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Linking Financial Performance to Corporate Social Responsibility Initiatives of Banks in Bangladesh: A Panel Data Analysis

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Abstract
The paper examines the relationship between financial performance and Corporate Social Responsibility (CSR) initiatives of banks in Bangladesh. Profit is obvious but unrealistic profit is unethical and marginal profit is a part of CSR. Out of 47 banks, data were collected from 37 (78.72%) for four years. Panel data with Random-Effect Generalized Least Square Regression Model was used for data analysis. Four major financial performance indicators- Size of business, Return on Equity (ROE) and Asset Quality (AstQt) and Capital Adequacy Ratio (CAR)-were used for the study. Variance Inflation Factor for multicolinearity, White test for heteroskedasticity and Wooldridge test for serial correlation were used for data processing. The study finds that CSR initiatives represented by CSR expenditure of banks are positively connected with the Size of business, ROE and AstQt, and negatively with CAR. The policy implication of the study recommends that better regulatory requirements will foster more CSR initiatives.

Key Words: Corporate Social Responsibility (CSR), CSR Initiatives, and Financial Performance of Banks
JEL Classification: C23, G21, L25, M14

1. Introduction

The majority of CSR related standards produced in recent years asked banks to voluntarily develop and implement policies and practices and commit to specific performance standards on various CSR issues based on social, environmental and economic performance. Corporate Social Responsibility (CSR)[i] is a form of corporate self-regulations integrated into a business model. It is said that CSR is a concept whereby financial institutions not only consider their profitability and growth, but also the interest of society and the environment by taking responsibility for the impact of their activities on stakeholders, employees, shareholders, customers, suppliers, and civil society represented by NGOs. Carroll (1979) suggested that all firms strive to balance their economic, legal, ethical and discretionary responsibilities in order to need their social obligation.

The apprehension for the social responsibility of business has even accelerated since the fall of the Berlin Wall, which symbolized the collapse of communism and more importantly the onset of turbo-change globalization. Further acceleration has occurred in the past few years. Global concerns have been given as additional edge by the awful event of September 11, 2001 and consequent war in Afghanistan, Iraq and recently in Libya causing social disharmony around the world as well as affecting global economy. Again, insolvency of Lehman Brothers[ii], General Motors[iii] and many other giant businesses has created economic crisis in Europe which swelled consequently in the Asian countries in the world. Tsunami in Japan, Indonesia, and many other countries; rising the sea water-level; increasing toxic gas; frequent earthquake and natural disasters etc. add this crisis more in the economy. Underdeveloped and developing countries are highly affected by this world economic crisis and subsequently the most talked issue is the sustainable business linking to CSR. All of these incidents, banks are directly or indirectly affected either in deposit mobilization or lending or loan realization. The central banks in different countries came forward to instruct commercial banks regarding CSR initiatives in the recent times of world economic crisis and natural disasters.

Banks in the developed countries like USA, Australia, New Zealand, and Canada have emphasized on lending with CSR consideration, the Central Bank (Bangladesh Bank) of Bangladesh, the central bank of India (Reserve Bank of India) issued circulars on CSR activities. The banks should go green and play a pro-active role to take environmental and ecological aspects as part of their lending principle, which would force industries to go for investment for environmental management, use of appropriate technologies and management system. Now, financial institutions are making increasing use of social and environmental checklists to evaluate the risks of loans to, and investments in companies (European Union 2001). The regulators asked to banks to begin non-financial reporting[iv], which will give an amount of the banks' intangible assets and allows firms to provide an overview of the environmental and social impact in the previous year.[v] The Reserve Bank of India (RBI, the central bank of India) and the government of India play a vital role in the governance of banks, mainly by the way of bank regulation and supervision (Samantaray and Panda 2008).

Bangladesh Bank (BB), at first, initiated a circular to all listed banks and financial institutions in Bangladesh for mainstreaming CSR in July 2008[vi]. By this circular, BB asked that besides the usual financial reporting, non-financial or sustainability reporting is accordingly also fast gaining usage. Besides CSR guidelines and explaining the definition of CSR area, time-to-time BB issued different circulars for monitoring CSR adaptation and CSR performance of bank[vii], to establish separate 'CSR Desk' in bank[viii]. BB issued another circular[ix] for proving loan to Aila, cyclone, affected area which will be treated as the most prioritized CSR activities of banks and finally issued another circular[x] for deferring one year loan collection of fresh Agri-loan facilities for rehabilitation of Agricultural sector in Cyclone, Alia, affected area.

The regulators of the banks and financial institutions are imposing a certain amount on CSR activities, even though till to date there is no hard and first rule on how much expenditure a bank and financial institution must do as CSR activities. Financial meltdown in the North America in the recent times companies are requested to do more than 'window dressing' and show real social improvements (Casanova and Anne 2010). Research, advocacy and campaign on socially responsible practices of banks or green banking extremely limited. CSR or social responsible practices of businesses have also found in an insignificant number of research activities. It needs to study whether the performance specific indicators influence CSR initiatives in the banking sector of Bangladesh. The amount of CSR expenditure varies from bank to bank in Bangladesh. The variations of CSR initiatives induce me to undergo a study regarding the relationship between CSR initiatives of banks with banks' specific performance attributes in Bangladesh.

From the above backdrop, the prime objective of the paper is to understand the concept of CSR for apprehending the dependency of Corporate Social Responsibility initiatives represented by CSR expenditure (CSRe) on different attributes of the financial performance of the banking business in Bangladesh.

After explaining the background and objectives of the study in section *one*, the literature review elucidated in chapter *two*. Chapter *three* and *four* were covered methodology and model, and the empirical result of the relationship between CSRe and the financial performance of banks in Bangladesh respectively.

2. Literature Review

It is true that CSR initiatives incur cost which has to define as expenditure of CSR. Every organization must have CSR accounting system by which CSR expenditure as well as CSR revenue can be counted and finally it would possible to say whether the CSR initiatives recount benefits the organizations. The proper CSR accounting system is really lacking in the organizations. It is difficult but possible to design CSR accounting system for organizations, which need more research output. The initiatives such as in-house environmental management, contribution on profit for CSR initiatives, national development for CSR initiatives, and philanthropic donations etcetera can be under the area of CSR accounting.

There are different magnitudes that can be used to measure the performance of banks such as Strength and Soundness (which is measured by Capital Adequacy Ratio, NPL Net of Provisions to Total Equity, Liquid Assets to Short Term Liabilities, Borrowing liability to Total Liability), Size and Growth (measured by Number of Deposit Account, Number of Branch, Total Revenue, Total Asset, Total Deposit Growth, Total Advance growth, Net Profit growth, Net Interest Income Growth), Profitability and Efficiency (Return on Assets, Return on Equity, Operating Expense to Total Revenue, Profit Per Employee), Asset Quality (Growth in Gross NPL, Gross NPL to Total Advances, Change in NPL to Change in Advances, Credit Concentration) Sustainable and Online Banking (Rural Bank Branch to Total Branch, Micro and Small Credit to Total Loans, Agricultural Credit to Total Loans, No. of ATM Booth, No. of Any Branch Bank to Total Bank, CSR Expense to Total Asset) (Bank-Review 2010). The performance of a bank can be measured from both financial and non-financial way.

However, the most traditional and still most commonly used measurement tool is to measure the performance of an organization from financial perspective. Financial measures are typically focused on profitability related measures such as return on capital, return on equity, return on sales etc. (Kaplan and Norton 1992; Lipe and Salterie 2000). A variety of financial accounting measures of performance are used in order to provide such information. Some of the more popular measure include: earnings, cash flow, return on investment (ROI), return on assets (ROA), Return on Equity (ROE), Return on Capital Employed, Earning Per Share (EPS), Price/Earning ration (P/E Ratio), return on sales, asset turnover, overhead/sales ratio, etc. (Gumbus and Lyons 2002; Ittner and Larcker 2003; Kalagnanam 1997).

The relationship between Corporate Social Performance (CSP)/ Corporate Social Responsibility (CSR) and Corporate Financial Performance (CFP) has produced mixed results, with some studies concluding for a positive, others negative and even others for the inexistence of such a relationship (McWilliams and Siegel 2001; Margolis, Elfenbein and Walsh 2007; Tsoutsoura 2004). Again, stakeholder theory suggests that Corporate Social Performance (CSP) is positively associated with CFP (Freeman 1984; Donaldson and Preston 1995). Moskowitz (1972) found a positive relationship between socially responsible business practices and corporate equity returns. Related studies conducted by Balabanis, Philip and Lyall (1998) using indicators such as return on capital employed and return on assets, also reveals a positive relationship between the social responsibility of companies and the selected indicators of performance.

On the other hand, Hillman and Keim (2001) said not all social investment may yield return in a financial form but may boost corporate competitive strategy and be of strategic value. Teoh, Welch and Wazzan (1999), Mackinlay (1997) found no relationship between corporate financial performance and social expenditure. Finally, Aupperle, Carroll, and Hatfield (1985) detected no significant relation between CSP and a firm's risk adjusted return on assets. Alexander and Buchholz (1978) improved on Vance's analysis by evaluating stock market performance of an identical group of stocks on a risk adjusted basis, yielding an inconclusive result.

3. Methodology and Model

3.1 Methodology: Secondary data was the chief source of information for the study. Annual reports of banks, internal records and websites of different financial and nonfinancial institutions have been premeditated and an extensive literature viewed to grasp the concept of CSR and the relationship between CSRe and the performance of banking business. CAR, Size, ROE and AstQt are considered as independent variables while CSRe as dependent variable. Of the total 47 listed banks 37 have taken purposively from all categories (4[xi] State Owned Banks out of 4, 4[xii] Foreign Private Banks out of 9, 22[xiii] Private Banks out of 23, 6[xiv] Islamic banks out of 7 and 1[xv] Specialized Banks out of 4). Unbalanced panel data used from 2007 to 2010 to analyze the relationship between CSRe and the explanatory variables. CSR expenditure is defined as the amount reported by the respective banks to the central bank (Bangladesh Bank).

For this purpose the following hypotheses are tested to measure the relationship between CSR initiatives represented by CSR expenditure (CSRe) and the performance of banking business:

H1: CSRe and Capital Adequacy Ratio (CAR[xvi]) of banks are independent.

H2: CSRe and Size (TR[xvii]) of banks are not dependent on each other.

H3: CSRe and Return on Equity (ROE[xviii]) of banks are not dependent on each other.

H4: CSRe and Asset Quality (AstQt)[xix] of banks are independent.

3.2 Model development:

Regression model was used to examine the relationship between CSRe and the independent variables (CAR, Size of Business, ROE and AstQt) of the bank specific characteristics. There are several types of panel data analytic models. These are Constant Coefficient Model (CCM), Fixed Effect Model (FEM) and Random Effect Model (REM). Among these types of models are dynamic panel, robust and covariance structure models.

The Random Effect Model (REM) is used to test the relationship, which is a regression with a random constant term. The time series cross-sectional regression model is one with an intercept that is a random effect and the REM is-

$$Y_{ji} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \text{--------------} + \beta_n X_n + \mu_i + v_i$$

Thus, the regression random effect model of the study is-

$CSRe = \beta_0 + \beta_1 CAR + \beta_2 Size + \beta_3 ROE + \beta_4 AstQt + \mu_1 + v_i$

Where

CSRe = Corporate Social Responsibility Initiatives represented by CSR Expenditure (A natural log was used for linearity) of banks

β_0 = Differential Intercept of the regression line

μ_1 = Stochastic Disturbance

CAR = Capital Adequacy Ratio which is measured by the Total Capital to Risk Weighted Assets in percentage of banks

Size = Size represents Total Revenue (A natural log was used for linearity) of banks

ROE = Return on Equity as a tool to measure the profitability of banks.

AstQt = Asset Quality which is measured by Gross Non-performing loan (NPL) to Total Advances in percentage of banks.

v_i = Cross-sectional specific error

STATA-11 has been used to test the relationship between CSRe and the independent variables.

4. Empirical Result and Discussion

The summary finding of Variance Inflation Factor (VIF) is as follows:

Collinearity Statistics		
	Tolerance	VIF
Constant		
CAR	0.940032191	1.063793
Size	0.700060375	1.428448
ROE	0.819201526	1.220701
AstQt	0.746473346	1.339633

It is seen that there is no collinearity among the variables as VIF is less than 5 in each of the independent variables and the annex (Table-1) shows the collinearity diagnostics of the variables, which shows VIFs are less than 1. The *Random-Effect GLS (Generalized Least Square)* output shows that the value of R^2 within the variables, between the variables and the overall are 0.2792, 0.5600 and 0.3552 respectively. The result supports the significance of the model. The overall value of R^2 (0.3552) which is a respectable result, implies that the model explain 35.52% of the explanatory variables. However, there are minimum 1 and maximum 4 (the observation year is 4 from 2007 to 2010) observations at each group and 98 observations in 37 groups.
Again, for panel data analysis, it is necessary to check whether the data has heteroskedasticity and serial correlation. For doing such, White test was used and found that the data set is homoskedastic and the test result is as follows,

White's general test statistic: 3.970844	Chi sq (14)	P value = 0.9956

Again, for serial correlation Wooldridge test for autocorrelation in the panel data was used and it is found that there is no first-order autocorrelation as f>0.7822 and the test output is as follows:

F(1, 14) = 0.079
Prob > F = 0.7822

Since the data set is free from heteroskedasticity and serial correlation, Generalized Least Square (GLS) regression model is fit for data analysis.

The summary Result of the Random-Effect GLS model

Random-Effect GLS regression	Number of Observation = 98
Group Variable: ID	Number of Groups = 37

R-sq:	Within = 0.2792
	Between = 0.5600
	Overall = 0.3552

Obs per group :	min = 1
	avg = 2.6
	max = 4

Random effects u_i ~ Gaussian
corr(u_i, X) = 0 (assumed)

Wald chi2(4)	=	51.24
Prob > chi2	=	0.0000

CSRe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
CAR	-0.0096687	0.0253851	-0.38	0.703	-.0594227	.0400852
Size	1.70727	0.2710874	6.3	0.000	1.175948	2.238591
ROE	0.0024376	0.0084529	0.29	0.773	-.0141297	.0190049
AstQt	-0.0369397	0.0137323	-2.69	0.007	-.0638546	-.0100248
_cons	-9.474551	2.675329	-3.54	0.000	-14.7181	-4.231003
Sigma_u	0					
Sigma_e	.55487945					
rho	0 (fraction of variance due to u_i)					

The Random-Effect GLS regression result reveals that CSRe is significantly explained the size of the banking business (P>|z| = 0.000) which is less than 0.05 at 95% level of confidence, pointed out that higher the size, higher the CSRe of the banks. Hence, it is not possible to accept null hypothesis-2. Again, the model explained CSRe by Asset Quality (AstQt) of banks and specified that better the asset quality of banks higher the CSRe in Banks. Thus, it is not possible to accept the null hypothesis-4. Here, Asset Quality is measured by Gross Non-Performing Loan (NPL) to Total Advances and indicates higher the ratio of NPL lowers the asset quality of banks and vis-à-vis. Again, the model does not explain CAR and ROE with CSRe. However, the correlation statistics (Table-2: Annex) explained positive relationship between CSRe and ROE, indicates that higher the ROE higher the CSRe of banks, also positively associated with size of the business, and Asset Quality of the banks and negatively connected with CAR of banks in Bangladesh.

Irrespective of CAR[xx] banks spent on CSR activities as philanthropic. However, the amount of CSRe varies from banks to bank in Bangladesh. For example, the CAR of Arab Bangladesh Bank limited (ABBL), a private commercial bank in Bangladesh, is 10.75, 12.84, 13.78 respectively in 2007, 2008 and 2009 (source: Annual report of the Bank), but there was no CSR initiatives reported by the bank in the periods but in 2010, the CAR was 10.09 and the bank spent around Tk. 53.34 million as CSR expenditure. Again, Citi Bank's, a foreign commercial bank operating in Bangladesh, CAR was 18.35, 18.35, 18.5 and 19.07 in 2007, 2008, 2009 and 2010 respectively (source: Annual report of the bank) but there was no CSR initiatives noticed by the bank from 2007 to 2009. In 2010, the bank spent about Tk. 10.95 million as CSR expenditure. Therefore, Sonali Bank Limited, a largest commercial public sector bank in Bangladesh, has 18.61, 15.42, 13.56 and 10.32 as CAR from 2007 to 2010. The bank did not report any CSR initiatives in 2007 and 2008 but in 2009 and 2010 the bank spent Tk. 10.5 million and Tk. 111 million respectively (Source: Annual Report of the bank).

Similarly, banks spend on philanthropic business irrespective of ROE in Bangladesh, such as the ROE of Agrani Bank Limited, the second largest public sector commercial bank in Bangladesh, was 25.68, 41.22, 12.09, and 22.375 from 2007 to 2010 (Source: Annual Report, Agrani Bank ltd). The bank did not account CSR initiatives in 2008 even the ROE was 41.22. On the other hand, the bank spent Tk. 3.5 million in 2009 and Tk. 51.4 million in 2010 even the ROE was 12.09 and 23.375 respectively, which was significantly lower than 2008 (41.22). Again, the ROE of Islami Bank Bangladesh Limited (IBBL), a largest private commercial Islamic Bank in Bangladesh, was 12.72, 19.02, 16.93 and 19.07 from 2007 to 2010 respectively. However, IBBL had not noticed CSR as initiatives in 2007 and 2008 even the ROE was higher than in 2009 (16.93). IBBL spent Tk. 116.27million and 248.5 million in 2009 and 2010 respectively (Source: Annual Report, IBBL). In addition, Standard Chartered bank's, a foreign commercial bank operating in Bangladesh, ROE was 37.55, 32.04, 34.10, and 31.33 from 2007 to 2010 but the bank had no testimony as CSR initiatives from 2007 to 2009 even the ROE was two to three times higher than many banks in Bangladesh, but the bank spent Tk. 41.95million as CSR expenditure when the ROE was 31.33 in 2010, which was lower than the earlier years.

It is cogent that there is no consistent relationship between CSRe and CAR as well as CSRe and ROE of the banks in Bangladesh.

5.Conclusion

CSR initiatives of banks are getting bigger day-by-day and the amount of CSR expenditure varies from banks to banks in Bangladesh because the majority of CSR related standards produced in recent years asked banks to voluntarily develop and implement policies and practices and commit to specific performance standards on various CSR issues based on social, legal, environmental and economic performance. After the initiative of the government of Bangladesh to set-up new private commercial banks in 2011, Bangladesh Bank for the first time has imposed on the newly proposed banks to spend 10% or more of its previous year's net income to CSR. The study finds that the Size of the business, ROE and Asset Quality of banks are positively related with the CSR initiatives which meant higher the Size, ROE and better the Asset Quality of banks higher the CSR initiatives. Conversely, CSR initiatives are negatively connected with CAR. The study also finds that banks took CSR initiatives even CAR is lower than the other years and this is true in the case that banks have taken CSR initiatives after meeting the minimum requirement of CAR in Bangladesh. However, legislative restrictions, new policy for CSR activities, honest endeavor to do CSR activities will have it possible for more sustainable banking business growth in Bangladesh.

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Annexure:

Table-1: Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	CAR	Size	ROE	AstQt
1	1	4.390380354	1	2.15797E-05	0.001793	2.15E-05	0.0041702	0.011879
	2					1.43E-05	0.014643554	0.685052
	3	0.086918001	7.107161885	0.000194742	0.106767	0.000133	0.682395751	0.056479
	4	0.021945721	14.14412704	0.004221523	0.826368	0.004401	0.197265996	0.048146
	5	0.000211849	143.9588415	0.995545001	0.063212	0.99543	0.101524499	0.198443

a. Dependent Variable: CSRe

Table-2: Correlation Matrix

	CSRe	CAR	Size	ROE	AstQt
CSRe	1.0000				
CAR	-0.1692	1.0000			
Size	0.5400	-0.2333	1.0000		
ROE	0.2461	-0.1293	0.2585	1.0000	
AstQt	-0.0183	-0.0507	0.3905	-0.2055	1.0000

Notes

[i] Also known as corporate responsibility, corporate citizenship, responsible business, Sustainable Responsible Business (SRB), or Corporate Social Performance (CSP) (Source: Wikipedia).
[ii] The world renowned financial institution in USA
[iii] The world recognized car manufacturing company in USA.
[iv] Non-financial reporting is an opportunity to communicate in an open and transparent way with the stakeholders.
[v] www.rbi.org
[vi] Department of Off-site Supervision (DOS), Bangladesh Bank Circular no. 01, 1 June 2008.
[vii] DOS Circular Letter no. 07 dated 15 July 2010.
[viii] DOS circular Letter No. 16 dated 20 December 2010.
[ix] DOS circular no. 02 dated 02 June 2009.
[x] Agricultural Credit and Special Program Department (ACSPD) Circular no. 05 dated 14 July 2009.
[xi] Agrani bank ltd, Sonali Bank ltd, Janata bank ltd, Rupali bank ltd.
[xii] Commercial bank of Ceylon, Citi bank ltd, Hong Kong Shangshi Banking Corporation (HSBC) ltd, Standard Chartered bank
[xiii] AB bank ltd, Bank Asia ltd, BRAC bank ltd, Dutch Bangla Bank ltd, Eastern bank ltd, The City bank ltd, Dhaka bank ltd, IFIC bank ltd, Jamuna bank ltd, Mercantile bank ltd, Mutual Trust bank ltd, NCC bank ltd, One bank ltd, Pubali bank ltd, Premier bank ltd, Prime bank ltd, South East Bank ltd, Standard bank ltd, Trust bank ltd, Uttara bank ltd, United Commercial bank ltd, National bank ltd.
[xiv] Islami Bank Bangladesh ltd, Al-Arafah Islami Bank ltd, First Security Islami Bank ltd, Social Islami bank ltd, Shahjalal Islami bank ltd EXIM bank ltd.
[xv] BASIC bank ltd.
[xvi] CAR is defined as Total Eligible capital to Total Risk Weighted Assets which is a means of measuring Strength and Soundness of a bank.
[xvii] Total Revenue is a tool to measure Size and Growth of a Bank.
[xviii] ROE is a tool to measure Profitability of bank.
[xix] Asset Quality is measured as Gross Non Performing Loan (NPL) to Total Loan and Advances (TLA) in banks.
[xx] The standard Capital Adequacy Ratio (CAR) in Bangladesh is 10% of total risk weighted assets.