
**“DATA BASE CREATION, FUNDAMENTAL ANALYSIS AND TECHNICAL ANALYSIS BASED TRADING IN
PUBLIC SECTOR BANKS STOCKS”**

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ABSTRACT:

Banking especially public sector banking is one of the important financial pillars of the financial sector, which plays a crucial role in the functioning of an economy. It is also necessary to suggest the remedial measures of banks so that they can take right action whenever required to keep all the operation and function of banks at right track. So it is necessary to study on this topic with the rationality of banking sector with operational performance based on DuPont chart parameters with selected banks of public sector.

This study is based on the leading banks of Private Sector and Public Sector in India. Those banks are engaged in different activities of the financial services. The performances of banks are examined empirically. As per the requirement of the objectives, performance of the banking system is examined by the DuPont chart, statistical tools and portfolio evaluation ratios.

KEY WORDS: Banks ,Stock market indices, DuPont chat, portfolio evaluation ratios

INTRODUCTION:

According to the Indian Central Banking Enquiry Committee (1931), money lending activity in India could be traced back to the Vedic period, i.e., 2000 to 1400 BC. The existence of professional banking in India could be traced to the 500 BC. Kautilya's Arthashastra, dating back to 400 BC contained references to creditors, lenders and lending rates. The public sector banking commenced in India with the nationalization of the then Imperial Bank as State Bank of India and formation of Reserve Bank of India and transfer of central banking functions to RBI before independence. Banks floated by and catering to different independent principalities of pre independent India were converted into subsidiary banks of SBI.[Since merged into SBI]. Many private banks were nationalized into public sector banks / nationalized banks in two tranches. In the aftermath of a balance of payment crisis situation in 1991 and with the advent of economic reforms, [LPG] India embarked upon financial sector liberalization in a phased manner. Banking industry was deregulated by way of allowing entry of new private sector banks; ten new private Indian banks were set up in 1993, followed by two banks in 2003. Other notable features towards deregulation of banking sector included allowing 74% foreign investment in private sector banks, doing away with licensing of branches of domestic scheduled commercial banks in a phased manner, deregulation of interest rates, widening and deepening of financial markets.

Indian banking sector comprises of different types of institutions catering to various banking needs.. There are typical all India commercial banks. Ownership wise there are government owned banks, privately owned banks and foreign owned banks. There are small banks with limited areas of operation. There is cooperative banking structure based on the Credit cooperatives in a pyramidal fashion to serve the credit, processing and marketing needs of small and marginal farmers. Cooperatives also offered limited branches in urban areas. Urban cooperative banks were formed to meet the banking and credit requirements of urban people with smaller means. Regional Rural Banks were created to serve backward clients at a low cost in urban areas. Experimental establishing Local Area Banks were also undertaken by RBI with very limited success. Now in India we have new types of banks like small finance banks and payment banks as a part of the digital finance initiative of the central govt.

In India, banks follow the universal banking model. Thus a bank is now a financial super market covering credit cards, primary dealer, leasing, hire purchase, factoring, insurance, stock broking, mutual funds, asset management, asset reconstruction, venture capital funding, Investment banking and infrastructure financing.

PSBs dominated the banking system with a market share of 72.1% as at end March 2014 distantly followed by NPBs (15.9%), FBs (7.2%) and OPBs (4.9%). As at end of March 2014, the total capital of the PSBs stood at `5652 billion; their share in total deposits was 77.22%, share in total advances was 75.74%. However, their CRAR was 11.40%, against 13.01% of all banks. Their gross NPA was 4.36% vs 3.83% of all banks: their total stressed assets were 10.67% vs 9.03% of all banks. If we look at the corresponding figures for the New Private Sector Banks at CRAR of 16.59%, gross NPA of 1.73% and total stressed assets of 3.28%. NPA of PSBs have reached such a high proportion that central government has begun taking definitive steps like recapitalization worth two lakh crore, introduction of dissolution of defaulter firms via company law board.

Problems of PSB are:

1. High NPA, high provision, low CRAR compared to Basel III requirements.
2. Lack of meritocracy in HR practices and policies leading to low employee productivity.
3. Poor representation in financial markets other than narrow banking.
4. Lack of branding and weak participation in share markets.
5. Weak treasury function and fee based income.
6. Lack of risk hedging activities esp in derivative and currency markets.
7. Need for sectoral deployment away from directed credit to profitable sectors.
8. Lack of financial inclusion which was addressed by jandhan yojana, rupay cards, aadhar based account opening, zero balance accounts. App based banking; mobile banking, Digital money and transaction in a cashless mode based out of mobiles are the answer to financial inclusion problems besetting the public sector banking space.

RBI has allowed third-party white label automated teller machines (ATM) releasing the umbilical linkage of ATM to the sponsor bank and allowing ATM to be located on standalone economics rather than branch banking extension philosophy. It will lead to rationalization of ATM network.

RESEARCH LIMITATIONS:

The study is based on secondary and reported figures and data obtained from third party sources. An inspection of books of banks would greatly improve the efficacy of the study and conclusions for further research.

PRACTICAL LIMITATIONS

1. **Live** trading was done using the **MONEY BHAI** platform where the price inputs are received with a delay of a few minutes from the nse.
2. Actual money is not used for trading leading to differences in investor psychological and behavioral inputs from the real life situation.
3. The calculation of return is based on hypothetical charges related to Security transaction tax, brokerage charges on sell and buy legs of the transaction. It is left to the software of the platform.

RESEARCH GAPS : [NEED]

The study on public sector banks have not been done in the modi era of Indian resurgence. There is a need to identify the problems and solutions now.

RESEARCH QUESTION :

1. To identify performing public sector banks.
2. To link their performance to market reflection in terms of price movement
3. To study the reasons for the same.
4. To come out with suggestions and solutions for improvement of performance of public sector banks.

OBJECTIVES OF THE STUDY:

1. Fundamental Analysis in Public sector Banks and linking it to stock market performance of the same.
2. Technical Analysis In public Sector Banks and investment based on timing the market based on Bollinger bands, stochastic indicators, ema, for one month. (To Create a Blog for Voruganty Smart Investors for the purpose)

HYPOTHESIS :

NULL HYPOTHESIS: it is not possible to identify good performing public sector bank stock.

ALTERNATIVE HYPOTHESIS: it is possible to identify performing public sector bank stock using a combination of fundamental and technical analysis tools.

SCOPE OF STUDY

It covers all public sector banks.

It covers a period of 5 months in 2015 from --- to ----- for trading, dupont analysis for fundamental analysis and two years for historical analysis of portfolio return analysis based on sharpe, treynor and jensons alpha as compared to the nifty.

PERIOD OF STUDY : five months for live trading and two years for historical analysis.

SAMPLE UNDER STUDY :

All public sector banks were studied for fundamental analysis and technical analysis. Trading was done in those stocks which have shown good performance in the above two analyses.

DATA COLLECTION:

PRIMARY DATA: Collected from banks and NSE web sites.

SECONDARY DATA: collected from bank and NSE web sites.

METHOD: Based on the DUPONT analysis as above profitable and growth oriented public sector banks were chosen and invested in timing the market based on technical analysis charts of yahoo finance

The technical charts used are

1. EMA
2. Bollinger bands
3. MACD
4. Fast stochastic and its moving average

After a month and a half of trading the returns are analyzed based on portfolio analytical tools of performance

1. Treynor ratio
2. Sharpe ratio
3. Jensons alpha

Table 1: Business Per Employee for Public Sector Banks(Rs in million)

2007-08	45.6	50.45	71	60.4	0.2
2008-09	55.6	65.49	91.4	70.6	0.21
2009-10	63.6	80.8	98.1	84.5	0.17
2010-11	70.47	101.78	122.9 0	106.3	0.22
2011-12	79.84	113.2	146.6 0	121.7	0.24

Table 2: Provisions and Contingencies of Public Sector Banks (Rs. In lacks)

2007-08	637843	195748	149303	50477 1	0.01
2008-09	879400	265347	207780	113255	0.95
2009-10	915486	342092	187693	134222	0.91
2010-11	1707105	462220	273993	163147	1.1
2011-12	1986620	573010	357370	190320	1.06

Table3 : Advances of Public Sector Banks (Rs. In lacks)

2007-08	41676820	11950157	10670132	4972047	0.95
2008-09	54250320	15470299	14398590	5880176	0.96
2009-10	63191415	18660121	1753529	7160487	1.23
2010-11	75671945	24210667	22867636	9362489	0.8
2011-12	86757890	29377480	28737730	11114510	0.84

Table4 : Net NPA Ratio of Public Sector Banks

2007-08	1.78	0.64	0.47	0.8	0.64
2008-09	1.79	0.17	0.31	0.72	0.98
2009-10	1.72	0.53	0.34	0.66	0.76
2010-11	1.63	0.85	0.35	0.79	0.59
2011-12	1.82	1.52	0.54	0.98	0.47

It is clear from the above that one size-fits-all approaches to governance reforms, public ownership, exit and recapitalization should cede to a more selective approach. Healthy competition from capital markets is essential too. There is thus a need to evaluate the performance of PSBs based on the public perception of their operational efficiency as reflected in the capital market.

REVIEW OF LITERATURE:

1. (Dr. Anubha Srivastava, Assistant Professor (Finance), Amity Business School, AUUP, Noida) used Technical Analysis on Selected Stock of Indian Banking Sector .
2. **(Dr.pallavi2000)** Suggested that as for the Indian banking is concerned it can be classified in to three types namely
Government owned; Private banking; and Banking institutions.
3. (Dr.Chitra2011)in her research paper defined that technical analysis is based on stock market related factors that can be affected by the demand and supply of stocks and also find the upward and downward trend of the market.
4. (Venkatesh and tyagi2011) in his research found that technical analysis is based on how the market fluctuates in the month of September to November.
5. (Dr. Ayyappan and Mr. Sakthivadivel2012) In their research paper found that private sector banks are increasing their products and services and also found growth and trend of the some financial parameters of public and private sector banks.
6. Roma Mitra, Shankar Ravi (2008), A stable and efficient banking sector is an essential precondition to increase the economic level of a country. This paper tries to model and evaluate the efficiency of 50 Indian banks. The Inefficiency can be analyzed and quantified for every evaluated unit. The aim of this paper is to estimate and compare efficiency of the banking sector in India. The analysis is supposed to verify or reject the hypothesis whether the banking sector fulfils its intermediation function sufficiently to compete with the global players. The results are insightful to the financial policy planner as it identifies priority areas for different banks, which can improve the performance. This paper evaluates the performance of Banking Sectors in India.
7. Brijesh K. Saho, Ananddeep Singh (2007), this paper attempts to examine, the performance trends of the Indian commercial banks for the period: 1997-98 - 2004-05. Our broad empirical findings are indicative in many ways. First, the increasing average annual trends in technical efficiency for all ownership groups indicate an affirmative gesture about the effect of the reform process on the performance of the Indian banking sector. Second, the higher cost efficiency accrual of private banks over nationalized banks indicate that nationalized banks, though old, do not reflect their learning experience in their cost minimizing behavior due to X-inefficiency factors arising from government ownership. This finding also highlights the possible stronger disciplining role played by the capital market indicating a strong link between market for corporate control and efficiency of private enterprise assumed by property right hypothesis. And, finally, concerning the scale elasticity behavior, the technology and market-based results differ significantly supporting the empirical distinction between returns to scale and economies of scale, often used interchangeably in the literature.

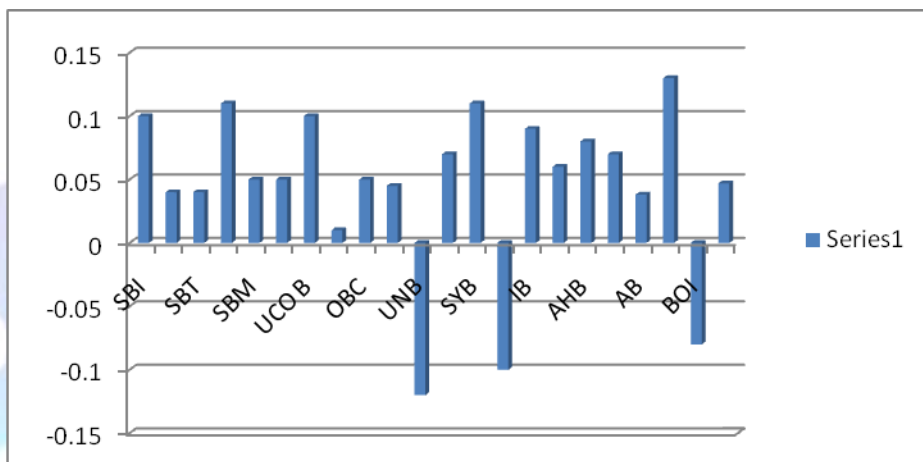
8. Vradi, Vijay, Mauluri, Nagarjuna (2006), in his study on 'Measurement of efficiency of bank in India concluded that in modern world performance of banking is more important to stable the economy. In order to see the efficiency of Indian banks we have seen the four indicators i.e. **profitability, productivity, assets quality and financial management** for all banks includes public sector, private sector banks in India for the period 2000 and 1999 to 2002-2003. For measuring efficiency of banks we have adopted development envelopment analysis and found **that public sectors banks are more efficient than other banks in India.**
9. PetyaKoeva (July 2003), in his study on The Performance of Indian Banks. During Financial Liberalization states that new empirical evidence on the impact of financial liberalization on the performance of Indian commercial banks. The analysis focuses on examining the behavior and determinants of bank intermediation costs and profitability during the liberalization period. The empirical results suggest that **ownership type has a significant effect** on some performance indicators and that the **observed increase in competition** during financial liberalization has been **associated with lower intermediation costs and profitability of the Indian banks.**
10. Sharma S, et al (2007)- A comparative study of public and private banks with respect to perceptions of customers regarding service quality was made and was found that service quality is associated with satisfaction and there was significant difference between quality of services provided by banks in smaller cities are far behind big cities in this regard.
11. Padhy P K and B N Swar(2009)- The role of technology in banking and its impact on perceived service quality in public, private and foreign banks in Orissa using a sample size of 300 customers was studied. It was found that the foreign banks are very close to expectations of customers followed by ICICI and AXIS. Service quality in public sector banks was found to be very low.
12. **Planning Commission, Government of India [2009].:** Because the employees of public sector banks are public servants, remuneration is not always linked to performance. Other problems include the fact that employees who incur non-performing assets are likely to be held responsible by the government. As a result, there is little incentive to expand revenues. Public sector banks also tend to be conservative toward technological innovation. We also need to recognize the growing importance of financial inclusion measures targeting the urban poor. Also, while the relatively large work forces of public sector banks contribute to the creation of employment opportunities, they are also linked to low labor productivity.

RESULT FROM THE STUDY: INTERPRETATION:

PAT/EBIT

PAT/EBIT

SBI	0.1
CPB	0.04
SBT	0.04
SBBJ	0.11
SBM	0.05
DB	0.05
UCO B	0.1
BOM	0.01
OBC	0.05
VB	0.045
UNB	-0.12
UBI	0.07
SYB	0.11
PNB	-0.1
IB	0.09
CBI	0.06
AHB	0.08
CNB	0.07
AB	0.038
BOB	0.13
BOI	-0.08
IDBI	0.047

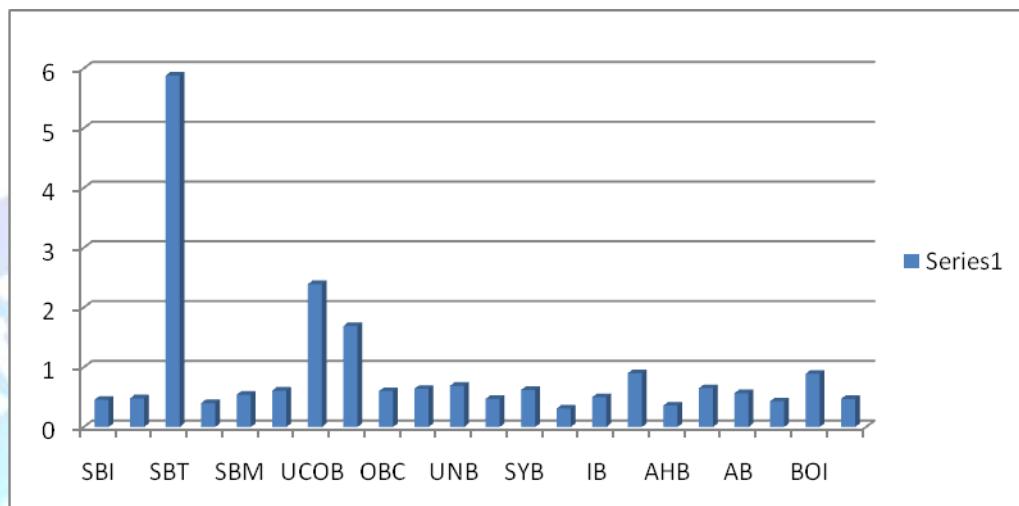


Based on PAT/EBIT: BANK OF BARODA, SYNDICATE BANK, SBBJ, SBI, uco bank, Indian bank, allahabad bank are worth investing in, United bank, Punjab national bank, bank of india should not be invested in

NA/NW

NA/NW

SBI	0.455
CPB	0.48
SBT	5.88
SBBJ	0.4
SBM	0.54
DB	0.61
UCOB	2.39
BOM	1.69
OBC	0.6
VB	0.64
UNB	0.69
UBI	0.47
SYB	0.62
PNB	0.31
IB	0.5
CBI	0.9
AHB	0.36
CNB	0.65
AB	0.566
BOB	0.43
BOI	0.89
IDBI	0.47



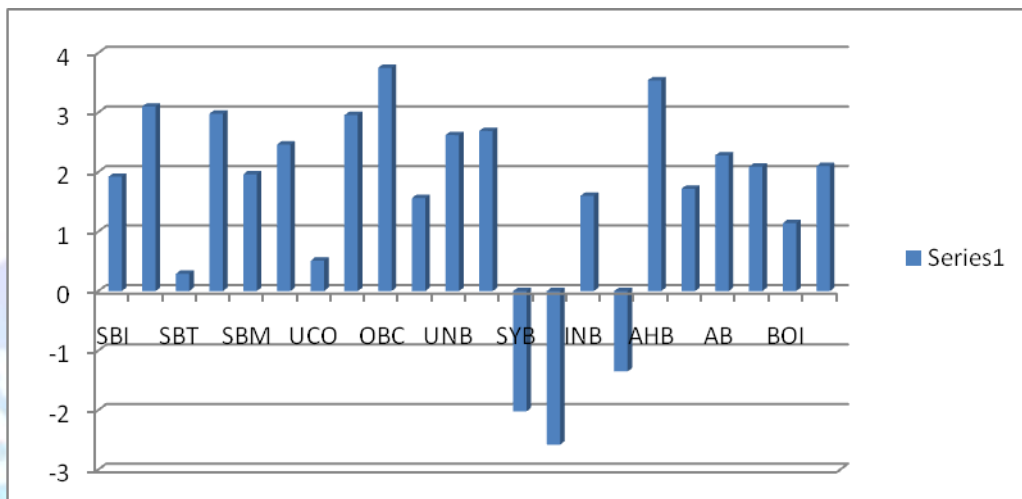
Based on NA/NW: SBTRAVANCORE [BY FAR THE BEST], UCO BANK [FAR SECOND], BANK OF MAHARASHTRA ARE WORTH INVESTING IN

EBIT/NA

EBIT/NA

SBI	1.92
CPB	3.1
SBT	0.29
SBBJ	2.98
SBM	1.96
DB	2.46
UCO	0.51
BOM	2.955
OBC	3.75
VB	1.56
UNB	2.62
UBI	2.69
SYB	-2.02
PNB	-2.58
INB	1.6
CBI	-1.35
AHB	3.54

CNB	1.72
AB	2.28
BOB	2.09
BOI	1.14
IDBI	2.1

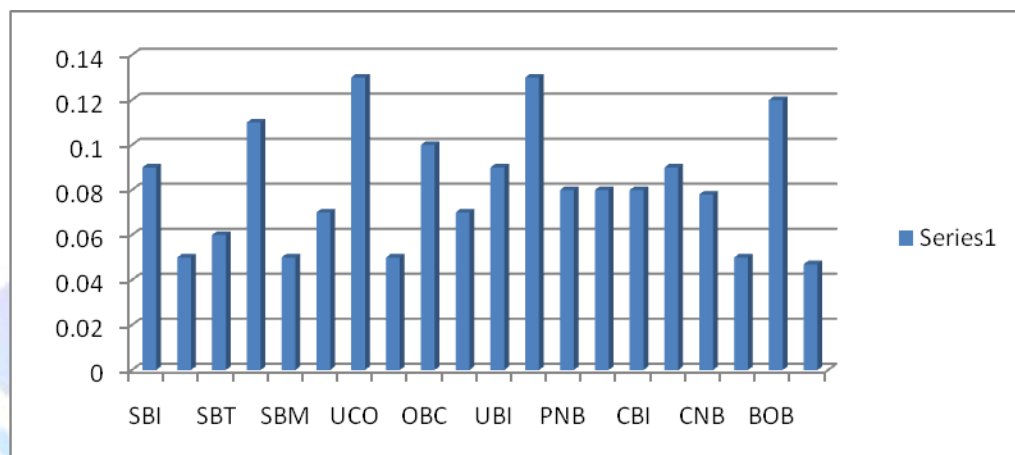


Based on EBIT/NA: ORIENTAL BANK OF COMMERCE, ALLAHABAD BANK, CORPORATION BANK, SBBJ, BO MAHARASHTRA, UNITED BANK, UNION BANK OF INDIA ARE WORTH INVESTING IN. SYNDICATE BANK, PUNJAB NATIONAL BANK, CENTRAL BANK OF INDIA SHOULD NOT BE INVESTED IN

RE/NW

RE/NW

SBI	0.09
CPB	0.05
SBT	0.06
SBBJ	0.11
SBM	0.05
DB	0.07
UCO	0.13
BOM	0.05
OBC	0.1
VB	0.07
UBI	0.09
SYB	0.13
PNB	0.08
INB	0.08
CBI	0.08
AHB	0.09
CNB	0.078
AB	0.05
BOB	0.12
IDBI	0.047
BOI	

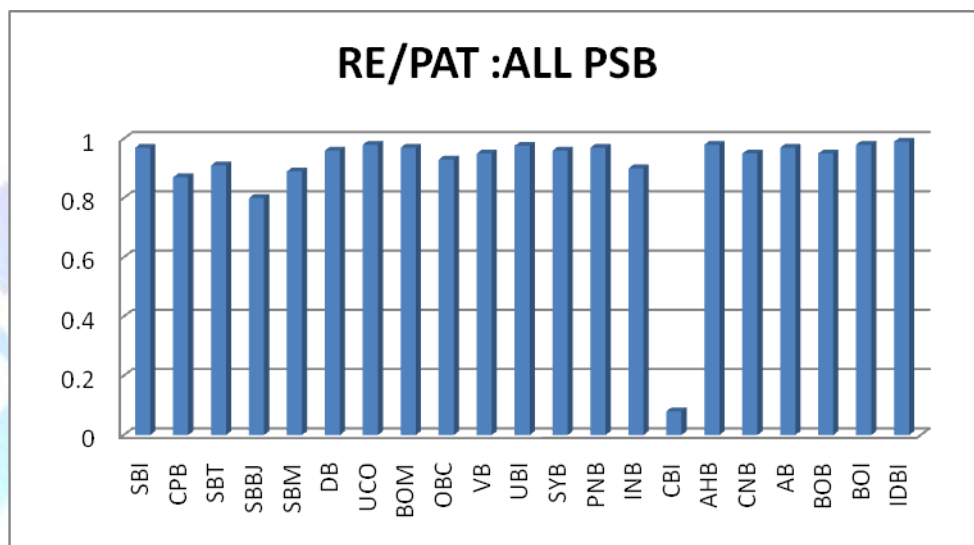


Based on RE/NW:SYNDICATE BANK, UCO BANK, BANK OF BARODA SBBJ, ORIENTAL BANK OF COMMERCE, SBI, UNITED BANK OF INDIA, ALL HABAD BANK are worth investing in.

RE/PAT

RE/PAT

SBI	0.97
CPB	0.87
SBT	0.91
SBBJ	0.8
SBM	0.89
DB	0.96
UCO	0.98
BOM	0.97
OBC	0.93
VB	0.95
UBI	0.976
SYB	0.96
PNB	0.97
INB	0.9
CBI	0.08
AHB	0.98
CNB	0.95
AB	0.97
BOB	0.95
BOI	0.98
IDBI	0.99

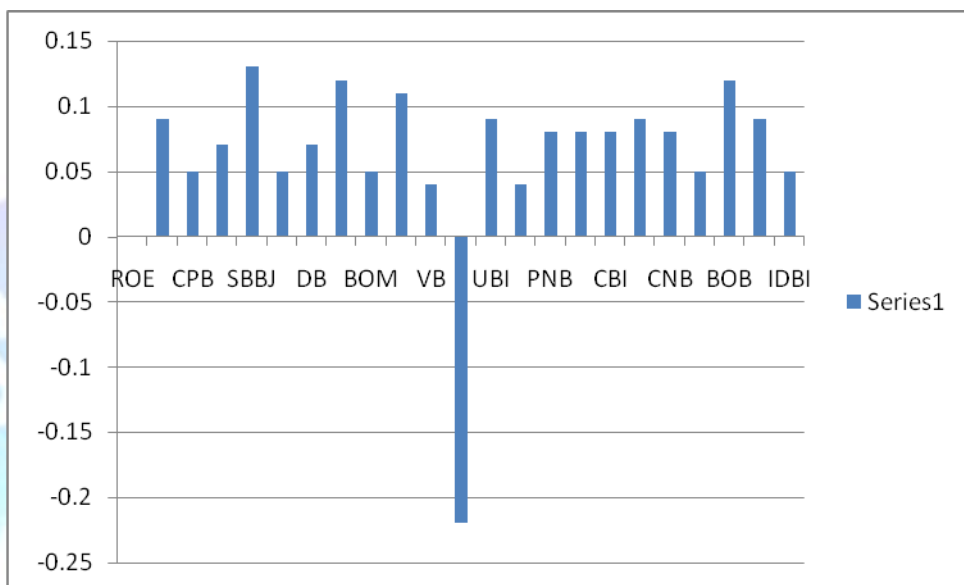


Based on RE/PAT: IDBI BANK, UCO BANK, UBI, ALL BANK, BANK OF INDIA, SBI, BANK OF MAHARASHTRA, PUNJAB NATIONAL BANK, ANDHRA BANK are worth investing in.

ROE

ROE

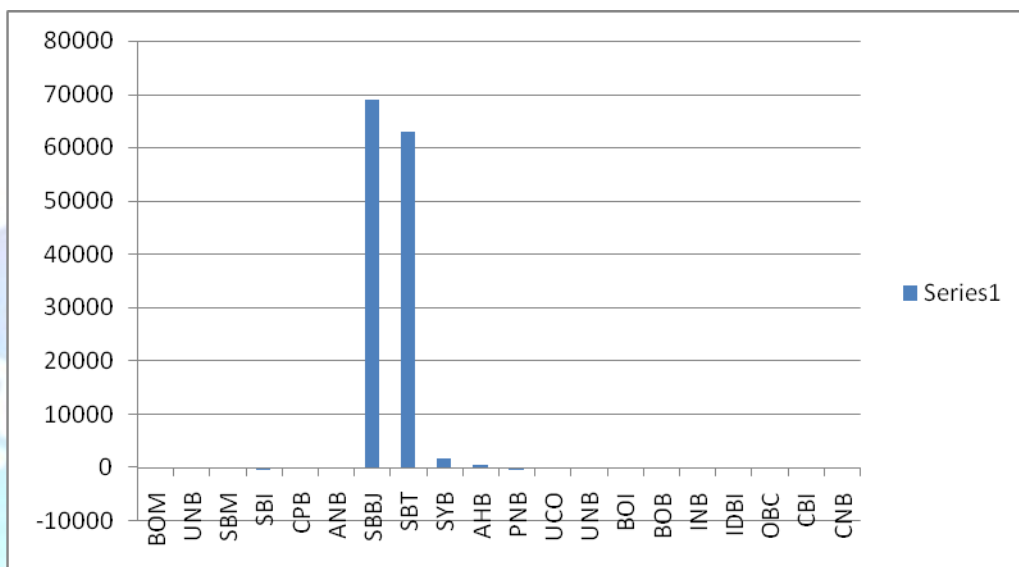
SBI	0.09
CPB	0.05
SBT	0.07
SBBJ	0.13
SBM	0.05
DB	0.07
UCO	0.12
BOM	0.05
OBC	0.11
VB	0.04
UNI	-0.22
UBI	0.09
SYB	0.04
PNB	0.08
IB	0.08
CBI	0.08
AHB	0.09
CNB	0.08
AB	0.05
BOB	0.12
BOI	0.09
IDBI	0.05



Based on ROE: union bank of india SHOULD NEVER BE INVESTED IN. SBBJ, UCO BANK, ORIENTAL BANK OF COMMERCE, BANK OF BARODA, can be invested in,

TREYNOR RATIO OF ALL PSB

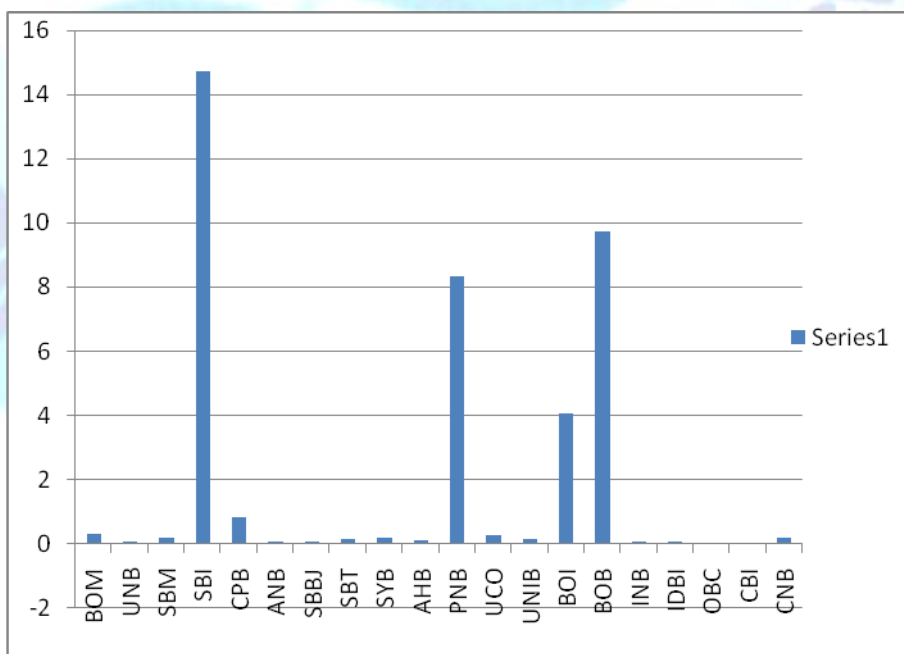
BOM	1.071936
UNB	2.544253
SBM	46.31398
SBI	-286.257
CPB	-2.6012
ANB	2.440692
SBBJ	69011.48
SBT	62987.98
SYB	1868.688
AHB	469.3918
PNB	-375.973
UCO	2.211661
UNB	2.512961
BOI	4.550404
BOB	10.91389
INB	1.325473
IDBI	0.437141
OBC	2.640174
CBI	-0.16982
CNB	7.688719



INTERPRETATION : SBBJ, SBT,SYB are the bank scrips with least risk return variation during the period.

SHARP RATIO OF ALL PSB BANKS

BOM	0.270637
UNB	0.057785
SBM	0.1797
SBI	14.72429
CPB	0.784786
ANB	0.047742
SBBJ	0.044982
SBT	0.122042
SYB	0.178908
AHB	0.066734
PNB	8.30067
UCO	0.239157
UNIB	0.103062
BOI	4.033642
BOB	9.726189
INB	0.042499
IDBI	0.057738
OBC	0.017265

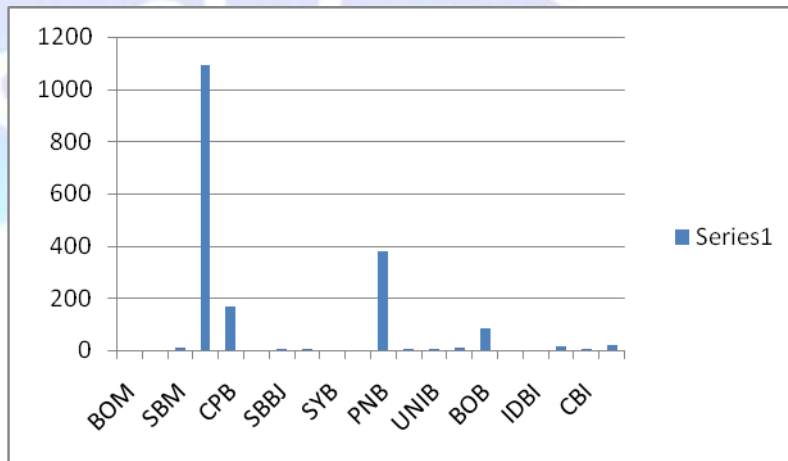


CBI -0.01415
CNB 0.15457

**INTERPRETATION:SBI, BOB, PNB,BOI, CPB
are scrips with better risk adjusted return
during the period.**

JENSENS ALPHA OF ALL PSB BANKS

BOM 1.277095
UNB 0.556489
SBM 10.41121089
SBI 1092.868583
CPB 166.4627844
ANB 2.575241039
SBBJ 6.19133455
SBT 3.64131266
SYB 2.174423
AHB 0.578186382
PNB 378
UCO 3.731260346
UNIB 4.489544
BOI 8.773179
BOB 85.1588
INB 2.752863
IDBI 0.749915
OBC 15.94167
CBI 4.925119
CNB 21.56935



**INTERPRETATION: SBI, PNB,BOB, CPB
,CNB,OBC are the bank scrips that have
given much better than normal market
returns during the period.**

Summary of findings as per fundamental dupont analysis:

1. Based on ROE: union bank of india SHOULD NEVER BE INVESTED IN. SBBJ, UCO BANK, ORIENTAL BANK OF COMMERCE, BANK OF BARODA, can be invested in,
2. Based on RE/PAT: IDBI BANK, UCO BANK, UBI, ALL BANK, BANK OF INDIA, SBI, BANK OF MAHARASHTRA, PUNJAB NATIONAL BANK, ANDHRA BANK are worth investing in.
3. Based on RE/NW: SYNDICATE BANK, UCO BANK, BANK OF BARODA SBBJ, ORIENTAL BANK OF COMMERCE, SBI, UNITED BANK OF INDIA, ALL HABAD BANK are worth investing in.
4. Based on EBIT/NA: ORIENTAL BANK OF COMMERCE, ALLAHABAD BANK, CORPORATION BANK, SBBJ, BO MAHARASHTRA, UNITED BANK, UNION BANK OF INDIA ARE WORTH INVESTING IN. SYNDICATE BANK, PUNJAB NATIONAL BANK, CENTRAL BANK OF INDIA SHOULD NOT BE INVESTED IN,
5. Based on NA/NW: SBTRAVANCORE [BY FAR THE BEST], UCO BANK [FAR SECOND], BANK OF MAHARASHTRA ARE WORTH INVESTING IN
6. Based on PAT/EBIT: BANK OF BARODA, SYNDICATE BANK, SBBJ, SBI, uco bank, Indian bank, allahabad bank are worth investing in, United bank, Punjab national bank, bank of india should not be invested in
7. Based on ROE: UNITED BANK SHOULD NEVER BE INVESTED IN. SBBJ, SYNDICATE BANK, ORIENTAL BANK OF COMMERCE, BANK OF BARODA, SBI can be invested in,
8. Basing on PAT/NW : Vijaya bank, SBI, SBBJ are worth investing in.

based on portfolio tools:

FINDINGS:

1. SBBJ, SBT, SYB are the bank scrips with least risk return variation during the period.
2. SBI, BOB, PNB, BOI, CPB are scrips with better risk adjusted return during the period.
3. SBI, PNB, BOB, CPB, CNB, OBC are the bank scrips that have given much better than normal market returns during the period.
4. BO BARODA exhibited the highest risk among public sector banks during the period . others with higher risk are CBI, CNB, BOI, OBC .

Conclusions:

1. Only as handful of public sector banks had active banking and returned a much better market performance during the period. Rest of the public sector banks did not exhibit any initiative and returned a very unimpressive returns during the period. Majority of public sector banks are thus not fit candidates for investment in India.
2. Fundamental analysis coupled with technical analysis is a useful tool for selecting performance oriented scrips in the market.

3. THE WINNERS ARE:

SBI, SBBJ, SBT, CORPORATION BANK

SUGGESTIONS:

There is a dire need to rejig the management and performance structures of the Indian public sector banks. There is obviously something basically wrong with the way management of public sector banks is either selected or is run or is supervised in India. A detailed study on the management capabilities of public sector banks is thus warranted.

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