



## Research Paper On Bankex

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### ABSTRACT

*The main aim of this paper is to find out the best banking stock listed on BSE. There are basically two main reasons behind choosing this paper. First, the banking industry is a very important part of Indian financial system and this paper gives us the opportunity to analyze the banking industry in detail and to get the knowledge of different aspects of the banking industry. Secondly taking investment decisions is a crucial characteristic of a financial manager. Investment decisions also include investment in the stock market. This paper intended to analyze Indian economy and to find out its impact on banking industry, To study banking industry with respect to different parameters such as structure of banking industry, government regulations, emerging patterns etc., To scrutinize fundamentally strong banks listed on BSE, To carry out qualitative and quantitative analysis of selected banks and To apply the stock valuation models such as CAPM, MV/BV approach to find out the best bank's stock to invest.*

### Keywords : Banking, Investment

#### Introduction

Banks are the most significant players in the Indian financial market. They are the biggest purveyors of credit, and they also attract most of the savings from the population. Dominated by public sector, the banking industry has so far acted as an efficient partner in the growth and the development of the country. Driven by the socialist ideologies and the welfare state concept, public sector banks have long been the supporters of agriculture and other priority sectors. They act as crucial channels of the government in its efforts to ensure equitable economic development.

The Indian banking can be broadly categorized into nationalized (Government owned), private banks and specialized banking institutions.

In view of peculiar nature of stock exchange operations most of the investors feel insecure in managing their investment on the stock market because it is difficult for an individual to identify companies that have growth prospects conducive for investment. This is further complicated by the volatile nature of the markets, which demands constant reshuffling of portfolios to capitalize on the growth opportunities.

#### Features of Bankex

A few important features of the BANKEX are given below:

- BANKEX tracks the performance of the leading banking sector stocks listed on the BSE
- BANKEX is based on the free-float methodology of index construction
- The base date for BANKEX is 1st January 2002.
- The base value for BANKEX is 1000 points
- BSE has calculated the historical index values of BANKEX since 1st January 2002.
- 12 stocks which represent 90 percent of the total market capitalization of all banking sector stocks listed on BSE are included in the Index
- The Index is disseminated on a real-time basis through

BSE Online Trading (BOLT) terminals.

- Stocks forming part of the BANKEX along with the particulars of their free-float adjusted market capitalization are listed below.

#### Scrip Selection Criteria for BSE Bankex:

##### Eligible Universe

Scraps classified under the banking sector that is present constituents of BSE-500 index form the eligible universe.

##### Trading Frequency

Scrips should have a minimum trading frequency of 90% in preceding three months.

##### Market capitalization

Scrips with a minimum market capitalization coverage of 90% in banking sector based on free-float final rank form the index.

##### Buffers

A buffer of 2% both for inclusion and exclusion in the index is considered so that movements in and out of the index are minimized. For example, a company can be included in the index only if it falls within 88% coverage and an existing index constituent cannot be excluded unless it falls above 92% coverage. However, the above buffer criterion is applied only after the minimum 90% market coverage is satisfied.

#### Performance of the BANKEX:

During the period between 1 Jan 2002 and 13 June 2003, the total market capitalization of BANKEX stocks has increased from 22970 cr. to 55283 cr. while the total market capitalization of BSE TECK index stocks has fallen from 105956 cr. to 80787 cr. and that of FMCG Index stocks from 87637 cr. to 75947 cr. During this period, BANKEX rose by 62 percent showing impressive gains among other major indices. The average daily volatility of BANKEX from its inception to date has been 1.38% as compared to 2.24% for BSE TECK and 1.06% for BSE FMCG Index for the same period.

BANKEX, is the new entrant in BSE's current portfolio of 13 indices, and adds value to BSE's ability in reflecting both the broad market and specific sector movements in the Indian Equity Markets.

## History of replacements in BANDEX

Date	Outgoing Scrips	Replaced by
09.02-2004	ING Vysya Bank	UTI Bank Ltd.
		Kotak Mahindra Bank
		UCO Bank
		Indian Overseas Bank
		Jammu & Kashmir Bank
		Vijaya Bank
31.01-2005		
06.06-2005	Corporation Bank	Allahabad Bank Ltd.
	Jammu & Kashmir Bank Ltd.	
	UCO Bank	
28.11.2005		Centurion Bank Ltd.
		Indusind Bank Ltd
		Karnataka Bank Limited
03.07.2006	Indusind Bank Ltd	Federal Bank Ltd.
08.01.2007	Karnataka Bank	
	Vijaya Bank	
09.07.2007		Karnataka Bank Ltd.
		Yes Bank Ltd.

**Scrip selection criteria for BSE Bankex:****Eligible universe**

Scrips classified under banking sector that are present constituents of BSE-500 index would form the eligible universe.

**Trading Frequency :**

Scrips should have a minimum of 90% trading frequency in preceding six months.

**Market Capitalisation :**

Scrips with a minimum of 90% market capitalisation coverage in each sector based on free-float final rank will form the index.

**Buffers :**

A buffer of 2% both for inclusion and exclusion in the index is considered so that movements in and out of the index are minimized. Eg. A company can be included in the index only if it falls within 88% coverage and an existing index constituent cannot be excluded unless it falls above 92% coverage. However, the above buffer criterion is applied only after the minimum 90% market coverage is satisfied.

**Review Of Literature**

(Rangan N. and Grabowski, 1988) [12] Use data envelopment analysis to analyze technical efficiency in US banking into pure technical and scale efficiency. (Aly H., and Rangan 1990) [1] extend this analysis to contain analysis of allocative efficiency, and (Field, 1990) [8], (Dark, 1992) [6], (Chu-Meiliu, 2001) [5], (Tser-Yieth Chen, and Tasi Yeh, 1998) [14], and (Leigh D., and Howcroft, B., 2002) [11] have conducted some studies into banking efficiency.

(Hempel G. Coleman, 1986) [9] There is a generally accepted relationship between risk and return, that is, the higher the risk the higher the expected return. Therefore, traditional measures of bank performance have measured both risks and returns. The increasing competition in the national and international banking markets, the change over towards monetary unions and the new technological innovations herald major changes in banking environment, and challenge all banks to make timely preparations in order to enter into new competitive financial environment.

(Avkiran, 1995) [3] The financial statements of corporations in Oman that published commonly contain a variety of financial ratios designed to give an indication of the

corporation's performance. As it known in accounting literature, there are limitations associated with use of some financial ratios. In this research, however, ROA ratio with interest income size is used to measure the performance of Omani commercial banks. Asset management, the bank size, and operational efficiency are used together to investigate the relationships among them and the financial performance. Simply stated, much of the current bank performance literature describes the objective of financial organizations as that of earning acceptable returns and minimizing the risks taken to earn this return (Spathis, and Doumpou, 2002) [13] investigated the effectiveness of Greek banks based on their assets size. They used in their study a multi criteria methodology to classify Greek banks according to the return and operation factors, and to show the differences of the bank's profitability and efficiency between small and large banks.

(Chien Ho, and Song Zhu, 2004) [4] Showed in their study that most previous studies concerning Company performance evaluation focus merely on operational efficiency and operational effectiveness which might directly influence the survival of a company. By using an innovative two-stage data envelopment analysis model in their study, the empirical result of this study is that a company with better efficiency does not always mean that it has better effectiveness. A paper in the title of efficiency, customer service and financing performance among Australian financial institutions (Elizabeth Duncan, and Elliott, 2004) [7] showed that all financial performance measures as interest margin, return on assets, and capital adequacy are positively correlated with customer service quality scores.

(Arzu Tektas, and Gunay, 2005) [2] Discussed the asset and liability management in financial crisis. They argued that an efficient asset-liability management requires maximizing bank's profit as well as controlling and lowering various risks, and their study showed how shifts in market perceptions can create trouble during crisis.

**Research Methodology**

Research is carried out with two Hypothesis, Stock Market Returns and performance of the banks would be linearly correlated or not and comparison of expected return and actual return of banks are similar or not.

**Analysis of data**

18 banks are compared using key indicators. Then selected bank analyzed by using following ratio and statistical tools.

**1. RATIOS:**

Earning per share (EPS):

PAT/ total profit

Market-To-Book Value Approach

% of gross NPA

ANOVA table

Statistical tools and model

**1. Application of Capital Asset Pricing Model**

$$E(R_p) = R_f + B_p(E(R_m) - R_f)$$

Where,

$E(R_p)$  = Expected return of the portfolio

$R_f$  = Risk free rate of return

$B_p$  = Beta portfolio i.e. market sensitivity index

$E(R_m)$  = Expected return on market portfolio

$(E(R_m) - R_f)$  = Market risk premium

**2. Comparison of expected return with actual and application of T-TEST.****Empirical analysis**

Analysis is carried out from different key indicators and charts of 30 days return on sensdex. And further data is analyzed using ratios and test.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.801(a)	.641	.531	2.32099

Ratio analysis and ANOVA test

Company Name	DEPENDENT VERIABLE	INDEPENDENT VERIABLES			P/E	P/B
	PAT / Total income	Total capital adequacy ratio	% of Gross NPA's to advances			
Allahabad Bank	12.2	13.62	1.69	7.04	1.39	
Axis Bank Ltd.	16.14	15.8	1.13	17.9	3.04	
Bank Of Baroda	15.68	12.84	1.36	8.96	1.87	
Bank Of India	8.5	12.63	2.85	9.88	1.62	
Canara Bank	13.98	13.43	1.52	7.48	1.54	
Federal Bank Ltd.	11.05	17.27	2.97	12.39	1.29	
H D F C Bank Ltd.	14.63	17.4	1.43	28.83	4.32	
I C I C I Bank Ltd.	12.13	19.41	5.06	26.7	2.27	
I D B I Bank Ltd.	5.87	11.31	1.53	11.67	1.1	
Indian Overseas Bank	6.21	14.26	4.47	11.2	1.15	
Indusind Bank Ltd.	10.74	15.33	1.23	23.39	3.14	
Karnataka Bank Ltd.	7.1	11.85	3.73	12.65	0.85	
Kotak Mahindra Bank Ltd.	14.45	18.35	3.62	43.25	5.15	
Oriental Bank Of Commerce	9.9	10.83	1.74	6.3	1.1	
Punjab National Bank	15.6	12.97	1.71	8.24	1.85	
State Bank Of India	11.5	0	0	18.57	2.32	
Union Bank Of India	13.58	12.51	2.2	8.18	1.65	
Yes Bank Ltd.	16.22	20.61	0.27	15.62	2.86	

A Predictors: (Constant), CAR, % OF GROSS NPA, P/B, P/E ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	125.309	4	31.327	5.815	.007(a)
	Residual	70.031	13	5.387		
	Total	195.340	17			

a Predictors: (Constant), CAR, % OF GROSS NPA, P/B, P/E

b Dependent Variable: net profit

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	7.258	2.021		3.592	.003
	CRR	.134	.168	.178	.799	.439
	% OF GROSS NPA	-.101	.726	-.041	-.139	.892
	P/B	-.397	.193	-.136	-2.053	.061
	P/E	4.298	1.697	1.485	2.533	.025

Calculation Of Capital Assets Pricing Modal (capm)

CAPITAL ASSETS PRICING MODAL (CAPM)					
Company Name	RISK FREE	MARKET RETURN	Beta	RM-RF	RF + (RM-RF) *BETA
Allahabad Bank	7.64	22.9	1.06	15.26	24.274
Axis Bank Ltd.	7.64	22.9	1.14	15.26	26.106
Bank Of Baroda	7.64	22.9	1.1	15.26	25.19
Bank Of India	7.64	22.9	1.32	15.26	30.228
Canara Bank	7.64	22.9	1.1	15.26	25.19
Federal Bank Ltd.	7.64	22.9	0.87	15.26	19.923
H D F C Bank Ltd.	7.64	22.9	0.92	15.26	21.068
I C I C I Bank Ltd.	7.64	22.9	1.38	15.26	31.602
I D B I Bank Ltd.	7.64	22.9	1.39	15.26	31.831
Indian Overseas Bank	7.64	22.9	1.18	15.26	27.022
Indusind Bank Ltd.	7.64	22.9	1.51	15.26	34.579
Karnataka Bank Ltd.	7.64	22.9	1.08	15.26	24.732
Kotak Mahindra Bank Ltd.	7.64	22.9	1.48	15.26	33.892
Oriental Bank Of Commerce	7.64	22.9	1.1	15.26	25.19
Punjab National Bank	7.64	22.9	1	15.26	22.9
State Bank Of India	7.64	22.9	1.08	15.26	24.732
Union Bank Of India	7.64	22.9	1.03	15.26	23.587
Yes Bank Ltd.	7.64	22.9	1.44	15.26	32.976

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Compation Of Actual Retuen And Expected Return And T-test

Company Name	365 days Returns over a Period	EXPECTED RETURN (CAPM)
Allahabad Bank	58.5	24.274
Axis Bank Ltd.	19.48	26.106
Bank Of Baroda	51.28	25.19
Bank Of India	48.08	30.228
Canara Bank	53.9	25.19
Federal Bank Ltd.	55	19.923
H D F C Bank Ltd.	18.18	21.068
I C I C I Bank Ltd.	19	31.602
I D B I Bank Ltd.	26.33	31.831
Indian Overseas Bank	74.6	27.022
Indusind Bank Ltd.	49.41	34.579
Karnataka Bank Ltd.	2.94	24.732
Kotak Mahindra Bank Ltd.	22.59	33.892
Oriental Bank Of Commerce	25.09	25.19
Punjab National Bank	15.16	22.9
State Bank Of India	33.31	24.732
Union Bank Of India	17.99	23.587
Yes Bank Ltd.	24.48	32.976

T-test On 365 Days Returns Over A Period And Expected Return (capm)

One-Sample Statistics

	N	Mean	SD	Std. Error Mean
365 days Returns over a Period	18	34.1844	19.46479	4.58789
CAPM	18	26.9457	4.45642	1.05039

One-sample Test

	Test Value = 0					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	Lower	Upper	Lower	Upper	Lower	Upper
365 days Returns over a Period	7.451	17	.000	34.18444	24.5048	43.8641
CAPM	25.653	17	.000	26.94567	24.7295	29.1618

Conclusion

I have done a technical analysis for the same considering movment of stock and key indicators like beta, but what comes out at the end is that there are still so many unnoticed factors which affect the share prices. This list is not exhaustive; still there is so much which needs to be studied and I tried to cover as much as I could.

From this study, we can conclude that the Indian economy is standing on the strong foothold. This can be attributed to lower interest rate, lower inflation rate, high forex reserves and favorable monetary and fiscal policy.

This study also highlights the outlook for the banking industry. The passing of the securitization bill has accelerated the growth for the banking industry. Even the monetary policy has also been in favor of banking industry. Lowering interest rates also affects the profitability of the banks. The banking industry is now moving towards technology. Overall, the outlook for the banking industry is also good.

From the last part of the study we can find that ICICI bank, SBI, HDFC bank and Corporation bank have strong fundamentals. From the application of different valuation models we can conclude that HDFC bank is stronger than the other three banks. So one can buy HDFC's share. However, the investment decision for an investor depends on it risk nature.