawal of liquidity support from central bank impacted overall credit, interest hike, sinking SCB share of credit to capital market, uncertain and volatile real estate and commodities future, are the matter to be

investigated minutely for better result other wise it will hamper nation preset target of 9 % economic growth.

Further for improved quality of life, education for overall balance economic and social growth it is social and moral obligation of state and its agencies to providing credit in remote area as India compared poorly, not only with OECD countries, but with Asian peer group countries in financial inclusion. In the due regard annual RBI report has expressed concerns on deteriorating assets quality, sluggish deposits growth and slow progress in financial inclusion in the banking sector. SBI and ICICI banks emphasized large banks to scale up their assets size to the tune more than five times and available on short call capital to meet the growing needs of the country, which is growing at a faster pace and is poised to attain double digit economic expansion. Future overview of global economic integration, financial engineer, economist and academicians sharing the common growth view has predicted future growth trend to be rising depending that emerging markets provided most of the world's economic growth over the past many years, with china and India accounting nearly 50% by themselves and thus fastest growing Asia will need $400-$450 billion in capital by 2015.

Keeping in view of establishing stable and perpetual economic leadership in global competition banks have to minimize if not control above mentioned future challenges and silent hurdles. For medium and long term smooth survival banks have to become more effective, efficient, transparent and vibrant to ensure optimum sustainable and inclusive economic growth.

Objective of the Study

Objective of the study is to understand and analyze the leverage position of Indian banking industry, scientific investigation of its risk and return, profitability, and its impact on EPS and to come up with the best and worst performing Indian bank. Further to develop rational investment system based on various variables through effective evaluation of past and expected future performance of the selected banks. For better future growth, banks have to asses the efficiency and profitability position which need scientific approach of analyzing intrinsic value of a banks practical risk and exposure and to visualize competitive and comparative efficiency of selected Indian banks.

Methodology

The study is done with special reference to ten renowned Indian banks selected through simple random sampling technique in the terms of turnover for analysis in which 7 are public bank and 3 are private. An analytical and descriptive research design has been adopted which based on the secondary data on continuous data availability of ten years of the sample banks (from 2000-01 to 2009-10), and are collected from the annual reports, balance sheet published by the banks, RBI annual reports, Capitaline Plus, Corporate Database. The sample banks are State Bank of India SBI, Bank of Baroda BOB, Allahabad Bank AB, Syndicate Bank SB, ICICI, HDFC, Dena Bank DB, Corporation Bank CB, IDBI, and Oriental Bank of Commerce OBC.

Tools for Analysis

In this study, for interpreting the results, the statistical and financial tools that have been used are Leverages, Kurtosis, Mean, Standard Deviation, Correlation analysis and't' test, to determine leverages relationship with EPS value.

Leverage Analysis

Analysis of leverage is essential to examine the risk undertaken by the shareholders due to variability of EBIT and Variability of EPS or ROE, It is a fixed obligation through systematic use of debt funds generated by the goodwill produced by the effective and efficient performance of the company with having fixed cost in futuristic hope of multiplying and maximizing shareholder's return (Tariq Zafar S.M). It can be created through options, futures, margin and other financial instruments and are commonly categorized as Financial Leverage, Operating leverage, and combined leverage.

$$\text{Operating Leverages} = \text{Contribution} / \text{EBIT}$$

$$\text{Financial Leverage} = \text{EBIT} / \text{EBT}$$

$$\text{Combined Leverages} = \text{OL} \times \text{FL}$$

Kurtosis

Intuitively, kurtosis is a statistical measure generally used to describe trends in charts. It generally based on the size of distributions tail. For the systematic unimodal distributions, positive kurtosis normally indicates heavy tails and peakedness in relation to normal distribution

which is said to be leptokurtic, whereas negative kurtosis indicates light tails and flatness in general and is said to be platykurtic and when normal distribution has zero kurtosis then it is said to be mesokurtic. Some times it is also been considered as the volatility of volatility. It generally defines the degree to which a statistical frequency is peaked and data is sharp or flat relative to a normal distribution. It generally focuses on how returns are ranged around the mean. It can be deemed as the standardized forth population moment about the mean. In this article, kurtosis is used with well known distribution and aspects of its interpretations are discussed. Formulas used are as.

$$\gamma_2 = \frac{\kappa_4}{\kappa_2^2} = \frac{\mu_4}{\sigma^4} - 3$$

$$\operatorname{Kurt}\left(\sum_{i=1}^{n} X_i\right) = \frac{1}{n^2}\sum_{i=1}^{n}\operatorname{Kurt}(X_i),$$

Mean

The most popular and widely used measure of representing the entire data by one value is called mean. It is widely used to differentiate it from other averages such as the median and the mode. It is sometime also been used to report central tendency. It value is obtained by adding together all the items and by dividing this total by number of items. In this article, it is used with well colleted data of different banks

Standard deviation

Standard deviation is by far the most relevant and widely accepted measures of studying dispersion or variability of distribution. It is also known as root mean square deviation. It generally shows the degree of variation from the "average" (mean), greater the amount of dispersion or variability, greater the standard deviation which indicates that the data are spread out over a large range of values. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series and indicates that the data points tend to be very close to the mean. In this article, standard deviation is been used to judge the representativeness of the means on comparable series of different banks with identical or nearly identical means. Formulas used are as.

$$\sigma = \sqrt{\frac{(x_1-\mu)^2 + (x_2-\mu)^2 + \cdots + (x_N-\mu)^2}{N}}$$

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i-\mu)^2}$$

Skewness

Skewness is a well establish parameter that describe the asymmetry in a random variables probability distribution. It is measure of symmetry or lack of symmetry and tells us the direction and the extent of asymmetry in a series, and permits us to compare two or more series with regard to these. They may be either being absolute or relative. Its measure indicates the difference between the manners in which items are distributed in a particular distribution compared with a symmetrical or normal distribution. In symmetrical distribution the mean, median and the mode are identical. It is deemed that more the mean moves away from the mode, the larger the asymmetry or skewness. In positive skewed distribution the value of mean is maximum and the value of mode least and the median lies in between the two. In a negative skewed distribution the value of mode is maximum and that of mean least and the median lies in between two. In this article, skewness is been used on selected government sector and private sector banks series and the interpretation of measures discussed. Formulas used are as.

$$\gamma_1 = E\left[\left(\frac{X-\mu}{\sigma}\right)^3\right] = \frac{\mu^3}{\sigma 3} = \frac{E[(X-\mu)^3]}{E[(X-\mu)^2]^{3/2}} = \frac{\kappa^3}{\kappa_2^{3/2}}$$

$$\gamma_1 = E\left[\left(\frac{X-\mu}{\sigma}\right)^3\right] = \frac{E[X^3] - 3\mu\sigma^2 - \mu^3}{\sigma^3}$$

$$\gamma_1 = \frac{m_3}{m_2^{3/2}} = \frac{\frac{1}{n}\sum_{i=1}^{n}(x_i-\bar{x})^3}{\frac{1}{n}\left(\sum_{i=1}^{n}(x_i-\bar{x})^2\right)^{3/2}}$$

Correlation analysis

The correlation analysis refers to the techniques used in measuring the closeness of the relationship between the variables. It measures the degree of relationship between the variables under consideration. Its measure, respectively called as correlation coefficient or correlation index summarizes in one figure. It analysis generally attempt to determine the degree of relationship between variables which are quantitative in nature. Its analysis contribute to the understanding of economic behavior, aids in locating the critically important variables on which other depend, may reveled the significant point by which disturbances

spread and suggest path through which stabilizing forces may become effective. In this article, correlation analysis is been used to trace out relationship between DFL and EPS, DOL and EPS, DCL and EPS on selected government sector and private sector banks and the interpretation of measures discussed. Formulas used are as.

$$r_y = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{(n-1)s_x s_y}$$

Test of significance

Correlation and '*T*' test result for financial leverage and earning per share.

Correlation and '*T*' test result for operating leverage and earning per share.

Correlation and '*T*' test result for combined leverage and earning per share.

Hypothesis of the Study

For better analysis of the leverage and profitability position of 10 banks, the following hypothesis is framed.

- There is significant relationship between DFL and EPS
- There is significant relationship between DOL and EPS
- There is significant relationship between DCL and EPS

Literature Review

Banking industry play key role in nation's development, economy revolves around its strength as it play strategic role for over all employment in the nation. Its modernization and development reflects the nation's economic growth. For the purpose it requires heavy investment which is largely borrowed funds. Being social entity with leverage financing it has moral obligation to satisfy the investor and shareholders who have undertaken risk. To explore the hidden truth and advantages of leverage impact on the Profitability of Banking Industry survey of literature has became paramount.

A survey of existing literature produced that large numbers of academician's, research scholars, professional financial institutions and independent researchers have carried out extensive research in the field of leverages and banking sector, Modigliani and Miller, Solomon Ben Naceur and Goaied, Berger, James E Walter, Guru et al, Barajas et al, Abreu and Mendes, Demerguç- Kunt and Huizingha, Neeley and Wheelock, Anghazo, Brasil, Afanasieff, Tariq Zafar S.M, Weston & Brigham, Frank Shostak Kotrappa, Charles Ellis, Crag, and produced some relevant and outstanding findings which gave new dimensions to leverages impact and banking performance. As most of the studies on leverages and bank performance are conducted in the US, UK, Europe and emerging markets and very limited studies been carried out in India and developing nations emphasizing leverages and performance of the banking sector. Further the result of these conducted studies carried out in India and developing nations are not authentic and lack scientific validity in the context of leverages and its impact on banking performance and no systematic study has yet been made to test the validity of these important aspects, thus keeping developing nations in mind this paper initiate humble beginning in these respects

The empirical evidence in the US is due to Berger (1995), Neeley and Wheelock (1997) and Angbazo (1997). Berger (1995) examines the relationship between the return on equity and the capital asset ratio for a sample of US banks for the 1983-1992 time periods and shows that the return of equity and capital to asset ratio tends to be positively related. Neeley and Wheelock (1997) explore the profitability of a sample of insured commercial banks in the US for the 1980-1995 periods. They acknowledged that bank performance is positively related to the annual percentage changes in the state's per capita income. Anghazo, investigates the determinants of bank net interest margins for a sample of US banks for 1989-2003 period The results for the pooled sample documents that default risk, the opportunity cost of non-interest bearing reserves, leverage and management efficiency are all positively associated with bank interest spread. The main Studies on the determinants of bank's performance in emerging countries were carried out in Colombia (Barajas et al., 1999), Brasil (Afanasieff et al., 2002), Malaysia (Guru et al., 2002) and Tunisia (Ben Naceur and Goaied, 2001), Barajas et al. (1999) document significant effects of financial liberalization on bank's interest margins for the Colombian case. Although the overall spread has not declined after financial reform, the relevance of the different factors behind the bank spreads were affected by such measures. Another change linked with the liberalization process was the increase of the coefficient of loan quality after the liberalization,

Scott Whisenant and Patricia M. Fairfield (October 2000) in their study produced statistical and significant deterioration in the financial performance in the year after the recommendations, Afanasieff et al. (2002) make use of panel data techniques to uncover the main determinants of the bank interest spreads in Brazil, Vanstone B, Finnie G and Tan C (2004) reveled, importance of security selection for over all financial trading, Jenni L. Bettman, Stephen Sault and Emma Welch (March 2006) in their study emphasized that the valuation of shares also have implications for other valuation exercises and impact over all market conditions including banks debts instrument, Necmi Avkiran and Hiroshi Morita (2008) study entitled: "Predicting Bank Stock Performance with Fundamental Relative Analysis: Simultaneous Multi-Dimensional Benchmarking as an Investment Tool" The main objective of this study was to predict bank stock performance one year ahead by a composite efficiency metric based on an approach. The study also makes a number of other useful methodological contributions for the purpose, Russell B. Gregory-Allen, Hany A. Shawky and Jeffrey Stangl (2009) in their study entitled: "Quantitative vs. Fundamental Analysis in Institutional Money Management: Where's the Beef?" Their empirical results indicate that when examining performance purely attributable to the use of a distinct Primary Investment Process, only the Fundamental approach is shown to significantly add value. However, when examining marginal performance of a Secondary Process, over and above a Primary approach, no process adds value, and in fact some detract.

"Solomon, June (1963) revealed that" Leverage is the ratio of the net rate of return on shareholders, equity and the net rate of return on total capitalization., Modigliani and Miller in (1963) recommended that firms may use debt capital to an extent in order to maximize their value along with corporate taxation and its advantages. Further Modigliani and Miller in (1985) reveled that the theory of "capital structure irrelevance" where financial leverage does not affect the firm's market value. To avail the tax advantage which play important role in determining the capital structure of the firm? According to Weston & Brigham" In general term, the leverage means as the ratio of total debt on total assets; "According to James E Walter" Leverage means as percentage return on equity to percentage return on capitalization, Shekhar (1977) suggested that profitability has strong influence on the financial leverage and on share holder's return,"Shell and Haley" define Financial Leverage as, "the effect of debt financing on shareholder's income or financing the firm's development projects with outside debt, Bhat (1980) justified the business risk; profitability, dividend pay out and debt service capacity are the significant determinants of leverage, "Hunt has distinguished between the two and stated that Financial Leverage explains the impact on Earning per share (EPS). Whereas trading on equity (TOE) explains the impact on Return on equity (ROE) as the debt funds are less risk bearing and have prior claims on income and assets of a firm over the equity shareholders, their rates of return should be less than that of total assets, "Charles Ellis" observes that a favorable financial leverage occurs when a firm earns more by investing the borrowed fund in the business than the fixed paid for their use, Myers (2001) points out "perfect alignment is implausible in theory and impossible in practice". Corporate managers have dubious interest in achieving targets that may deviate from the maximization of the firm value. They work in their own interest to protect their jobs, salaries, high increment, and perquisites, in certain cases even direct exploitation of the firm's cash flows, Nirjhar Gupta, Investment in geared companies requires a call to be taken on the performance of the company or its turnaround potential.

Investment has become much more complex and now requires specialized investment advisers. In general banking industry needs massive investment and contrary the sale of new financial instruments requires a long time comply with the legal requirements (verification of financial instruments, Banks profitability, Percentage of debt, time to time restriction by SEBI, market appetite, investors risk baring attitude, and many more laws, rules, etc, depending upon the eco-socio - political environment).

Analysis and Interpretation

Financial Leverage Analysis of Selected Public and Private Banks

For the calculation of financial leverage different values has been consider for the different banks and formula for the degree of financial leverage is EBIT/EBT. And on the value of financial leverage Standard deviation, Mean and Kurtosis value has been calculated.

In the study it has been noticed that following banks have highest and lowest DFL, in the year (2000-01), AB, have the highest DFL, 16.92 and HDFC has lowest DFL, 2.92,

in (2001-02) AB, has 22.58 and CB has 4.09, in (2002-03) AB, has 12.18 and DB has -106.89, in (2003-04) ICICI has 11.21 and DB has -3.76, in (2004-05) DB has 14.34 and CB has 2.60, in (2005-06) BOB has 2.68 and ICICI has 1.17, in (2006-07) SB has 1.93 and AB & IDBI has 1.36 respectively, in (2007-08) SB has 1.90 and Dena, OBC has 1.30 respectively, in (2008-09) HDFC has 1.65 and Dena & OBC has 0.94, in (2009-10) AB has 1.77 and SBI has 1.26.

Table 1. Degree of Financial Leverage

YEAR	SBI	BOB	ALLAH	SYND	ICICI	HDFC	DENA	CORP.	IDBI	OBC
2000-01	6.04	5.72	16.02	7.67	6.06	2.92	4.19	4.39	5.25	6.15
2001-02	7.89	9.31	22.58	7.61	4.70	3.39	7.37	4.09	19.42	7.99
2002-03	6.60	6.12	12.18	7.50	6.39	3.52	–106.89	3.87	6.17	4.63
2003-04	5.01	4.41	6.40	4.65	11.21	3.09	–3.76	3.09	4.57	3.84
2004-05	4.88	3.33	4.52	3.35	4.69	2.68	14.34	2.60	2.95	2.61
2005-06	1.69	2.68	1.80	2.51	1.17	1.37	1.36	1.75	1.25	1.36
2006-07	1.64	1.82	1.36	1.93	1.51	1.58	1.70	1.56	1.36	1.70
2007-08	1.31	1.46	1.32	1.90	1.61	1.56	1.30	1.40	1.33	1.30
2008-09	1.26	1.37	1.32	1.46	1.57	1.65	0.94	1.17	1.62	0.94
2009-10	1.26	1.29	1.77	1.69	1.74	1.57	1.45	1.30	1.40	1.45
Standard deviation	2.59	2.64	7.52	2.63	3.23	0.86	35.15	1.26	5.55	2.40
Mean	3.76	3.75	6.93	4.03	4.07	2.33	–7.80	2.52	4.53	3.20
Kurtosis	–1.72	0.64	0.59	–1.58	1.43	–2.06	9.50	–1.71	7.12	0.08
Skewness	0.36	1.08	1.28	0.64	1.25	0.21	–3.05	0.42	2.56	1.06

Further the study reveled that the Degree of financial leverage shows a fluctuation trend and the calculated mean and standard deviation values of Allahabad Bank were maximum when compared to the other 9 Banks indicating high return and risk. Skewness of all nine banks other than Dena Bank is positive and the Kurtosis values shows that the DFL follows a playkurtic pattern.

Operating Leverage Analysis of Selected Public and Private Banks

For the calculation of Operating leverage, different values has been consider for the different banks and formula for the degree of operating leverage is Contribution/EBIT. And on the value of operating leverage Standard deviation, Mean, Kurtosis, Skewness value has been calculated.

In the study it has been reveled that following banks have highest and lowest DOL, in (2000-01) OBC has the highest 6.15 and ICICI has the lowest 0, 04, in (2001-02) IDBI has the highest 19.42 and CB has the lowest 0, 10, in (2002-03) IDBI has the highest 6.17 and HDFC has the lowest 0.09, in (2003-04) IDBI has the highest 4.57 and ICICI has the lowest 0.02, in (2004-05) IDBI has the highest 2.95 and ICICI has the lowest -0.06, in (2005-06) SB has the highest 2.27 and CB has the lowest 1.60, in (2006-07) SB has the highest 2.38 and CB has the lowest 1.71, in (2007-08) SBI, DB & OBC have common highest 2.18 and CB has the lowest 1.70, in (2008-09) DB and OBC have common highest 3.14 and CB has the lowest 1.71, in (2009-10) HDFC has the highest 2.07 and CB has the lowest DOL,1.56.

Further, It is found that the Degree of operating leverage shows a fluctuating trend, the calculated mean and Standard deviation values of IDBI bank were maximum when compare to other nine banks indicating the tendency of operating profit to vary disproportionately with sales is higher ad risk is higher Skewness value of all the banks were positive and kurtosis value of two banks were positive which is IDBI and OBC. Kurtosis value of these two banks shows that the Degree of Financial Leverage follows a platykurtic pattern and IDBI shows a leptokurtic pattern, i.e. the value are more peaked than the other nine banks.

Table 2. **Degree of Operating Leverage**

YEAR	*SBI*	*BOB*	*ALLA.*	*SYND*	*ICICI*	*HDFC*	*DENA*	*CORPO.*	*IDBI*	*OBC*
2000-01	1.21	0.21	0.34	0.30	0.04	0.15	0.25	0.07	5.25	6.15
2001-02	1.29	0.33	0.41	0.42	0.13	0.13	0.69	0.10	19.42	7.99
2002-03	1.22	0.20	0.33	0.40	0.13	0.09	0.34	0.07	6.17	4.63
2003-04	1.18	0.16	0.29	0.34	0.02	0.08	0.25	0.06	4.57	3.84
2004-05	1.26	0.19	0.30	0.30	–0.06	0.26	0.14	0.07	2.95	2.61
2005-06	1.92	1.86	1.87	2.27	2.12	1.81	2.06	1.60	2.26	2.06
2006-07	2.04	2.17	2.13	2.38	1.95	1.85	2.28	1.71	2.07	2.28
2007-08	2.18	2.05	1.93	2.00	2.14	1.94	2.18	1.70	1.86	2.18
2008-09	1.96	1.97	1.78	2.02	2.02	1.99	3.14	1.71	1.72	3.14
2009-10	1.87	1.83	1.74	1.98	1.79	2.07	1.82	1.56	1.97	1.82
Standard deviation	0.41	0.93	0.83	0.95	1.04	0.95	1.10	0.84	5.37	2.04
Mean	1.61	1.10	1.11	1.24	1.03	1.04	1.32	0.87	4.82	3.67
Kurtosis	–2.22	–2.48	–2.44	–2.43	–2.50	–2.52	–1.55	–2.55	7.69	0.92
Skewness	0.13	0.03	0.05	0.06	0.02	0.01	0.31	0.01	2.68	1.30

Combined Leverage Analysis of Selected Public and Private Banks

For the calculation of combined leverage different values has been consider for the different banks and formula for the degree of operating leverage is DFL*DOL. And on the value of combined leverage Standard deviation, Mean, Kurtosis, Skewness value has been calculated.

Table 2. **Degree of Combined Leverage**

YEAR	*SBI*	*BOB*	*ALLA.*	*SYND.*	*ICICI*	*HDFC*	*DENA*	*CORP.*	*IDBI*	*OBC*
2000-01	7.33	1.18	5.41	2.34	0.22	0.43	1.03	0.29	27.53	37.86
2001-02	10.15	3.05	9.34	3.18	0.63	0.43	5.10	0.41	377.16	63.86
2002-03	8.06	1.25	4.04	2.97	0.83	0.32	-36.72	0.29	38.03	21.46
2003-04	5.90	0.72	1.83	1.58	0.18	0.25	-0.95	0.19	20.89	14.76
2004-05	6.13	0.63	1.34	0.99	-0.30	0.69	1.97	0.17	8.68	6.81
2005-06	3.23	4.97	3.36	5.71	2.48	2.48	2.79	2.80	2.83	2.79
2006-07	3.33	3.96	2.89	4.61	2.96	2.93	3.87	2.67	2.82	3.87
2007-08	2.86	3.00	2.55	3.80	3.44	3.04	2.84	2.38	2.47	2.84
2008-09	2.46	2.70	2.35	2.95	3.19	3.29	2.97	2.01	2.79	2.97
2009-10	2.37	2.36	3.07	3.34	3.12	3.25	2.64	2.02	2.76	2.64
Standard deviation	2.73	1.44	2.31	1.38	1.49	1.38	12.50	1.14	116.14	20.35
Mean	5.18	2.38	3.62	3.15	1.67	1.71	-1.44	1.32	48.59	15.99
Kurtosis	-0.89	-0.67	4.23	0.31	-2.15	-2.39	9.54	-2.24	9.67	2.83
Skewness	0.61	0.41	1.93	0.31	-0.05	0.06	-3.07	0.15	3.09	1.79

In the study it has been reveled that following banks have highest and lowest DCL, in the year (2000-01) OBC has the highest DCL, 37.86 and ICICI has the lowest DCL, 0.22, in (2001-02) IDBI has 377.16 and CB has 0.41, in (2002-03) IDBI has 38.03 and DB has -36.72, in (2003-04) IDBI has 20.89 and DB has -0.95, in (2005-06) BOB has the highest 4.97 and ICICI, HDFC have common lowest 2.48, in (2006-07) SB has the highest 4.61 and CB has the lowest 2.67, in (2007-08) SB has the highest 3.80 and CB has the lowest 2.38, in (2008-09) HDFC has the highest 3.29 and CB has the lowest 2.01, in (2009-10) SB has the highest 3.34 and CB has the lowest 2.02, DCL.

The study reveled that the ratio shows a fluctuating trend. The calculated average/mean value and standard deviation of IDBI bank is maximum when compared to the other nine banks. Degree of combined leverage for all the 9 companies is positively skewned. Kurtosis values shows that the combined leverage all nine banks follows playkurtic i.e. the value is more flat-topped.

EPS (Profitability) Analysis of Selected Public and Private Banks

On the value of EPS Standard deviation, Mean, Kurtosis, Skewness has been calculated.

Table 4. Earning Per Share

EARNING PER SHARE	*SBI*	*BOB*	*ALL*	*SYND.*	*ICICI*	*HDFC*	*DENA*	*CORP*	*IDBI*	*OBC*
2000-01	38.16	16.47	2.70	4.44	5.21	4.78	11.14	18.68	4.22	14.09
2001-02	29.97	8.92	1.58	4.86	7.96	8.42	5.52	21.41	1.31	10.18
2002-03	46.20	18.55	3.25	5.31	11.52	10.56	0.55	21.48	3.74	16.65
2003-04	57.91	25.74	4.66	7.10	18.73	13.36	0.00	28.42	5.08	23.16
2004-05	68.53	32.00	13.11	8.94	25.43	17.44	2.91	34.38	6.18	34.99
2005-06	81.79	23.08	15.63	8.54	27.22	21.48	37.71	28.04	4.26	37.71
2006-07	83.73	22.70	15.81	10.28	28.55	27.92	22.24	30.99	7.75	22.24
2007-08	86.29	28.18	16.79	13.72	34.59	36.29	23.18	37.38	8.70	23.18
2008-09	106.56	39.41	21.82	16.25	37.37	44.87	14.10	51.24	10.06	14.10
2009-10	143.67	61.14	17.21	17.49	33.78	52.85	36.14	62.24	11.85	36.14
Standard deviation	34.16	14.48	7.42	4.70	11.57	16.29	14.01	13.86	3.24	9.98
Mean	74.28	27.62	11.26	9.69	23.04	23.80	15.35	33.43	6.32	23.24
Kurtosis	0.56	2.75	-1.78	-0.98	-1.35	-0.73	-1.05	0.87	-0.59	-1.36
Skewness	0.73	1.40	-0.20	0.61	-0.42	0.70	0.56	1.18	0.31	0.38

In the study it has been reveled that following banks have highest and lowest EPS in the year (2000-01) SBI has the highest EPS, 38.16 and AB has the lowest EPS, 2.70, in (2001-02) SBI has the highest 29.97 and IDBI has the lowest 1.31, in (2002-03) SBI has the highest 46.20 and DB has the lowest 0.55, in (2003-04) SBI has the highest 57.91 and DB has the lowest 0.00, in (2004-05) SBI has the highest 68.53 and DB has the lowest 2.91, in (2005-06) SBI has the highest 81.79 and IDBI has the lowest 4.26, in (2006-07) SBI has the highest 83.73 and IDBI has 7.75, in (2007-08) SBI has the highest 86.29 and IDBI has the lowest 8.70, in (2008-09) SBI has the highest 106.56 and IDBI has the lowest 10.06, in (2009-10) SBI has the highest EPS,143.67 and IDBI has the lowest EPS, 11.85.

In Study it is found that the EPS of Oriental Bank of Commerce is highly fluctuating. Whereas for other nine banks shows increasing and decreasing trend both. Mean and Standard deviation of State Bank of India is higher than other nine banks. For other nine banks, EPS values are positively Skewned. Kurtosis value of State bank of India, Corporation bank and Bank of Baroda shows a playkurtic pattern and rest seven banks shows leptokurtic pattern.

Analyzing Relationship Between Financial leverage and EPS of the Banks

Table 5. Correlation and 'T' test Result for Financial Leverage and Earning Per Share

BANK	*R' VALUE*	*CORRELATION RESULT*	*T' VALUE*	*HYPOTHESIS RESULT*
SBI	-0.86728855	Highly negative	-4.9277503	Accepted
BOB	-0.720284785	Negative	-2.936912555	Accepted
ALLAHABAD	-0.87904149	Highly negative	-5.215163973	Accepted
SYNDICATE	-0.861299148	Highly negative	-4.794588691	Accepted
ICICI	-0.643971374	Negative	-2.380794831	Accepted
HDFC	-0.792758935	Negative	-3.678639953	Accepted
DENA	0.327775368	Positive	0.981299986	Rejected
CORPORATION	-0.781859303	Negative	-3.547060111	Accepted
IDBI	-0.704387152	Negative	-2.806794652	Accepted
OBC	-0.61666967	Negative	-2.215645858	Rejected

The above table no. 5, reveals that the correlation between the financial leverage and EPS is negative for all the ten Banks. As per the't' test results, it is clear that the table value is greater than the calculated value. Therefore, the null hypothesis is accepted. Hence, there is no relationship between financial leverage and EPS for all the eight banks accept two banks that is Dena Bank and Oriental Bank Of Commerce it means there is relationship between financial leverage and EPS of these two Banks.

Analyzing Relationship Between Operating Leverage and EPS of the Banks

Table 6. Correlation and 'T' test Result for Operating Leverage and Earning Per Share

BANK	*R' VALUE*	*CORRELATION RESULT*	*T' VALUE*	*HYPOTHESIS RESULT*
SBI	0.724154769	positive	0.131256417	Rejected
BOB	0.467886935	positive	0.066176328	Rejected
ALLAHABAD	0.847487146	positive	0.19957181	Rejected
SYNDICATE	0.725109382	positive	0.131621022	Rejected
ICICI	0.818141202	positive	0.177851411	Rejected
HDFC	0.872663162	positive	0.223382832	Rejected
DENA	0.681258265	positive	0.116328229	Rejected
CORPORATION	0.632812575	positive	0.102158156	Rejected
IDBI	-0.703563208	Negative	-0.123756482	Rejected
OBC	-0.759083958	Negative	-0.145755074	Rejected

In the table no.6 it has been revealed that the correlation between the operating leverage and EPS is negative only for IDBI and Oriental Bank of Commerce. As per the't' test result, it is clear that the table value is less than the calculated value. Therefore null hypothesis is rejected. Hence, there exists a relationship between operating leverage and EPS.

Analyzing Relationship Between Combined Leverage and EPS of the Banks

The above table no.7 reveals the correlation between the combined leverage and EPS are positive only for IDBI and Oriental Bank of Commerce is negative correlation. As per the't' test result, it is clear that the table value is less than the calculated value so null hypothesis is rejected. Hence, there exists a relationship between combined leverage and EPS.

Table 7. Correlation and 'T' test Result for Combined Leverage and Earning Per Share

BANK	R' VALUE	CORRELATION RESULT	T' VALUE	HYPOTHESIS RESULT
SBI	–0.881224952	Negative	–0.824364087	Rejected
BOB	–0.050816422	Negative	–0.005948553	Rejected
ALLAHABAD	–0.605569489	Negative	–0.170588981	Rejected
SYNDICATE	0.194541119	Positive	0.026836478	Rejected
ICICI	0.784517088	Positive	0.404526579	Rejected
HDFC	0.900476015	Positive	1.005314354	Rejected
DENA	0.407125812	Positive	0.076299833	Rejected
CORPORATION	0.481676458	Positive	0.10325521	Rejected
IDBI	–0.603263873	Negative	–0.168951892	Rejected
OBC	–0.65676964	Negative	–0.212610576	Rejected

Finding and Conclusion

Financial Leverage

In study it has been reveled that Mean and Standard Deviation value of Allahabad Bank is maximum in comparison to other nine banks. This shows Bank has performed well and kept things in control in paying better return with high end risk. For all the ten banks, Degree of financial leverage is positively skewned and Kurtosis value shows a playkurtic pattern.

Operating Leverage

In study it has been reveled that Mean and Standard Deviation of IDBI bank is higher when compare to other nine banks indicating that tendency of operating profit to vary disproportionately with higher sales for IDBI. Skewness result reveals that the value of eight banks other than IDBI and Oriental bank of commerce is negative. Kurtosis value of IDBI bank shows a playkurtic pattern.

Combined Leverage

In study it has been reveled that the mean and Standard Deviation values of combined/composite/total leverage, Degree of combined leverage were higher in IDBI bank. Degree of combined leverage is positively skewned for all the nine banks. The studied kurtosis value was playkurtic for all 10 banks. Kurtosis values were HDFC bank show a leptokurtic pattern.

Earning Per Share

In study it has been reveled that Mean and Standard deviation values of EPS are maximum in State bank of India as compared to other nine banks which indicate higher returns and higher variation in return and the trend is also fluctuating but for all nine banks trend is also increasing from 2003-04. The EPS for all 10 companies is positively skewned and kurtosis value for Bank of Baroda indicates a leptokurtic pattern.

Correlation Analysis and Test of Significance

Correlation results

- Correlation between Degree of financial leverage and EPS is negative for all 10 companies.
- Correlation between Degree of Operating Leverage and EPS is negative for IDBI and Oriental Bank of Commerce.
- Correlation between Degree of Combined leverage and EPS is positive for Dena, Syndicate, ICICI, HDFC banks.

Test of significance

For all the 10 banks, 't' test result reveals that there is significant relationship between Degree of combined leverage and EPS and Degree of Operating leverage and EPS.

Conclusion and Recommendations

In the study it has been reveled that banks have fluctuating trend in leverages and EPS and it cannot be tamed at any cost due to market condition and prevailing trend in the environment they are operating. But in this present

globalization it has been noted that banks are in pressure to grow at optimum pace which requires massive funds and thus demand increases and leverage became emplacement of an assets/source of finance for which they pay fixed cost and fixed return. Further study reveled that overall leverage of IDBI is maximum indicating higher profits and also ensuring that any small change will lead to more reflection. During the study period of 2000-2009, the mean value of EPS for State Bank of India is high as compare to the other nine banks.

For better and stable growth it is recommended that banks must not depend heavily on leverage funds, as all leverage has its impact on EPS which ultimately effects its profitability and inventors perception for banks. Banks with high finical and operating leverages have to examine their efforts to control unwanted risk and exposure which will impact their profitability and hit their market potential. Further, though banks have altered radically and adopted socio aggressive promotion and penetration, but in day to day changing economic and business environment, accepted reforms need to be consolidated. Banks must optimally justify the adopted measures for exploring profitability, optimizing efficiency and arresting the decline in productivity. It has to establish itself better than international standards and have to develop best capital adequacy system, prudential regulations, accounting and disclosure standards, financial soundness and consistent supervisory practices and level of compliance with the Basel Committee's Core Principles for Effective Banking Supervision.

Last but not the least, Banks are the architect of their own fortune, thus growth is not a problem but managing growth is Hercules task. Banks being government agency are very much part of white collar, sophisticated and organized crime, have to control their relation with perpetual termite (politicians) and big business houses (fungus). To develop balance economy in the nation, banks have to support small scale units with strict rules as they generate massive employment. For smooth financial support to business and economy they need smooth deposits flow from the citizens, which can be achieved through innovative and safe financial schemes. Banks must make Personal Provident Fund (PPF) account compulsory, this will help banks for retaining deposit for fixed period, which will be utilize to fund long term projects.

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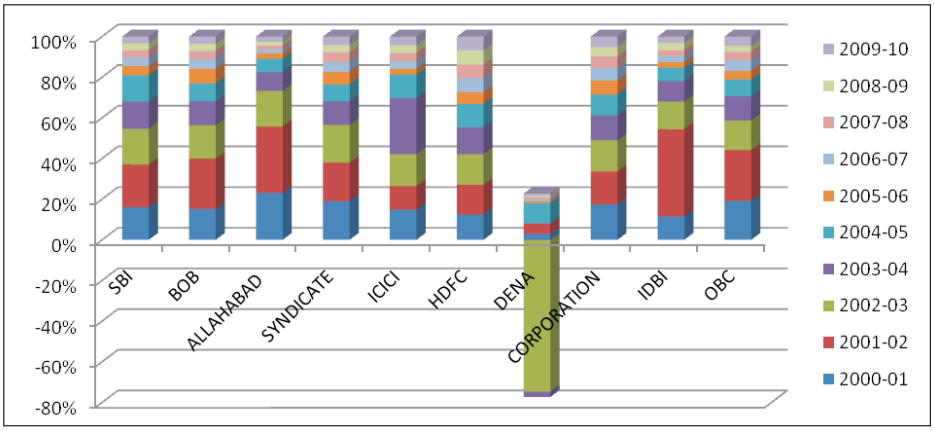
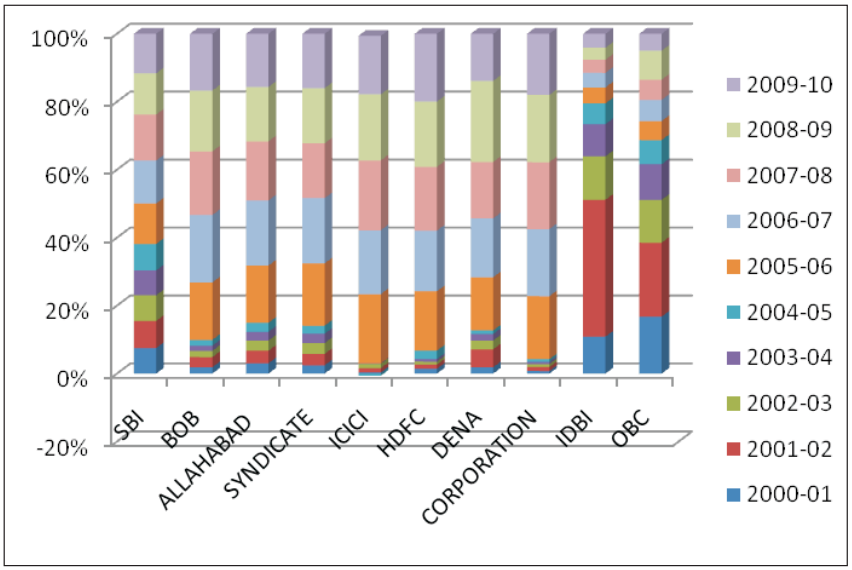
Annexure

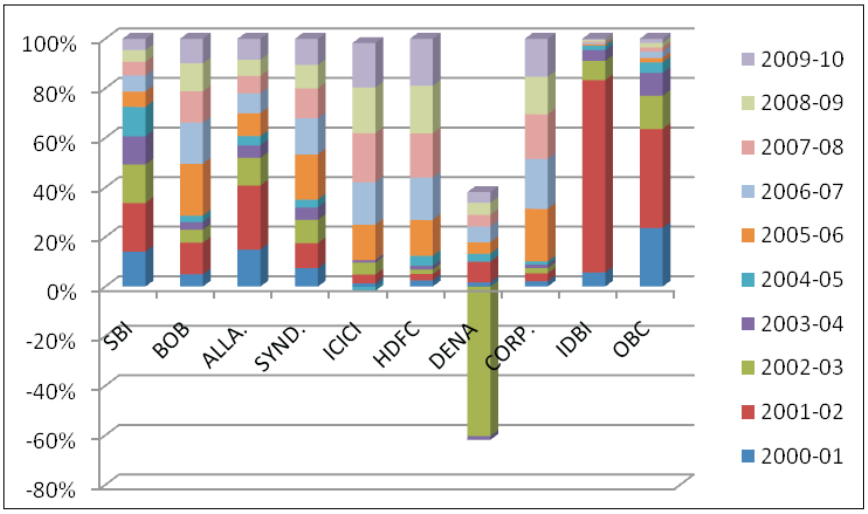
Degree of Financial Leverage



Degree of Operating Leverage



Degree of Combined Leverage



Earning Per Share