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Research Paper

CAPITAL MARKET EXPOSURE AND TESTING OF EFFICIENT MARKET HYPOTHESIS: A STUDY ON PUBLIC SECTOR BANKS IN INDIA

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ABSTRACT

The present study attempts to analyze performance of twenty six (26) Public Sector Banks (PSBs) in respect of their exposure to Indian capital market. Further, it is also tried to test the Efficient Market Hypothesis (EMH) relating to stocks of sample banks during 2009-10 to 2013-14. In order to obtain the objectives, relevant secondary data have been compiled from the data base of Bombay Stock Exchange and annual reports of the respective banks. The study concludes that there is a significant variation across the sample banks in terms of selected measure of exposures except exposures relating to bridge loans to companies against expected equity flows/ issues and underwriting commitments in primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds. Further, the testing of weak form of EMH concludes that, Indian capital market comprising of sample PSBs stock is efficient.

KEY WORDS: *Public Sector Banks, Exposure, Efficient Market Hypothesis*

INTRODUCTION

A healthy financial system is a pre-requisite condition for economic development of a country as it mobilizes savings of the economic sectors and directing the same towards the channels of productive use. Financial markets and financial institutions are the two important constituents of financial system. Indian financial markets are categorized as money market and capital market. The money market is meant for transaction of short-term securities while capital market deals with long term funds. Its basic function is to mobilize long-term savings to finance long-term investments. It comprises the primary capital market and secondary capital market. The primary market refers to the long-term flow of funds from the surplus sector to the government and corporate sector through primary issues and to banks and to other financial intermediaries through secondary issues. The primary market enables the government as well corporate in raising the capital that is required to meet their requirements of capital expenditure and/or discharge of other obligations such as exit opportunities for venture capitalist/PE firms (www.sebi.org.in). The secondary market is a market for outstanding securities. The Indian secondary market can be segregated into two-market for corporate and financial intermediaries and market for government securities and public sector undertaking bonds. Banks as financial intermediaries in the Indian financial system play an important role in boosting economic growth of an economy as they are treated as growth engine especially for a developing country. In India, out of the various categories of banks, the public sector banks have special role towards the economic development as all the development schemes of Indian Government are financed by that bank group. Over the period, several reform measures, particularly after the 1991-92 securities scam, have been undertaken both in primary and secondary market. An important policy measure undertaken after the reforms was to allow banks and financial institutions in the public sector to have access to the capital market (Pathak, 2008).

OBJECTIVES OF THE STUDY

In the literature, a large number of empirical works have been carried out to examine the foreign exchange exposure of banks. However, past studies mainly focused on banking sector of developed countries. Thus, the present study aimed

1. To analyze the exposure of Indian public sector banks to capital market.
2. To test the weak form of efficient market hypothesis of public sector banking stocks.

HYPOTHESES OF THE STUDY

H_{01}: There is no significant difference across the banks in term of exposures.

H_{02}: There is no significant difference between Nationalized Bank group and State Bank of India group in respect of select types of exposures to Indian capital market.

H_{03}: Price change of select banking stocks is random.

METHODOLOGY

Type of the Study: The study is empirical in nature and based on secondary data.

Scope of the study: The scope of the study is confined to the analysis of exposure to capital market and testing of weak form of efficient market hypothesis under the purview of linkage between Indian public sector banking and capital market for the period from 2009-10 to 2013-14.

Sample of the Study: The exposure study is based on all the twenty six (26) Public Sector Banks working during the study period but the analysis based on testing of EMH includes only twenty two banks due to insufficient and non-availability of data of four bank stocks namely, State Bank of Hyderabad, State Bank of Patiala, Punjab & Sind Bank and United Bank of India.

Types of Exposure: As per the modified and revised RBI guidelines, which came into effect from April 1, 2007, exposure of the respective banks has been studied based on the following components:

Table 1: Components of Capital Market Exposure

Exposure 1	Direct investment in equity shares, convertible bonds, convertible debentures and units of equity-oriented mutual funds the corpus of which is not exclusively invested in corporate debt
Exposure 2	Advances against shares /bonds/debentures or other securities or on clean basis to individuals for investment in equity shares(including IPOs/ESOPs), convertible bonds, convertible debentures and units of equity-oriented mutual fund
Exposure 3	Advances for any other purpose where shares or convertible bonds or convertible debentures or units of equity-oriented mutual fund are taken as primary security
Exposure 4	Advances for any other purposes to the extent secured by collateral security of shares or convertible bonds or convertible debentures or units of equity-oriented mutual funds i.e. where the primary security other than shares/convertible bonds/convertible debentures/units of equity-oriented mutual fund does not fully cover the advances
Exposure 5	Secured and unsecured advances to stock brokers and guarantees issued on behalf of stock brokers and market makers
Exposure 6	Loans sanctioned to corporate against security of shares/ bonds/ debenture or other securities or on clean basis for meeting promoter's contribution to the equity of new companies in anticipation of raising resources
Exposure 7	Bridge loans to companies against expected equity flows/issues
Exposure 8	Underwriting commitments taken up by Banks in respect of primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds
Exposure 9	Financing to stock brokers for margin trading;
Exposure 10	Exposure to Venture Capital Funds

Source: www. rbi.org.in

Testing Efficient Market Hypothesis (EMH): For testing purpose, non-parametric Runs test has been used. The test is based on the premises that if a series of data is random, the observed number of runs in the series should be equal to expected number of runs.

Sources of Data: The relevant secondary data has been collected from Bombay Stock Exchange and annual reports of the respective banks for the relevant years. For the purpose of testing the weak form of EMH, data relating to monthly closing stock prices has been collected.

Statistical Tools: Under the study descriptive statistics such as Mean and Coefficient of Variation have been used for analyzing exposure of the banks and other statistics such as Maximum, Minimum, Skewness and Kurtosis for studying the efficient market hypothesis of the banking stocks. The study also includes one way ANOVA for testing whether variation across the banks in terms of selected types of exposure significant or not, and independent sample ***t*** test in order to test the significant difference between the two bank group viz., Nationalized Bank and State Bank of India and its Associates. Besides, return of a stock is calculated as the difference between natural logarithm of closing price of a month and natural logarithm of closing price of immediate previous month.

DATA ANALYSIS AND FINDINGS

Capital Market exposure of Indian Public sector Banks

Table 2 portrays descriptive statistics of exposures of Public Sector Banks (PSBs) to capital market. It is found that on average, SBI showed highest exposure in respect of investment in equity shares, convertible bonds, convertible debentures and units of equity-oriented mutual funds, providing advances for any other purpose where shares or convertible bonds are taken as primary security and bridge loans to companies against expected equity issues. IDBI bank provided highest advances against shares/bonds/debentures or other securities. CBI provided highest advances against the primary security other than shares/convertible bonds/ convertible debentures/units of equity-oriented mutual fund. BOI provided highest advances to stock brokers or guarantees issued on behalf of stock brokers and market makers. Further, with regard to sanctioning loan to corporate, only 44 percent of total banks showed exposure where SYNB has achieved first position. PNB has underwritten commitments taken up in respect of primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds only. It is observed that only 36 percent of total banks financed stock brokers for margin trading where Corporation Bank (COB) got first position whereas respect to Bank of Baroda (BOB) has attained first position in investment in venture capital fund. Moreover, the study also shows that Indian Bank (INB), IDBI bank, Syndicate Bank (SYNB) and Bank of Baroda (BOB) are very much consistent in the first, second, sixth and seventh category of exposure while PNB is very much consistent in the third, fourth and fifth categories of exposure. The COB is consistent in both ninth and tenth categories of exposure. On average, during the study period, the total exposure of State Bank of India (SBI) (*INR* 5879.44 crore) is highest followed by Punjab National Bank (PNB) (*INR* 4613.70 crore) while lowest in case of State Bank of Mysore (SBOM) (*INR* 99.17 crore) followed by the State Bank of Hyderabad (SBOH) (*INR* 223.87 crore). On the basis

of consistency level, Bank of Baroda (BOB) (15.34 percent) is found to be more consistent followed by BOI (20.05 percent) while Punjab & Sind Bank (P&SB) (176.98 percent) is found to be more inconsistent followed by Bank of Maharashtra (BOM) (126.75 percent).

On average, the PSBs invested funds of *INR* 39909.21 crore in capital market during the study period with 6.55 percent coefficient of variation. With regard to the total exposure, the Nationalized Bank Group contributed larger share in all the types of exposures. It is observed that the sample banks have preference to invest comparatively more in equity shares and other securities rather than providing advances and showing other exposures to capital market. Further, during the study period, on average, the PSBs invested total amount of *INR* 19203.74 crore in equity shares, convertible bonds, convertible debentures and units of equity-oriented mutual with 10.23 percent coefficient of variation and second highest amount of *INR* 6461.79 crore was provided as advances to stock brokers with highest level of consistency i.e. 9.98 percent coefficient of variation. On the count of consistency level, it is found to be highest in case of tenth number of exposure in case of both the bank groups.

Table 2: Bank and Component wise Exposure to Capital Market: Descriptive Statistics

Bank	Exposure 1		Exposure 2		Exposure 3		Exposure 4		Exposure 5		Exposure 6		Exposure 7		Exposure 8		Exposure 9		Exposure 10		Total Exposure	
	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)	Mean (INR in crore)	CV (%)
ALB	702.4	6.0	0.0	0.0	15.7	154.8	30.3	223.6	253.3	172.2	0.0	0.0	6.8	223.6	0.0	0.0	0.0	0.0	3.1	117.2	874.2	61.18
ANB	139.9	14.7	51.3	216.8	0.4	71.2	33.7	149.9	74.4	138.8	85.0	223.6	0.0	0.0	0.0	0.0	10.0	223.6	142.5	63.2	1013.94	87.41
BOB	1612.9	18.6	35.6	84.8	99.0	198.7	227.6	161.4	196.9	46.6	25.2	218.4	0.3	195.4	0.0	0.0	31.4	211.4	650.5	43.9	3161.65	15.34
BOI	898.0	19.6	16.4	53.1	9.5	82.4	406.7	39.7	1836.0	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	223.3	96.5	2788.98	52.36
BOM	127.4	19.7	0.1	137.0	2.2	100.2	6.6	67.0	70.2	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	63.0	544.03	126.75
CNB	1010.4	11.8	0.0	0.0	528.5	88.8	226.8	179.1	896.7	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	275.3	58.9	2955.13	30.27
CBI	791.4	15.1	5.6	47.6	0.0	0.0	770.7	49.4	192.1	71.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.6	58.0	1863.61	26.54
COB	609.5	34.3	0.7	61.5	0.1	137.1	146.4	40.7	56.2	122.4	0.0	0.0	0.0	0.0	0.0	0.0	186.9	92.5	253.5	29.6	1060.65	45.46
DNB	91.8	15.5	0.0	0.0	0.9	85.8	0.0	0.0	47.7	118.7	20.7	130.3	0.0	0.0	0.0	0.0	4.8	144.3	21.5	49.9	389.09	95.1
INB	569.8	5.0	46.4	223.4	66.7	94.7	0.0	0.0	99.2	55.1	69.7	137.9	0.0	0.0	0.0	0.0	0.0	0.0	18.8	71.0	1263.15	82.01
IDBI	1642.2	15.3	493.1	11.5	326.3	86.9	476.5	48.7	462.4	40.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.9	56.5	3459.73	28.04
IOB	624.6	33.4	3.5	127.2	541.9	47.1	440.1	56.0	144.4	13.4	13.5	137.1	0.0	0.0	0.0	0.0	0.1	150.6	204.0	58.4	1876.53	22.05
OBC	472.0	13.9	0.4	51.9	178.4	38.9	80.5	94.5	288.2	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	167.8	58.4	1007.65	50.06
P&SB	135.9	15.8	0.3	188.0	0.1	185.1	0.0	0.0	29.4	75.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	79.9	859.23	176.98
PNB	2043.2	16.2	6.2	29.7	100.0	18.3	678.9	34.7	339.8	9.2	2.9	223.6	0.0	0.0	8.0	223.6	0.0	0.0	452.3	57.0	4613.7	39.91
SBI	4966.5	56.9	9.6	67.7	1111.5	128.6	116.7	62.5	364.2	89.6	102.9	174.2	14.0	223.5	0.0	0.0	0.1	223.6	598.2	75.0	5879.44	67.65
SBBJ	125.5	45.9	0.0	0.0	4.0	223.6	0.0	0.0	34.4	178.9	0.0	0.0	0.0	0.0	0.0	0.0	4.0	223.6	16.0	75.7	314.12	102.58
SBOH	222.0	23.3	12.1	167.4	0.1	157.9	126.4	190.4	5.0	222.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	223.6	6.7	123.3	223.87	23.37
SBOM	66.0	28.2	0.0	223.6	3.1	219.0	14.2	160.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.9	71.3	299.54	36.85
SBOP	171.5	30.3	0.01	223.6	0.0	0.0	0.0	0.0	113.2	78.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	51.07	99.17	62.27
SBOT	128.1	56.9	0.0	60.9	0.0	0.0	2.1	214.8	35.9	133.7	157.1	223.6	0.0	0.0	0.0	0.0	0.0	0.0	4.4	139.1	548.44	91.17
SYNB	122.7	24.6	0.2	88.4	0.0	0.0	27.1	222.6	25.5	114.6	600.5	96.0	0.0	0.0	0.0	0.0	0.0	0.0	84.5	88.4	1072.58	35.37
UCO	427.4	37.0	0.1	97.0	0.1	223.6	17.3	223.6	72.6	74.4	137.1	223.6	0.0	0.0	0.0	0.0	0.0	0.0	144.9	56.7	1362.15	52.71
UBOI	744.9	16.0	8.6	127.5	6.8	60.1	48.4	132.6	654.7	53.4	0.0	126.4	0.3	223.6	0.0	0.0	24.7	108.0	360.7	61.3	1483.89	67.55
UNBI	397.5	53.9	1.9	223.6	3.7	49.1	25.6	90.1	132.1	189.8	1.3	223.6	0.0	0.0	0.0	0.0	0.0		124.4	161.9	426.87	32.6
VIB	314.6	20.0	12.1	221.7	0.7	223.6	0.1	223.6	27.3	103.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.1	159.5	233.15	94.93
All Banks	19203.74	10.23	704.23	15.64	2999.3	49	3902.63	22.46	6461.79	9.98	1216.14	28.4	21.34	146.13	8	223.61	262.18	89.14	5129.86	11.49	39909.21	6.55
SBI Group	5702.12	50.99	21.8	97.52	1118.58	127.15	259.51	113.29	556.99	69.42	105.87	167.45	14.01	223.49	0	0	4.23	208.62	813.65	42.04	8596.75	29.7
NB Group	13501.62	9.74	682.43	15.87	1880.72	15.32	3643.12	25.8	5904.81	9.75	1110.27	37.78	7.34	215.32	8	223.61	257.95	90.88	4316.21	6.08	31312.46	7.41

Note: SBI Group indicates State of India and its Associates and NB Group indicates Nationalized Banks

Source: Author's calculation

Table 3: Result of ANOVA

Components of Exposure	*F*	*p*-value
Exposure1	15.567*	*.000*
Exposure 2	41.922*	*.000*
Exposure 3	3.440*	*.000*
Exposure 4	8.695*	*.000*
Exposure 5	25.104*	*.000*
Exposure 6	3.057*	*.000*
Exposure7	**.966**	*.518*
Exposure 8	**1.000**	*.474*
Exposure 9	4.580*	*.000*
Exposure 10	7.082*	*.000*

* *Note*: Significant at 0.01 (2 tailed)

Table 3 provides the result of analysis of variation. The testing of hypothesis concludes that there is a significant variation across the sample banks in terms of selected measure of exposures except exposures relating to bridge loans to companies against expected equity flows/issues and underwriting commitments taken up by banks in respect of primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds at .01 level of significance.

Table 4: Result of Independent samples *t* test

Components of Exposure	Levene's Test for Equality of Variances		*t*-test for Equality of Means	
	F	*p*-value	*t*	*p*-value
Exposure 1	**5.133**	*.053*	5.466*	*.001*
Exposure 2	6.111**	*.039*	5.466*	*.002*
Exposure 3	16.074*	*.004*	**1.174**	*.274*
Exposure 4	**4.022**	*.080*	7.682*	*.000*
Exposure 5	**1.393**	*.272*	17.44*	*.000*
Exposure 6	8.984**	*.017*	4.932*	*.001*
Exposure7	**1.392**	*.272*	**-0.425**	*.682*
Exposure 8	7.111**	*.029*	**1.000**	*.347*
Exposure 9	9.563**	*.015*	2.418**	*.042*
Exposure 10	**.471**	*.512*	18.666*	*.000*

Note: *Significant at 0.01 (2 tailed)
**Significant at 0.05 (2 tailed)

Further, the group wise analysis reveals that the differences between the two group of the public sector banks is not significant in the case of three exposures only, the third, seventh and eighth exposures. The testing of equality of variances concludes that there is a significant difference between the two bank groups in respect of second, third, sixth, eighth and ninth number of exposures.

Testing Weak Form of Efficient Market Hypothesis

The concept of Efficient Market Hypothesis (EMH) states that stocks listed in stock exchanges are traded at their fair value. Thus, the participants earn only fair return i.e. neither abnormal nor lesser return and therefore, it is impossible to outperform the market consistently. This hypothesis argues that securities markets are extremely efficient in reflecting information about individual stocks and stock market as a whole (Mehla & Goyal, 2012; Nisar & Hanif, 2012). In other words, EMH provides that stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices (Khan et al., 2011). In the year 1967, Levy made efficient market distinction between weak and strong form. Further, Fama (1970) has divided the efficient market hypothesis into three sub hypothesis depending upon the availability of set of information. Thetests of weak, semi-strong and strong from of market efficiency are useful in identifying the level of information where the efficient market hypothesis is rejected. Market is said to have strong form of efficiency, when the current price reflects all information i.e. public, private as well as information contained in past prices and no investors will be able to recognize under-valued stocks. Market is considered to have semi-strong form of efficiency, when the current price reflects the information contained past prices as well as public information and there is no approach that can predict on using this information, which would be useful in finding undervalued stocks. Market is weak-form of efficient, when the current price reflects the information contained in all past prices only, suggesting that charts and technical analyses would no longer be useful in distinguishing undervalued stocks. Lower the market efficiency; the greater will be the predictability of stock price changes. In a weak-form efficient market, price movements occur randomly and successive price changes are discrete of one another. The random walk hypothesis of stock market prices states that price changes cannot be predicted. Thus, past price movements cannot be used to forecast future price movements. But violation of the random walk model could not be the evidence for weak form market inefficiency (Ko & Lee, 1991; Arora, 2013; Ashikh, 2012). The testing of weak form of hypothesis is very much common among the researchers as the acceptance of this form of hypothesis only generates further testing of other two forms of hypotheses.

Table 5: Descriptive Statistics

Name of Banks	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
ALB	0.0142	0.1534	-0.2970	0.4960	0.5530	0.7230
ANB	0.0059	0.1352	-0.2620	0.5370	0.9800	2.9600
BOB	0.0188	0.1121	-0.2100	0.3320	0.6410	0.9700
BOI	0.0007	0.1383	-0.2600	0.3620	0.3460	0.0150
BOM	0.0105	0.1136	-0.1810	0.4950	1.4090	4.6430
CNB	0.0078	0.1335	-0.3040	0.3630	0.2120	0.3110
CBI	0.0065	0.1534	-0.3130	0.5750	1.1580	2.9050
COB	0.0072	0.1061	-0.2000	0.3590	0.6870	0.9280
DNB	0.0105	0.1386	-0.2650	0.3740	0.4230	0.4560
INB	0.0055	0.1359	-0.3510	0.3070	-0.1040	0.0440
IDBI	0.0061	0.1314	-0.2310	0.3820	0.6650	0.3600
IOB	0.0019	0.1353	-0.2300	0.4080	0.7630	0.9730
OBC	0.0118	0.1485	-0.3080	0.3560	0.1400	-0.1660
PNB	0.0099	0.1147	-0.2840	0.3390	0.3370	0.8030
SBI	0.0098	0.1091	-0.2000	0.3800	0.8870	1.4570
SBBJ	0.0086	0.1174	-0.1650	0.4490	1.6320	3.9010
SBOM	0.0042	0.1210	-0.1800	0.4400	1.6730	3.9640
SBOT	0.0115	0.1138	-0.1740	0.4500	1.7820	5.6120
SYNB	0.0116	0.1316	-0.3750	0.3400	-0.2720	1.0810
UCO	0.0186	0.1494	-0.2900	0.4330	0.3920	0.4160
UBOI	-0.0012	0.1330	-0.3370	0.3010	0.0880	0.2630
VIB	0.0089	0.1303	-0.1920	0.5680	1.3810	4.3880

Source: Author's calculation

Table 5 provides descriptive statistics of sample bank stocks. The mean return of Bank of Baroda stock is highest followed by UCO bank stock while it is lowest in case of Union Bank of India (UBOI) stock followed by Bank of India (BOI) stock. On the count of standard deviation, Corporation Bank (COB) stock obtained first position followed by State Bank of India (SBI) stock while Allahabad bank (ALB) stock attained last position followed by Central Bank of India (CBI) stock. During the study period, highest maximum monthly return is earned by the Central Bank of India (CBI) stock followed by Vijaya bank (VIB) stock and lowest minimum monthly return is earned by Syndicate bank (SYNB) stock followed by Indian bank (INB) stock. The present data relating to monthly return of the sample bank stocks is not normally distributed as the skewness value of all the stocks is not equal to zero and kurtosis values are not equal to 3.

Table 6: Result of Runs Test

Name of Banks	N_1	N_2	R	E (r)	S.E.	*Z*	*p*-value
ALB	25	35	33	30.167	3.732	*0.759*	*0.448*
ANB	29	31	31	30.967	3.836	*0.009*	*0.993*
BOB	25	35	27	30.167	3.732	*-0.849*	*0.396*
BOI	29	31	27	30.967	3.836	*-1.034*	*0.301*
BOM	28	32	21	30.867	3.823	*-2.581*	*0.010*
CNB	30	30	29	31.000	3.840	*-0.521*	*0.602*
CBI	25	35	25	30.167	3.732	*-1.385*	*0.166*
COB	25	35	25	30.167	3.732	*-1.385*	*0.166*
DNB	29	31	29	30.967	3.836	*-0.513*	*0.608*
INB	31	29	27	30.967	3.836	*-1.034*	*0.301*
IDBI	28	32	35	30.867	3.823	*1.081*	*0.280*
IOB	27	33	29	30.700	3.801	*-0.447*	*0.655*
OBC	29	31	27	30.967	3.836	*-1.034*	*0.301*
PNB	30	30	27	31.000	3.840	*-1.042*	*0.298*
SBI	28	32	31	30.867	3.823	*0.035*	*0.972*
SBBJ	27	33	29	30.700	3.801	*-0.447*	*0.655*
SBOM	20	40	27	27.667	3.406	*-0.196*	*0.845*
SBOT	27	33	31	30.700	3.801	*0.079*	*0.937*
SYNB	31	29	31	30.967	3.836	*0.009*	*0.993*
UCO	27	33	31	30.700	3.801	*0.079*	*0.937*
UBOI	28	32	27	30.867	3.823	*-1.012*	*0.312*
VIB	25	35	27	30.167	3.732	*-0.849*	*0.396*

Source: Author's calculation

Table 6 presents result of testing weak form of efficient market hypothesis. The observed runs of Allahabad bank (ALB), Andhra bank (ANB), IDBI bank, State Bank of India (SBI), State Bank of Travancore (SBOT), Syndicate Bank (SYNB), UCO are higher than their expected runs as the Z statistics are positive. In all the cases, the statistic for all the stocks accept the null hypothesis as the values fall in the range of -1.96 & +1.96 except Bank of Maharashtra (BOM) stock and thus, it can be concluded that the sample stocks follow random walk and therefore, the past prices of the stocks do not have influence on the current price of the stocks in predicting future prices except the case of Bank of Maharashtra (BOM) stock.

CONCLUSION AND POLICY IMPLICATIONS

The main objective of the present study is to analyze the exposure of the public sector banks to capital market and also testing the weak form of Efficient Market Hypothesis of the select banking stocks during 2009-10 to 2013-14. For this purpose, ten components of exposure to capital markets specified by Reserve Bank of India have been considered. The Nationalized Bank group is found to have greater contribution in all the types of exposures as compared to SBI group. It is observed that the sample banks have preference to invest comparatively more in equity shares and other securities rather than providing advances and showing other exposures to capital market. In this particular exposure, the State Bank of India (SBI) is ranked first but having least consistency. Further, it is also observed that during the study period, only Punjab National Bank (PNB) has underwritten commitments taken up in respect of primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds. Moreover, the group wise analysis depicts that on the count of consistency level, it is highest in case of tenth number of exposure in both the bank groups. The testing of hypothesis concludes that there is a significant variation across the sample banks in terms of selected measure of exposures except exposures relating to bridge loans to companies against expected equity flows/issues and underwriting commitments taken up by banks in respect of primary issue of shares or convertible bonds or convertible debentures or units of equity oriented mutual funds and the difference between the two groups of the PSBs is not significant in the case of three exposures only, the third, seventh and eighth exposures. Further, the testing weak form of efficient market hypothesis concludes that the monthly past prices do not have influence on the current price of the stocks except the case of Bank of Maharashtra (BOM) stock. Thus, Indian capital market comprising of public sector banking stock is efficient. The empirical findings implies that the policy made by the Reserve Bank of India in respects of disclosing data in their annual reports relating to loans and advances as well as investment in capital market is abide by all the respective banks. Further, the Bank of Maharashtra should enhance level of performance in order to make its stock efficient in the market akin to its counterparts.

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