A TRILOGY OF GREEN BANKING DISCLOSURE, BOARD INDEPENDENCE AND TOBINSQ: THE SAARC REGION PERSPECTIVE

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Abstract

In response to global warming and climate change related issues, central banks all over the world specifically from SAARC countries have been issuing green banking guidelines. Stakeholders have soaring concerns regarding environmental disclosure information. Yet, due to unavailability of data and appropriate methodologies, it is difficult to know that to what extent words have been translated into actions. To fill the existing literary gap, this research investigates that to what extent interactive impact of green banking disclosure and board independence have influence on market based performance of selected banks overall in selected SAARC countries and more specifically in India and Bangladesh. Therefore, data set ranging from year 2010-2019 is tested through dynamic panel data estimation method system GMM step one. Interestingly, findings of the study indicate that green banking information disclosure is low in the mentioned region and number of independent directors are not ample enough to exert significant positive interactive impact on tobinsQ of selected banks. Due to both incomplete, insufficient green banking disclosure and unavailability of fairly recruited independent directors, management remain restrict to perform positively therefore market based performance of selected banks is compromised. It seems that investment in green banking policy implication is considered costly, hence mandatory green banking guidelines are considered voluntary. For policy implications, more market and legitimate pressure is required.

Key Words: Green Banking, Independent Directors, TobinsQ, SAARC Countries

JEL Classification: G2, G18, G24, E5, Q56

Introduction

The waves of global warming have laid down the bases to work collectively for protecting the environment. Although, abdicating the responsibilities, countries around the globe have become increasingly conscious regarding green practices and central banks of several developed and developing economies have been issuing green banking guidelines including SAARC countries. In addition, investors all over the world have been raising concerns and exerting pressures to the organizations for disclosing information regarding green business practices and investments.

Moreover, to stimulate environmental management in industries, proactive role of banks is indispensable. According to UNDP agenda 2030, to protect the world from global warming, an ever increasing temperature must be reduced by 45% from 2010 to 2030 and till 2050 to zero. In order to achieve this objective, countries across the world have implemented structural transformations.

Therefore, improved magnitude of investment across industries is required. Thus, by allocating climate sensitive investments in industries, financial resilience to climate risk can be enhanced by banks as a backbone of society. According to Eckstein et al., (2021) global climate risk disclosure index (2021) shows countries around the globe with relatively higher short or long run climate risk including India, Pakistan, Bangladesh, Nepal and Sri-Lanka. In these economies, environmental issues are prevalent. For environmental degradation, banks are indirectly considered to be responsible as they are funds providers to the industries.

Other than profit maximization, investors seem to be increasingly conscious about social and environmental welfare. Fulfillment of stakeholder's demand is also important to generate more value in market by firms. Therefore, around the globe, environmental information demand is raising day by day (Wu and Shen, 2013). In continuation, at global level, "central banks have issued mandatory guidelines, generally referred as, *green banking disclosur*e" (Khan et al., 2021, p.3). Thus, as a backbone of society, banks are considered responsible for environmental friendly financing by implementing green banking guidelines, yet, unavailability of data and appropriate measures to examine the effective implementation of these guidelines is a serious concern. Hence, an emerging area of debate around the globe is green banking disclosure–firm performance relation. Other than disclosure, good corporate governance leads to higher organizational performance (Siddiqi 2015).

Interestingly, based upon author's knowledge, quantitative investigations are fewer as follows (Shaumya and Arulrajah,2017;Bose et al.,2020;Handajani,2019;Karyani and Obrein,2020; Khan et al,2021;Rachman and Saudi,2021;Winarto et al.,2021;).Although, valuable insights about green banking disclosure, corporate governance and bank performance are provided by these studies, still, further investigations are required for more generalizable evidence as prior studies are one country specific, narrow in scope and have been using content analysis based disclosure measures or green credit ratio as green banking performance measures.

Furthermore, several studies in India, Pakistan, Bangladesh, Sri Lanka have been reporting the link between corporate governance and performance of banks specifically accounting based performance with linear models (Javed et al., 2013; Ali et al., 2021). These measures based on accounting data are inadequate to evaluate the efficiency of firm (Chakravarthy, 1986). Similarly, Singh et al., (2018) argue that use of tobinsQ is important to effectively value the firm performance to examine whether it is meeting or exceeding expectations of stakeholders. More specifically, literature is scant and previous researchers have been using either one country specific green credit ratio, or green banking disclosure scale without any modification or extension. Hence, generalizability of previous studies becomes questionable. The current study is based upon previous contribution of (Ikram and Akhtar,2021), "Green Banking, Corporate Governance and Performance of selected SAARC countries" in which more detailed, PCA based green banking disclosure index have been introduced and tested this "PCA based disclosure index" (Ikram and Akhtar, 2021, p.558-559) through dynamic

model with different governance measures in relation with tobinsQ and suggested overall green banking disclosure is low in the above mentioned economies hence having insignificance impact on market value of selected banks. In continuation, due to several governance and environmental challenges prevailing in the SAARC region, the current study examines that to what extent interaction effect of PCA based green banking disclosure and board independence interactively effect market based performance of selected banks in SAARC countries through dynamic panel data estimation method (System GMM Step One).

Literature Review

Bahl (2012) defines green banking as reducing external carbon emission & internal carbon foot prints.Ullah (2013) defines green banking as, reducing use of paper, green financing, power savings equipment, online banking, green accounts, green credit/debit card, mobile banking. Although literature is providing some evidence about impact of green banking on bank performance but findings are mixed and inconclusive(Bose et al.,2020;Karyani and Obrien,2020;Khan et al.,2021;Rachman and Saudi ,2021;Winarto et al., 2021; Kurniawan,2021;Ikram and Akhtar,2021). For instance, Bose et al. (2020) provide evidence that in the presence of political connections of banks, green performance can effect financial performance yet relation is negatively influenced by moderator by testing 172 firm-year observations (2008-2014) from Bangladeshi banks through Difference-in-difference (DiD). Rachman and Saudi (2021) examine the effect of green banking on the profitability in Indonesia. Sample of 6 listed banks (2015 – 2019) is selected through purposive sampling. Green banking is measured by index consisting of 16 items reported by Shaumya and Arulrajah (2017) item coding is based upon content analysis and profitability is determined by ROA. Regression results indicate positively significant relation among variables. Winarto et al. (2021) analyze the impact of green banking disclosure on firm value. Content analysis is applied on the items for green banking disclosure index development based upon work of Bose et al. (2018). Multiple regression analysis is applied on data (2017-2020) collected from listed Islamic commercial banks Indonesia. Interestingly, firm value (Tobin's Q) is found to be positively influenced by green banking disclosure in Indonesia. Prior to the current study Ikram and Akhtar (2021) in their contribution "Green Banking, Corporate Governance and Performance of Selected Banks in SAARC Countries" have been developed green banking disclosure index consisting of 38 items based upon content analysis and PCA (Principal Component Analysis) methods by combining available literature such as, scales of Shaumya and Arulrajah (2017), Bose et al. (2018) and several green banking guidelines from SAARC countries. The data of the study comprises of 320 observation (time period of 10 years ranging 2010-2019) from different selected banks. They further tested the discussed green banking disclosure index as independent variable in addition to other corporate governance yard sticks such as, (i) board size, (ii) board independence, (iii) female directors in corporate panel and (iv) institutional ownership in relation with tobinsQ of selected banks operating in SAARC countries including, Nepal, Pakistan, India, Sri-Lanka and Bangladesh through dynamic panel data estimation method , System GMM step one method.The findings suggest that green banking disclosure does not have significant impact while institutional ownership has significant negative impact on market performance of selected banks.

The relation among performance of firm, CG, and disclosure is complex and interdependent (Laili et al., 2019). For instance, Karim et al. (2020) identify interaction effect of board independence in relation with CSR disclosure and firm performance (Proxies by roa and tobinsq). Sample (2006-2017) of 588 listed Malaysian companies is tested through GMM (dynamic panel data estimation) method. Findings prove that ROA is negatively affected by ownership concentration, but positively affected by CEO duality. Opposite to that, Tobin's Q is negatively affected by CEO duality. CSR investment has negative role in affecting performance measure. The mechanism is negatively moderated by board independence. Similarly, Zhang et al. (2020) identify the interaction effect of CSR disclosure and green innovation on tobinsq in (non-financial) listed companies China. Data is ranging from (2012-2018). Panel quantile regression based results reflect positive impact of social and environmental disclosure on firm value. The interaction effect gradually weakens with increasing firm value.

Whereas, Yakob and Hasan (2021) empirically investigate the direct and interaction effect of board meetings on information disclosure and firm performance relation. Sample includes all listed non-financial firms in Malaysia (2013-2017). System GMM based results predict board meetings significantly affect relationship between ESG disclosure and performance of firm (evaluated by roe and tobinsq). Authors of the current study in their previous contribution, "Green Banking, Corporate Governance and Performance of selected SAARC countries" have been tested direct effect of green banking disclosure and four CG yard sticks (board size, independence of board, female directs in board and institutional ownership) based upon five hypothesis (H1-H5) through "econometric model #1" (Ikram and Akhtar, 2021, p.546) on market based performance of selected banks through 320 observations from the year (2010-2019) of several SAARC countries including Pakistan, Bangladesh, India, Nepal and Sri-Lanka has been tested through system GMM step one method. Findings of the study indicate that influence of green banking disclosure is insignificant and weak negative whereas, impact of board size is significant negative. In continuation to the above mentioned work, the interaction effect of board independence and green banking disclosure is conceptualized through following hypothesis as follows,

H: Interaction effect of board independence and green banking disclosure is significant on market based performance of selected banks in SAARC countries.

Material, Measures and Methods

To test the hypothesis of the current study, the information of "data sources, explanation of data protocol, variables and econometric model (H1-H5)" (Ikram and Akhtar, 2021,p.546-547) is continued for extending the following econometric model in which interaction effect is included by extending basic "econometric model (1)" (Ikram and Akhtar, 2021, p.546) , interaction effect of green banking disclosure and board independence is added as follows,(1)*Green banking discclosure $_{j,t}$*Board independence$_{j,t}$,*

Econometric Model

$Tobin's Q_{j,t} = \beta_{0j,t} + \beta_{1j,t} \times Tobin's Q_{j,t-1} + \beta_{2j,t} \times Boardsize_{j,t} + \beta_{3j},t \times Board\ Independence_{j,t} + \beta_{4j,t} \times Femaledirector_{j,t} + \beta_{5j,t} Instituional Ownership_{j,t} + \beta_{6j,t} GreenBankingDisclosure_{j,t} + \boldsymbol{\beta_{7j,t} Greenbanking\ disclosure_{j,t} * Board\ independence_{j,t}} + \beta_{8j,t} \times Controls_{j,t} + \epsilon_{j,t}$

Cox (1984) explains interaction effect as two variables of interest interacting each other to influence a third dependent variable. Although, authors have been investigating the significance of interacting information disclosure and some attributes of corporate board in influencing firm performance such as, (Karim et al., 2020; Zhang et al., 2020; Yakob and Hasan, 2021).Yet, longitudinal studies in the perspective of green banking disclosure are limited (Bose et al.,2018;khan et al.,2021).Therefore, the above mentioned econometric model has been conceptualized to identify more complex relationships of interacting variables with market performance of banks from selected countries. Thus, according to knowledge of the author, this study is the very first by which interaction effect of PCA based green banking disclosure is added in literature with other variables of interest.

Mishra et al. (2017) discuss the concept of PCA as a multivariate approach which is used to analyze a data in which many inter-correlated quantitative variables are observed. There are number of studies explaining use of PCA for the construction of several type of indices such as, Akhter et al., (2020) provide bank stability index (BSI) of Pakistan using PCA approach. Tranquinio et al. (2020) develop information disclosure index to examine whether regulatory requirements in the form of (Directive 2014/95/EU) is affecting non-financial disclosure in 57 Italian companies using (PCA) and conclude that companies have been disclosing more relevant information according to directive. In continuation, Belenesi et al., (2021) identify perspectives and new challenges to improve non-financial (governance, social and environmental) disclosure of 60 Romanian listed companies using CPCA (categorical PCA) and conclude that disclosure have been improved from 2017 to 2019. In continuation, Ikram and Akhtar (2021) as previous contribution "Green Banking, Corporate Governance and Performance of selected SAARC countries" have been providing details of "descriptive statistics, construction of green banking disclosure index and econometric model 1 (H1-H5)" (Ikram and Akhtar, 2021, p.548-556).

Many prior studies of banking sectors around the globe (knojia and Priya, 2016) have been testing static models of that corporate governance and firm performance by believing exogenous nature of predictors for instance, *performance=f(characteristic of firm, attribute of corporate governance, fixed effects).*Therefore, fixed effect or OLS methods have been considered suitable for obtaining efficient estimations (Rahman and Islam, 2018). In contrast, Wintoki et al. (2012) suggest that corporate governance-firm performance relation is dynamic, such as, performance=f(past performance, structure of governance, characteristics of firm, fixed effects). Firm's past performance influences organizational information environment, potential for profitability and governance structure. Therefore, reliable inferences are difficult to be drawn. Moreover, usually, panel data carries issues like heteroskedasticity (standard errors of variables are not constant over time) and endogeneity which is due to correlation of error term with explanatory variables. Similarly, there are several firm performance measures including (ROA, tobins-Q) are endogenous in nature (Karim et al., 2020). Hence, one cannot conclude that, either performance is driven by governance or

governance is a mere symptom of an underlying unobservable factor which also affect firm performance. Due to these issues, resulted outcomes are not reliable and biased. (Nguyen, 2014). In the context of corporate governance research, given the unavailability of proper external instruments, the most appropriate and feasible solution is the use of system GMM to respond endogeneity (Nakano & Nguyen,2012). There are few prior studies which have been addressing and resolving the above discussed issues of panel data, though dynamic panel estimations such as, (Singh et al., 2018; Yakob and Hasan, 2021). Thus, to understand dynamic relationship between green banking disclosure along with CG and performance of firm, the current study follows dynamic panel estimation technique, (GMM) generalized-method-of-moment (Blundell and Bond,1998), commonly known as System GMM step one method. Furthermore, it is pertinent that suitability of this method is due to following aspects such as,(a)it provides internal instruments within panel itself, (past performance is internal instrument for current governance),(b) it also deals with dynamic dependent variable in short panel ,(c)it handles with the issue of lack of suitable external instruments,(d) it permits present governance to be effected by past performance, shocks and realizations,(e)it can observe fixed unobservable heterogeneity. It is mostly preferred when number of cross-section is larger than time period (Wintoki et al.,2012; Nguyen et al.,2014; Albawwat, 2015; Shao,2019). This method includes lagged values of dependent variable in regression (Shao, 2019). It is important to decide how many number of lags to be taken of dependent variable. There might be biased results due to loss of information, failure to capture dynamics of variables if lags are too short. On the other hand, loss of degree of freedom is resulted by too long lags. The sufficiency of one year lagged Tobin's Q (k=1) is in line with previous studies (Wintoki et al., 2012; Nguyen, 2014; Shao, 2019). For instance, one-year lag of dependent variable generates following expression

$$Y_{it} = a + bx_{it} + py_{it-1} + \varepsilon_{it}$$

Although, there have been several empirical investigations in literature, (Ali et al.,2020), by which dynamic association of CG and performance of organizations have been observed. Yet, much prior work is in the context of non-financial firms. Application of step one method is relatively scant and new approach in line with corporate governance and information disclosure literature (Albawwat, 2015; Basar, 2021). According to Albawwat (2015), based upon step one System GMM based findings suggest that, the level of information disclosure of listed firms from the year, (2009-2013) is relatively lower in small companies as compared to their counterparts in Jordan. Whereas, Basar (2021) estimates positive effect of CG on tobinsQ in a dynamic relation in 46 Turkish manufacturing companies from 2010-2019. In order to check the validity of tested dynamic models, literature (Albawwat ,2015; Singh et al., 2018; Akbar et al., 2019; Yakob and Hasan, 2021; Basar,2021) provides an acceptability criterion such as, higher values of Wald Chi^2 test and insignificance of Sagan statistics, (A post estimation test in which p-value should be greater than.10). It means that all predictors in models are sufficient and valid (Roodman, 2009). In continuation, results of post estimation (AR1 and AR2 test for disorders of autocorrelations) are irrelevant in Step-one method, as data does not lead to produce such results (Basar, 2021).

Findings and Discussion of Results

Prior to the current study, Ikram and Akhtar (2021), in previous contribution "Green Banking, Corporate Governance and Performance of selected SAARC countries" have been providing details of "descriptive statistics, construction of green banking disclosure index, Correlation matrix, VIF of variables and effects of 5 independent variables such as, green banking disclosure(gbd), board size(bo_size), board independence(bo_ind), females in board(fe_dir) and institutional ownership(inst_own) through econometric model 1 (H1-H5) investigated by dynamic panel data estimation (system GMM step one)method" (Ikram and Akhtar, 2021, p.546-556). Now, results are provided below regarding interaction effect for overall 320 observations of all selected banks from the discussed SAARC countries and for more comprehensive understanding, country level results are discussed for instance Bangladesh & India as pioneer economies for issuing green banking guidelines.

Table: 1 Interaction Effect (green banking disclosure× bo_ind) Overall

tobinsq	Coef.	Std. E.	Z	P>Z	(Co. of. Int. = 95%)	
tobinsq						
L1.	0.053	0.047	1.130	0.258	-0.039	0.146
bo_size	-6.418	1.817	-3.530	0.000	-9.980	-2.856
bo_ind	2.262	3.383	0.670	0.504	-4.369	8.892
fe_dir	3.401	4.911	0.690	0.489	-6.226	13.027
inst_own	-0.660	0.332	-1.990	0.047	-1.311	-0.010
f_age	-1.755	0.968	-1.810	0.070	-3.651	0.142
f_lev	0.560	0.498	1.120	0.261	-0.416	1.535
roa	-1.168	3.703	-0.320	0.752	-8.425	6.090
f_size	7.667	2.089	3.670	0.000	3.573	11.761
gbd	-7.736	7.743	-1.000	0.318	-22.912	7.440
gbd x bo_ind	-1.836	2.003	-0.920	0.359	-5.761	2.089

Obs.=320

Wal.Chi^2=2640.52*; p<0.01

Sargan p-value=0.973

Table:2 Descriptive Statistics Bangladesh

Variable	Obs.	Mean	Std. De.	Mini.	Maxi.
bo_size	90	15.067	3.634	7.000	22.000
bo_ind	90	1.767	0.875	0.000	3.000
fe_dir	90	0.822	0.894	0.000	4.000
inst_own	90	19.980	12.438	0.000	58.900
f_age	90	24.056	8.731	11.000	43.000
f_lev	90	72.490	17.944	16.640	87.600
roa	90	1.064	0.587	0.010	2.970
f._ size	90	25.887	0.525	23.854	26.887
gbd	90	0.176	1.710	-0.355	5.620
tobinsq	90	108.379	44.292	18.624	380.908

Table: 3 Variance Inflation Factor Bangladesh

Variables	VIF	1/VIF
bo_size	3.17	0.316
f_age	2.77	0.361
f_size	2.07	0.482
roa	1.90	0.527
gbd	1.76	0.567
fe_dir	1.59	0.627
bo_ind	1.34	0.747
inst_own	1.32	0.755
f_lev	1.17	0.857
VIF Mean	1.90	

Table: 4 Matrix of Correlation for Bangladesh

Variables	1	2	3	4	5	6	7	8	9	10
bo_size	1.000									
bo_ind	-0.126	1.000								
fe_dir	0.142	-0.255	1.000							
inst_own	-0.298	0.122	0.077	1.000						
f_age	-0.678	0.274	0.076	0.396	1.000					
f_lev	-0.097	0.104	-0.258	-0.072	0.063	1.000				
roa	0.242	-0.310	0.003	-0.367	-0.266	0.024	1.000			
f_size	-0.138	0.346	-0.067	0.314	0.324	-0.156	-0.627	1.000		
tobinsq	0.042	-0.177	0.304	-0.039	-0.170	-0.195	0.206	-0.317	1.000	
gbd	0.426	0.174	-0.289	-0.096	-0.128	0.090	-0.012	0.207	-0.065	1.000

Table: 5 Interaction Effect= (Green Banking Disclosure× bo_ind) Bangladesh

tobinsq	Coef.	Std. Err.	z	P>z	(95% Conf.	Interval)
tobinsq						
L1.	0.140	0.038	3.690	0.000	0.065	0.214
bo_size	-1.883	1.309	-1.440	0.150	-4.448	0.682
bo_ind	9.467	2.482	3.810	0.000	4.602	14.332
fe_dir	2.718	3.678	0.740	0.460	-4.491	9.926
inst_own	0.331	0.180	1.830	0.067	-0.023	0.684
f_age	-1.042	0.898	-1.160	0.246	-2.801	0.718
f_lev	-0.516	0.175	-2.940	0.003	-0.860	-0.172
roa	9.054	6.116	1.480	0.139	-2.934	21.042
f_size	5.341	1.480	3.610	0.000	2.440	8.243
gbd	-0.445	2.954	-0.150	0.880	-6.234	5.344
gbd× bo_ind	-2.503	0.941	-2.660	0.008	-4.348	-0.658

Obs.=90

Wal.Chi^2=1942.51*; p<0.01

Sargan p, value =0.143

Table: 6   Descriptive. Statistics India

Variable	Obs.	Mean	Std. Dev.	Min	Max
bo_size	90	11.456	2.623	6.000	18.000
bo_ind	90	2.056	2.778	0.000	8.000
fe_dir	90	1.000	0.734	0.000	3.000
inst_own	90	28.583	16.644	1.840	62.750
f._ age	90	79.389	34.464	15.000	113.000
f_lev	90	82.106	6.142	65.790	90.660
roa	90	0.603	2.514	-7.210	5.200
f_size	90	28.602	0.838	26.366	30.080
gbd	90	0.309	1.888	-0.355	5.620
Tobinsq	90	106.042	30.288	73.636	358.518

Table: 7 Variance. Inflation Factor

Variables	VIF	1/VIF
f_lev	8.120	0.123
inst_own	7.330	0.136
f_age	5.830	0.171
bo_ind	5.370	0.186
roa	4.920	0.203
f_size	2.770	0.361
gbd	2.340	0.427
bo_size	1.530	0.653
fe_dir	1.390	0.717
VIF Mean	4.400	

Table : 8 Matrix of Correlation for India

Variable	1	2	3	4	5	6	7	8	9	10
bo_size	1.000									
bo_ind	-0.152	1.000								
fe_dir	0.082	0.055	1.000							
inst_own	-0.122	0.810	0.104	1.000						
f_age	0.437	-0.569	-0.021	-0.610	1.000					
f_lev	0.249	-0.610	-0.188	-0.698	0.859	1.000				
roa	-0.079	0.600	0.067	0.840	-0.671	-0.726	1.000			
f_size	0.243	-0.565	0.392	-0.324	0.278	0.115	-0.211	1.000		
tobinsq	-0.214	0.345	0.121	0.363	-0.438	-0.453	0.419	-0.181	1.000	
gbd	-0.333	0.492	0.048	0.501	-0.608	-0.691	0.464	-0.320	0.207	1.000

Table : 9 Interaction Effect= (Green Banking Disclosure× bo_ind) India

tobinsq	Coef.	Std. Err.	z	P>z	(95% Conf. of.	Interval)
tobinsq						
L1.	1.626	0.257	6.340	0.000	1.123	2.129
bo_size	-0.869	1.839	-0.470	0.637	-4.474	2.736
bo_ind	-3.902	3.443	-1.130	0.257	-10.650	2.847
fe_dir	3.612	4.550	0.790	0.427	-5.305	12.529
inst_own	0.216	0.654	0.330	0.741	-1.065	1.498
f_age	0.259	0.451	0.570	0.566	-0.626	1.143
f_lev	1.570	1.311	1.200	0.231	-1.000	4.139
roa	2.247	3.078	0.730	0.465	-3.785	8.279
f_size	-7.224	3.562	-2.030	0.043	-14.204	-0.243
gbd	8.374	14.171	0.590	0.555	-19.401	36.148
gbd x bo_ind	-1.287	2.271	-0.570	0.571	-5.738	3.164

Obs.=90

Wal.Chi^2=2730.41*; p<0.01

Sargan p-value =0.722

Discussion of Results

Statistical findings of Hypothesis suggest week negative interaction effect of green banking disclosure and board independence on tobinsQ in the selected banks of SAARC countries overall. Null hypothesis is accepted & alternate is rejected.

For instance, (H=rejected,Ho is accepted gbd×board.-ind.-coef=-1.836, p=.359, Wal.chi^2=2640.52, p=<.01sargan.p.value=0.977) (table#,1).Whereas, country level sub analysis predicts the above interaction effect is significantly negative in the case of Bangladesh and relatively weak negative in the case of India.

(1) Bangladesh (H=accepted,Ho rejected(gbd×board.-ind.-coef=-2.503,p=0.008, Wal.chi^2=1942.51,p=<.01,sargan p.value=0.187),(table#5)

(2) India (H=rejected, Ho is accepted (gbd×board.-ind.-coef=-1.257, p=.0.571, Wal.chi^2=2730.41,p=<.01, sargan p.value=0.820),(table#9)

Whereas, results are inconsistent with Rossi et al., (2021) who identify positive interaction effect of board independence with CSR disclosure and financial performance of 225 listed European companies between 20115-2019 through linear regression analysis. In contrast, findings are in-line with (Karim et al.,2020). Negative impact of board independence and green banking disclosure is supported from descriptive data, for instance, table # (2 & 6) shows that minimum number of independent directors is (0) while there are less than (2) independent such as, Bangladesh (table#2) in addition, green banking disclosure varies from (-0.355 to 5.6). Incomplete, insufficient green banking disclosure in combination with merely represented independent directors in board is unable to improve market performance of selected banks. Therefore, interaction effect is insignificant which is in line with Butt et al., (2020) who are of the view that ample number of personnel is needed to have substantial change. Moreover, merely represented independent directors may not effectively resolve agency conflict, therefore, performance of the organization is compromised. For instance, Butt et al., (2020) have provided similar evidence in the context of developing countries like Pakistan for the relationship of CSR with tobinsQ and ROA, that interaction effect of disclosure and board independence is negative and insignificant. Reason behind is independent directors are not fully functional in developing link between sustainable or ethical banking concern and bank performance. Similarly, Karim et al., (2020) identify the interaction effect of independent directors for CSR – firm performance relations in the context of Malaysia. Dynamic model based statistical results have been provided for sample of 588 listed companies for time period 2006-2017.Hence, conclusive findings suggest negative moderation effect of independent board with CSR- performance relation. Interaction effect of green banking disclosure and independent directors seems significant negative in the case of Bangladesh which is in line with Karim et al., (2020) who argue that managers remain restrict to perform liberally due to excessive involvement of independent directors. The result suggests that insufficient disclosure and merely represented independent directors in board cannot enhance market value of the banks in SAARC countries. Moreover, as suggested by Rossi et al., (2021) more management encouragement in combination with continuous and effective oversight by fairly recruited independent directors is required for strategic decisions of the organizations.

Conclusion

The current study investigates the direct & interactive impact of green banking disclosure in combination with board independence on market performance of banks in selected SAARC countries from the year 2010-2019 through PCA based green banking disclosure index & dynamic panel data estimation method (System GMM step One). Conclusively, empirical findings suggest that on average green banking disclosure is low in SAARC region. Furthermore, independent directors have significant positive impact on market based performance of selected banks only in the case of Bangladesh, this positive influence of independent directors are in accordance with resource dependency theory (Dalton et al., 1999), which states that due to possession of suitable skills, presence of independent directors can minimize principal-agent conflict of interest. In contrast, inability of independent directors to exert significant positive impact on performance of the banks in other SAARC countries raises question regarding fair recruitment of independent directors or indicate their excessive undue interference in decision making which negatively influence firm performance.

The impact of green banking disclosure is not significant positive to uplift performance of the selected banks in SAARC countries which is justified in the light of signaling theory, (Connelly et al., 2011) that low level of information disclosure sends negative signals to market whereas, higher information disclosure leads to generate positive signals which ultimately results into value enhancement of the organizations. Lower level of information disclosed indicate that opportunity cost of investing in green banking practices is considered more important that long run gains. Additionally, effective management and strong corporate governance believes in reducing information asymmetry by committed climate change reporting and due to more transparent information, quality of good signals improve (Bae et al.,2018). Interestingly, lag tobinbsQ is significant in the case of Bangladesh and India which confirms dynamic nature of panel data. Moreover, Atan et al., (2016) discuss that countries with lower legitimate and stakeholder pressures disclose less environmental information as compare to those with higher legitimate and stakeholder pressures. Thus, it seems, in SAARC countries, investment in green banking is either low or inappropriately managed causing agency cost, due to which incomplete and insufficient disclosure resulted in displaying negative signals in market. Although, green banking has become key focus for global stakeholders but in SAARC countries, words have not been fully translated into actions and mandatory green banking guidelines have been treated voluntary in SAARC countries.

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