

Female Leadership and Performance of Indian Banks

Dr. Monika Aggarwal,

Associate Professor,
University Institute of Applied Management
Sciences, Panjab University,
Chandigarh, India.

ABSTRACT

Women in top management and the firm performance has been the area of research interest across globe. In spite of positive impact as proved by many researches, still the proportion of women in top has been on the lower side in many countries including India. In Indian banking sector as well there are only few seats occupied by women on in the boards of banks. The present study endeavours to examine the effect of female CEOs on the performance of bank. For this purpose database of 34 banks listed on Bombay Stock Exchange has been obtained for the period of 5 years starting from the year 2014 till 2018. It was concluded that presence of female CEOs has a positive effect on performance of Indian banks.

Keywords: Gender, Female CEOs, Indian Banking Sector, financial performance, asset quality, shareholders' earnings.

INTRODUCTION:

In the recent past there has been a focus on having women in the top management of the firm (Olson and Ahu, 2011; Bhagat, et al. 2010; Ramaswamy, et al., 2000). Literature has concluded that women on board positively affect firm performance (Owen and Temesvary, 2018; Julizaerma and Sori, 2012; Smith, et al., 2005), are more risk averse than man (Francis et al., 2015; Faccio et al., 2014; Croson and Gneezy, 2009), strong in external networking, positively manage bank risk (Dorota and Laurent, 2018; Yu, et al., 2017) and are better evaluators (Beck et al., 2013). Still the proportion of women in top has been on the lower side in many countries including India. In Indian banking sector as well there are only few seats occupied by women on in the boards of banks. Predominantly this sector is male dominated industry and has a rare support for women leaders. But, there are few women CEOs in banks who had made their mark in the financial sector. The present study endeavours to examine the effect of female CEOs on the performance of bank.

LITERATURE REVIEW:

There is substantial evidence in the literature regarding the CEO gender and its impact on the performance of the firm. Research suggests that there is no consensus with respect to the CEO characteristics and the performance of the firm. Owen and Temesvary (2018) examined 90 US bank holding companies for a period 1999-2015 and established non-linear, U-shaped, positive relationship between gender diversity on boards and bank performance once a threshold level of gender diversity was achieved. Similarly exploiting database of 365 Polish Cooperative banks, Dorota and Laurent (2018) found that female CEO led banks were less risky. The researchers found no difference in credit risk based on gender. Positive effect of presence of women on the board on firm performance was established by Conyon and He (2017) by using database of 3000 US firms from 2007-14. Yu, et al. (2017) found positive association between percentage of women executive and percentage of women directors with bank risk examined during 2003-11. Similarly, Meca et al. (2015) found that gender diversity increases bank performance using database of 159 banks in nine countries during the period 2004-10. Beck et al. (2013) examined commercial bank in Albania during the period 1996 to 2006 and found lower default risk in loans screened and

monitored by female loan officers. Julizaerma and Sori (2012) indicated positive association between gender diversity and firm performance in Bursa Malaysia listed companies during the year 2008-09. Smith et al. (2005) examined 2500 Danish firms during the year 1993-2001 and found that women on top management have the positive effect on firm performance. Further it was found that positive effects also depend on the qualification of female top manager. On the other few studies established inverse relationship. Baloyi and Ngwakwe (2017) studied 16 JSE SRI Companies and found no significant relationship between CEO's gender, net profit, share price and turnover. Other studies like Agle et al (2012), Lin and Cheng (2011), Tosi, et al. (2004) found no relation or weak relation. Shrader et al. (1997) failed to find any significant positive effect of having women in boards of the firm. Overall, the review of literature suggests that there is mixed response on effect of women participation in top managerial position in board of the firm. Few studies support this and few do not establish any relationship. Further, no relationship has been established in female CEOs and Indian bank performance till recently. Thus, the present study contributes to the existing literature by examining the impact of female CEOs on the performance of listed banks operating in India.

METHODOLOGY:

The main objective of the study is to examine the impact of the gender of the CEO of a bank, on the performance of the bank. For this purpose following hypotheses were framed and tested:

H1 There is no significant difference in financial performance of a bank based on the Gender of CEO.

H2 There is no significant difference in Earnings per Share of the bank based on Gender of CEO

H3 There is no significant difference in asset quality of the bank based on Gender of CEO

A sample of 34 banks including 21 public sector banks and 13 private sector banks listed on the Bombay Stock Exchange was drawn, as shown in Table-1. The financial performance was measured by Return on Assets (ROA), Earning per Share (EPS) indicated shareholder return and quality of asset was measured by Gross Non-Performing Assets (GNPA) and Net Non-Performing Assets (NNPA). The data were collected for a period of 5 years starting from the year 2014 to the year 2018 from the annual reports of the banks, Statistical Tables Related to Banks in India published by the Reserve Bank of India, financial dailies and website of moneycontrol.com. To test the hypothesis, statistical technique ANOVA was used and to identify group with specific characteristics K-Means Cluster Analysis was used.

Table-2 shows the descriptive statistics of the data used for the purpose of present study and table-3 show the crosstabs. As per table-3 the sample comprises of 92 male CEOs from public sector banks, 54 male CEOs from private sector banks, 13 female CEOs from public sector banks and 11 female CEOs from private sector banks. Overall, total 24 female CEOs and 146 male CEOs form the part of the study.

FINDINGS AND DISCUSSION:

In order to test the hypothesis, before ANOVA is applied, it becomes imperative to test its assumptions. First assumption of ANOVA is normality of data. To test this assumption the Kolmogorov-Smirnov Test is used and the results are presented in table-4. The null hypothesis to test the normality is that the data is not normally distributed. So, as per table-4 it is concluded that the null hypothesis is rejected in case of all variables and the data is normally distributed.

Second assumption of ANOVA is to test homogeneity of variance. Table-5 shows the results of Levene's Test of Homogeneity of Variance and Welch's Robust Test for Equality of Means. Homogeneity of variance is an assumption underlying analysis of Analysis of Variance (ANOVA) i.e. all comparison groups have the same variance. The table shows that in case of all variables except for GNPA, the test is non-significant. Thus, the assumption of homogeneity of variance is met for 3 variables including NNPA, ROA and EPS. The results of Welch's Robust Test for Equality of Means for GNPA are also non-significant, was conducted and the results are presented in Table-6. Here, the assumption of equality of means is also met.

Table-6 shows the results of independent between groups ANOVA. In case of ANOVA, the null hypothesis indicates the equality of all population means i.e. there is no difference between group means as determined by one-way ANOVA and the alternative hypothesis indicates difference in at least one mean. Thus, if the p-value<0.05 then null hypothesis is rejected and in case p-value>0.05 then null hypothesis is not rejected. From table-6 it is found that in case of GNPA and NNPA the p-value is greater than 0.05, thus the null hypothesis (H3) is not rejected. This means that there is no significant difference in asset quality of a bank based on the gender of CEO. The gender of CEO does not matter as far as quality of the assets of the bank is concerned. In case of Return on Assets again the p-value is greater than 0.05 level. So, null hypothesis H1 is accepted i.e. there is no significant

difference in financial performance of a bank based on the Gender of CEO. In case of EPS, the p-value is less than 0.05, thus null hypothesis (H2) is rejected. This means that there is significant difference in earnings per share of the bank based on gender of CEO.

Further, K-means cluster analysis was performed after standardisation of the data of variables selected for the purpose of this study. The basic intention is to assign the cases to a fixed number of groups to observe the key characteristics in them. The initial clusters and final clusters are shown in table-7. Cluster 1 is predominantly female CEOs and Cluster 2, 3, 4 are predominantly male CEO clusters. The procedure iterates and values are reassigned to final clusters. As shown in table-8, in initial iteration clusters shifted much faster in stages 1, 2 and 3. It stopped shifting completely after 6th iteration. F values in ANOVA table-7 depicts that CEO is contributing heavily in formation of clusters followed by ROA, GNPA, NNPA and EPS. This means that Gender of CEO provides very good separation in various clusters constructed. All the values are statistically significant.

Final clusters show that cluster 1 with 24 observations, significantly contains female CEOs. Cluster 2,3 and 4 significantly contains male CEOs. The number of observations in these three clusters is 102, 41 and 3 respectively. GNPA and NNPA are better and highly negative in cluster 2 followed by moderately better in cluster 1 and then poor in cluster 3 and 4. ROA was moderately better in cluster 2 as compared to cluster 1 but negligible in cluster 3 and poor in cluster 4. EPS is better in cluster 1 followed by cluster 2 and negative in cluster 3 and 4. Further, the distance between final cluster 1 and 2; 2 and 3 is 3.00, which is not so high but quite comfortable and good. Distance between cluster 1 and 3 was 3.71 and distance between cluster 4 with 1 (8.14), 2 (7.85) and 3 (7.01) is quite high. Box-plot also shows one outlier in cluster 1, 3 outliers in cluster 2 and 4 outliers in cluster 3, thus, indicating best authentication of number of clusters.

CONCLUSION:

From the foregoing analysis it can be concluded that the gender of CEO does not impact the quality of assets (as measured by gross non-performing assets and net non-performing assets) and financial performance (as measured by return on assets) of a bank. On the other hand gender of CEO of a bank has a significant impact on shareholder's earnings as measured by earnings per share. From cluster analysis it can be concluded that in cluster with significantly female CEOs, there is good quality of asset, good return on assets and highest shareholders' earnings. Thus, all performance characteristics in Female CEOs owned cluster are positive. Further, cluster analysis identified 3 clusters significantly dominated by male CEOs. Out of these 3, only one male dominated cluster showed slightly better performance as compared to female dominated cluster in terms of financial performance and asset quality. Other two male dominated clusters were poor performers. Overall, it can be concluded that presence of female CEOs has a positive effect on performance of Indian banks.

REFERENCES:

- Adams, R.B. and Daniel, F. (2009). Women in the boardroom and their impact on governance and performance, *Journal of Financial Economics*, Vol. 94, Issue 2, 291-309.
- Agle, B.R., Nagarajan, N.J., Sonnenfeld, J.A. and Srinivasan, D. (2012). Does CEO charisma matter? An empirical analysis of the relationships among organizational performance, environmental uncertainty and top management team perceptions of CEO charisma. Retrieved on June 1, 2019 from www.usnews.com/usnews/biztech/-----/CEO_charisma.pdf.
- Baloyi, S.L. and Ngwakwe, C.C. (2017). Chief executive officer's gender and firm performance in the JSE SRI firms. *Corporate Board: role, duties and composition*. Vol. 13, Issue 1, 73-78.
- Beck, T., Behr, P. and Guettler, A. (2013). Gender and banking: Are women better loan officers?. *Review of Finance*, Vol. 17, Issue 4, 1279-1321.
- Bhagat, S., Bolton, B. and Subramaniam, A. (2010). CEO education, CEO turnover and firm performance. Retrieved on June 1, 2019 from www.rmi.gsu.edu/----w/--/CEO_education_and_CEO_Turnover_080310.pdf.
- Canyon, M.J. and He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research*, Vol. 79, 198-211.
- Croson, R. and Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, Vol. 47, Issue 2, 448-474.
- Dorota, S. and Laurent, W. (2018). Does CEO gender matter for bank risk?. *Economic Systems*, Vol. 42, Issue 1, 64-74.
- Faccio, M., Marchica, M. and Mura, R. (2014). CEO gender and corporate risk-taking. Working paper, Retrieved

- on June 2, 2019 from SSRN: <http://ssrn.com/abstract=2021136>
- Francis, B., Hasan, I., Park, J.C. and Wu, Q. (2015). Gender differences in financial reporting decision-making: Evidence from accounting conservatism. *Contemporary Accounting Research*, Vol. 32, 1285-1318.
- Julizaerma, M.K. and Sori, M.Z. (2012). Gender Diversity in the Boardroom and Firm Performance of Malaysian Public Listed Companies. *Procedia - Social and Behavioral Sciences*, Vol. 65, Issue 3, 1077-1085.
- Lin, H.K. and Cheng, Y.C. (2011). Will CEO characteristics and corporate governance financial performance? Exploring the biotechnology industry in Taiwan. *Middle Eastern Finance and Economics*, Vol. 15, 21-32.
- Meca, E.G., Sanchez, M.I.G. and Ferrero, J.M. (2015). Board diversity and its effects on bank performance: An international analysis. *Journal of Banking & Finance*, Vol. 53, 202-214.
- Olson, C.A. and Ahu, J.Y. (2011). CEO pay and firm performance: The role of CEO firm match quality. Retrieved on June 2, 2019 from www.mitsloan.mit.edu/iwer/pdf/craig-olson-IWER-paper-20110315.pdf.
- Owen, A.L. and Temesvary, J. (2018). The performance effects of gender diversity on bank boards. *Journal of Banking & Finance*, Vol. 90, 50-63.
- Ramaswamy, K., Veliyath, R. and Gomes, L. (2000). A study of the determinants of CEO compensation in India. *Management International Review*, Vol. 40, No. 2, 167-191
- Shrader, C.B., Blackburn, V.B. and Iles, P. (1997). Women in Management and firm financial performance: an explorative study, *Journal of Managerial Issues*, Vol. 9, Issue 3, 355-372.
- Smith, N., Smith, V. and Verner, M. (2005). Do women in top management affect firm performance? A panel study of 2500 Danish firms. Discussion Paper No. 1708, August, published by the *Institute for the Study of Labor (IZA)*, Bonn. Retrieved on 25 May 2019 from <http://ftp.iza.org/dp1708.pdf>
- Tosi, H.L., Misangyi, V.F., Fanelli, A., Waldman D.A. and Yammarino, F.J. (2004). CEO charisma, compensation, and firm performance. *The Leadership Quarterly*, Vol. 15, Issue 3, 405-421.
- Yu, B., Lenard, M.J., York, E.A. and Wu, S. (2017). Female Leadership in banking and bank risk. *Academy of Accounting and Financial Studies Journal*, Vol. 21, Issue 3, 1-19.

TABLES

Table 1: List of Banks

1	Axis Bank	18	City Union Bank
2	Allahabad Bank	19	DCB Bank Ltd.
3	Andhra Bank	20	Dena Bank
4	Bank of Baroda	21	Dhanlaxmi Bank
5	Canara Bank	22	IDBI Bank
6	Central Bank of India	23	Indian Bank
7	Corporation Bank	24	Indian Overseas Bank
8	State Bank of India	25	Jammu and Kashmir Bank
9	ICICI Bank	26	Karur Vyasya Bank
10	UCO Bank	27	Karnataka Bank
11	Bank of India	28	Lakshmi Vilas Bank
12	Bank of Maharashtra	29	Oriental Bank of Commerce
13	Punjab National Bank	30	South Indian Bank Ltd
14	Union Bank of India	31	Syndicate Bank
15	Kotak Mahindra Bank	32	Vijaya Bank
16	United Bank of India	33	Yes Bank
17	Punjab & Sind Bank	34	Federal Bank

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CEO Gender	170	1.00	2.00	1.1412	.34923
Bank Sector	170	1.00	2.00	1.3824	.48740
Gross Non-Performing Assets (GNPA)	170	.00	28.00	7.5059	5.84438
Net Non- Performing Assets (NNPA)	170	.00	17.00	4.5059	3.47476
Return on Assets (ROA)	170	-99.00	47.00	-.9515	11.39949
Earnings Per Share (EPS)	170	-168.09	132.56	4.8745	30.96282
Valid N (listwise)	170				

Table 3: Crosstabs

		BANKING SECTOR		Total
		Public Sector Bank	Private Sector Bank	
CEO GENDER	Male	92	54	146
	Female	13	11	24
Total		105	65	170

Table 4: Test of Normality

Null Hypothesis	Test	Decision
The categories defined by CEO=Female and Male occur with probabilities 0.5 and 0.5	One Sample Binomial Test	Reject the null hypothesis
The categories defined by ONR=Private Sector Bank and Public Sector Bank occur with probabilities 0.5 and 0.5	One Sample Binomial Test	Reject the null hypothesis
The distribution of GNPA is normal with mean 7.51 and standard deviation 5.84	One Sample Kolmogorov-Smirnov Test	Reject the null hypothesis
The distribution of NNPA is normal with mean 4.51 and standard deviation 3.47	One Sample Kolmogorov-Smirnov Test	Reject the null hypothesis
The distribution of ROA is normal with mean -0.95 and standard deviation 11.40	One Sample Kolmogorov-Smirnov Test	Reject the null hypothesis
The distribution of EPS is normal with mean 4.87 and standard deviation 30.96	One Sample Kolmogorov-Smirnov Test	Reject the null hypothesis

Table 5: Testing Homogeneity

	Test of Homogeneity of Variances				Welch's Robust Tests of Equality of Means			
	Levene Statistic	df1	df2	Sig.	Statistic ^a	df1	df2	Sig.
GNPA	5.909	1	168	.016	.045	1	44.095	.833
NNPA	3.079	1	168	.081	.008	1	39.159	.928
ROA	1.317	1	168	.253	2.901	1	151.315	.091
EPS	.011	1	168	.917	3.974	1	29.910	.055
a. Asymptotically F distributed								

Table 6: ANOVA

Variables		Sum of Squares	Df	Mean Square	F	Sig.	Decision
GNPA	Between Groups	.832	1	.832	.024	.877	Do not reject the null hypothesis (H3)
	Within Groups	5771.662	168	34.355			
	Total	5772.494	169				
NNPA	Between Groups	.063	1	.063	.005	.943	Do not reject the null hypothesis (H3)
	Within Groups	2040.431	168	12.145			
	Total	2040.494	169				
ROA	Between Groups	63.245	1	63.245	.485	.487	Do not reject the null hypothesis (H1)
	Within Groups	21898.028	168	130.345			
	Total	21961.273	169				
EPS	Between Groups	4146.059	1	4146.059	4.412	.037	Reject the null hypothesis (H2)
	Within Groups	157873.598	168	939.724			
	Total	162019.657	169				

Table 7: Cluster Identification

	Initial Cluster Centers				Final Cluster Centers				ANOVA					
	Cluster				Clusters				Cluster		Error		F	Sig.
	1	2	3	4	1	2	3	4	Mean Sq	df	Mean Sq	df		
CEO	2.46	-0.40	-0.40	-0.40	2.46	-0.40	-0.40	-0.40	56.33	3.00	0.00	166	1.94E+16	0.00
GNPA	-1.11	-0.60	1.80	0.94	-0.03	-0.57	1.36	1.17	37.94	3.00	0.33	166	114.12	0.00
NNPA	-1.30	-0.72	1.58	1.01	-0.01	-0.56	1.33	1.10	36.12	3.00	0.37	166	98.86	0.00
ROA	0.23	4.21	-0.14	-8.60	0.13	0.17	0.00	-6.93	49.25	3.00	0.13	166	384.55	0.00
EPS	4.12	0.75	-5.59	-2.84	0.39	0.35	-0.97	-1.95	22.04	3.00	0.62	166	35.55	0.00

Table 8: Iteration History^a

Iteration	Change in Cluster Centers			
	1	2	3	4
1	3.557	4.119	4.311	1.903
2	.913	.198	.232	.000
3	.236	.085	.182	.000
4	.000	.062	.158	.000
5	.000	.031	.071	.000
6	.000	.000	.000	.000
