Do environmental, social and governance performance affect the financial performance of banks? A cross-country study of emerging market banks

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Abstract

Purpose: Earlier firms were evaluated mostly from their financial performance perspective, but with the increasing attention to sustainability goals, environmental, social and governance performance of firms became key concerns to stakeholders. This study explores the effects of environmental, social and governance performance of banks on their financial performance, in the context of emerging markets.

Design/methodology/approach: This study employs the generalised method of moments (GMM) technique for estimation purpose due to the dynamic nature of the data and to correct for endogeneity. This study uses the environmental, social and governance performance data of 93 emerging market banks from 2015 to 2018, available in Asset4 ESG database of Refinitiv formerly known as Thompson Reuters. The accounting and financial data are collected from Refinitiv Datastream database.

Findings: The findings indicate a positive association of emerging market banks' environmental and social performance with their financial performance, but governance performance does not influence financial performance.

Originality/value: While many studies exist on the association of environmental, social and governance concerns of an organisation with their financial profitability, the literature on in the context of banking is still limited. To the best of the authors' knowledge, this is the first study that examines the effect of environmental, social and governance practices of banks on their financial performance in the context of emerging economies.

Keywords: Environmental sustainability; ESG; corporate social responsibility; GMM; emerging markets; bank performance

Paper type Research paper

1. Introduction

There has been a long-lasting academic argument on the association amidst environmental, social and governance performance and financial performance. Neoclassical economics and the majority of management theories are based on the assumption of profit maximisation is a key corporate objective (Eccles, Ioannou, & Serafeim, 2014). The shareholders are considered as the key stakeholders of the firm; as such resources are allocated in order to satisfy this group. Trying to satisfy any other stakeholder groups would negatively impact firm performance (Brown & Caylor, 2006). However, not all companies place the same level of importance on shareholders. Some emphasise more than others on the externalities of their operations, and how this affects other stakeholders (Deegan, 2002; Friedman & Miles, 2002). Also, over the past few decades, there is increasing willingness by corporations to participate in environmental, social and governance concerns and many incorporated it into their business strategy (Eccles et al., 2014). Contrary to traditional management theories, companies can perform well by doing good to society (Samuel, 2017; Zhu, Sun, & Leung, 2014). Positive environmental, social and governance activities benefit various stakeholders, and ultimately creates direct value for shareholders (Porter & Kramer, 2011).

After the global financial crisis, companies focus more on environmental, social and governance activities to recover their reputation in the market by behaving socially responsible. Corporate scandal and accounting fraud are argued to be the primary cause of the global financial turmoil (Dah & Jizi, 2018). Strong corporate governance of the company is crucial for the company's future operations and upholding stable financial performance and growth (Brown & Caylor, 2009). Weak corporate governance and negligence of top managers in company's operations may harm the firm profitability and create share price volatility (Albert A. Cannella, Park, & Lee, 2008; Balachandran & Faff, 2015). Besides, the corporate social

performance of a firm acts as a shield against adverse market reactions and safeguards the stock of the companies (Godfrey, 2005; M. T. Lee, 2016). Social activities of the company increase its reputation and improve the brand image of the company in the market (Godfrey, Merrill, & Hansen, 2009). The reputation of the company creates insurance-like protection and safeguards the company against market downturns (Godfrey et al., 2009). Reputation and brand image helps the company to perform well during the crisis. Previous studies found a significant positive relationship between corporate social performance and company financial performance (Hossain, Alamgir, & Alam, 2016; Samuel, 2017). High level of social performance and strong corporate governance help firms to maintain stable profitability and the stock price of the companies are less volatile (M. T. Lee, 2016). However, higher investment in environmental and social practices may not always welcome the shareholders as the investment in environmental, social and governance (ESG) incurs an additional cost that shareholders have to bear. Shareholders may penalise the company by withdrawing their invested capital from the stock market, which results in a sudden drop in stock price and profitability of the company.

Previous studies mostly focus on corporate social responsibility (CSR) and company performance (Arena, Liong, & Vourvachis, 2018; Brooks & Oikonomou, 2018; Samuel, 2017), CSR and cost of capital (Michaels & Grüning, 2017; Reverte, 2012), CSR and cost of debt (Sveva & Federica, 2017; Ye & Zhang, 2011) and CSR and risk in the company level (Benlemlih & Girerd-Potin, 2017; Chollet & Sandwidi, 2018; Nguyen & Nguyen, 2015). Meanwhile, studies on environmental, social and governance practices and bank performance, particularly in the case of emerging economies are limited. Emerging market countries are the growth accelerator in the global economy. Banks play a crucial role to accomplish steady economic and financial growth of the emerging countries. Although the growth of an emerging market is vibrant, the disclosure of ESG in banks annual report is not satisfactory. Lee (2017)

stated that investors consider ESG performance before investing in emerging markets as organisations with high ESG performance tend to have robust risk management. This study, therefore, brings new insights into the sustainability literature by considering the banks from the emerging economies. The contributions of this study are threefold. First, to the best of authors' knowledge, this is the first study that examines the impacts of environmental, social and governance performance on the financial performance of emerging economy banks and ascertains a positive association of environmental and social performance with financial performance. Hence, emerging economy banks should consider the environmental and social impacts before investing in any project that may harm the environment. Second, despite the existence of similar studies in the context of Malaysian companies (Atan, Alam, Said and Zamri, 2018) and European banks (Buallay, 2019), this study adds to the literature by adopting the generalized method of moments (GMM) which resolve the endogeneity issue expected in the study design. Finally, this study provides recommendations for the policymakers in emerging countries to consider the environmental and social issues seriously and tighten regulatory guidelines for banks.

The next section summarises the existing literature and presents arguments for the three hypotheses. The third section discusses the data and methodology. In the fourth section, we present the results. Finally, discussions on the results are presented in Section 5 and conclusion with future research directions are drawn in Section 6.

2. Literature review and hypothesis development

2.1. Environmental performance and financial performance

CSR may become a financial burden for firms due to the additional investment requirement. Some firms choose to carry CSR activities to be socially responsible to society. Firm's over-engagement in CSR activities are questioned as to whether it puts them into an unfavourable

financial position in comparison to others (Liu, Zhou, Yang, & Hoepner, 2017). In a study based on the UK companies ascertain that corporate carbon emissions had a negative affiliation with economic performance (Liu et al., 2017). It sheds light on the direct impact. While in the case of indirect impact, a positive association exists among corporate carbon emissions and disclosures (Liu et al., 2017). In other words, companies with higher emissions had more disclosure (Busch & Hoffmann, 2011). The result is satisfying as it shows that higher emissions can be compensated via more disclosure. Also, Ziegler, Busch, & Hoffmann (2011) found a positive relationship between corporate carbon disclosures and higher share returns.

Furthermore, there is a debate about whether CSR positively or negatively impacts shareholder value. Stakeholder theory explains the dynamics of CSR and shareholder value (Freeman, 2010). Shareholders are the key stakeholders of the company and the company should consider the interest of the shareholders and perform their business activities to fulfil shareholders obligation. Shareholder value may decrease due to consumer boycotts of the firm's products and services and even potentially incurring fines (Eccles et al., 2014). Similarly, not adopting environmental policies can destroy shareholder wealth, which has been argued by scholars as well (Marie-Louise & Juliane, 2017; Ming-Te, 2016). It is apparent that there is extensive theoretical and empirical literature on both sides of the coin when it comes to the firm's financial and environmental performance (Gallego-Álvarez, Segura, & Martínez-Ferrero, 2015; K.-H. Lee, Min, & Yook, 2015; Li et al., 2017; Sariannidis, Zafeiriou, Giannarakis, & Arabatzis, 2013). However, the literature on environmental performance and financial performance in the banking sector, particularly in the emerging market context, is still limited. In the pursuit of constantly improving and moving towards the developed countries, banks in emerging markets are likely to invest in improving their environmental performance, which will also affect their financial performance positively in the medium to long run. Thus, we hypothesise that:

H1: Environmental performance of emerging market banks and their financial performance are positively associated.

2.2. Social performance and financial performance

Companies run their businesses in different regions to earn profit. The primary motive of the companies is to maximise profit. However, they have certain responsibilities towards the society they are operating. Corporate social performance (CSP) is the firm's response to the stakeholders' expectations. CSP is linked to stakeholder theory (Freeman, 1984). The theory assumes that fulfilling the demands of diverse stakeholders boost the success of products and services and financial performance of a company (Freeman, 2010). As stakeholders are more concerned about the social activities of the company, enhanced social performance of the company will lead to better financial performance (Velte, 2017). Previous studies found a mixed relationship between CSP and firm financial performance (Orlitzky, Schmidt, & Rynes, 2003). Majority of the studies found a positive relationship between CSP and financial performance (Atan, Alam, Said, & Zamri, 2018; Godfrey et al., 2009; Velte, 2017). However, CSP may influence the financial performance negatively due to stakeholders' negative perception over high emphasise on CSP (Utz, 2018). Besides, studies on CSP and bank performance are limited. Previous studies found significant positive relationship between corporate social performance and bank performance in the context of developed countries, for instance, US, Canada, Japan and other European countries (Buallay, 2019; Esteban-Sanchez, de la Cuesta-Gonzalez, & Paredes-Gazquez, 2017; Shen, Wu, Chen, & Fang, 2016; Wu & Shen, 2013). Therefore, this study expects to have a positive relationship between CSP and emerging banks performance, too. The directional hypothesis is predicted as follows:

H2: Social performance of emerging market banks and their financial performance are positively associated.

2.3. Governance performance and financial performance

Corporate governance is defined as the organisation's code of conduct to ensure whether board members and executives actions are compatible with the stakeholder's interests (Esteban-Sanchez et al., 2017). Corporate governance is no longer confined to rules and regulations that are used to monitor the executives and board members actions (Aboud & Diab, 2018). The scope of corporate governance also embraces business ethics, disclosure and accountability (Aboud & Diab, 2018; Lerach, 2002). In recent times, companies set diverse code of conduct on financial and non-financial disclosure and disclose more information to increase the stakeholders' confidence toward the company's operations (Kaymak & Bektas, 2017). Previous studies found a strong relationship with good corporate governance and CSR practices of the company (Aboud & Diab, 2018; Kaymak & Bektas, 2017). Strong corporate governance may influence the financial performance of banks. Prior literature suggests that the firm with good governance have higher profitability (Esteban-Sanchez et al., 2017; Jamali, 2008; Velte, 2017). Corporate governance and bank performance may be explained by the agency theory (Kochhar, 1996; Ross, 1973). Based on the agency theory, top managers disclose more activities of the company to show their concerns towards the stakeholders (Watson, Shrives, & Marston, 2002). Companies with strong corporate governance may reduce the conflict between stakeholders and managers (Ntim, Lindop, & Thomas, 2013). Companies with poor governance practices face high agency conflicts and lower profitability (Miras-Rodríguez, Carrasco-Gallego, & Escobar-Pérez, 2015). Esteban-Sanchez et al. (2017) found a significant positive relationship between corporate governance and bank financial performance in an international sample which includes mostly developed country banks. Besides, Soana (2011) also found a significant positive effect of corporate governance on the financial performance of Italian banks. Good corporate governance also lowers the cost of capital of banks (Dincer, Celik, Yilmaz, & Hacioglu, 2014). Therefore, we hypothesize that:

H3: Governance performance of emerging market banks and their financial performance are positively associated.

3. Data and methodology

This study is based on banks in emerging countries. An emerging country is defined as a country that is progressing economically and have the potential of becoming a developed country in the near future (Kenton, 2018). This study follows the list of S&P Dow Jones emerging country and the list of countries is presented in Appendix A. This study collected environment, social and governance score data from 2015 to 2018 from the Asset4 database of Refinitiv, which was formerly known as Thomson Reuters. Asset4 is the most popular database of ESG data worldwide. Asset4 collects the ESG data based on 61 environmental, 51 social and 54 governance indicators[1]. Previous studies have also used this database as a proxy for environmental, social and governance data (Chollet & Sandwidi, 2018; Ioannou & Serafeim, 2012; Velte, 2017). We have used the ESG data of 93 emerging market banks out of 117 listed. We have excluded 24 banks due to the unavailability of required ESG, accounting and financial data. Accounting and financial data are collected from Refinitiv Datastream database. Descriptive statistics and correlation matrix of all variables included in this study are presented in Table 1 and Table 2, respectively. It can be observed that the number of observations vary for different variables. Also, environmental, social and governance performance of banks are strongly correlated at 5% statistical significance. Furthermore, Figure 1 presents heterogeneity in return on equity (ROE) and return on assets (ROA) of banks in emerging markets over multiple years.

[1] See detail at https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/esg-scores-methodology.pdf

3.1. Measurement of variables

This study uses both operating and financial measures to define the bank performance based on previous studies (Atan et al., 2018; Buallay, 2019; Esteban-Sanchez et al., 2017; Velte, 2017). The return on assets (ROA) is used as a proxy to measure operational performance and return on equity (ROE) as a proxy to measure financial performance (Buallay, 2019; Esteban-Sanchez et al., 2017). Control variables include bank size, leverage ratio and dividend yield as suggested by extant literature. Bank size is calculated by taking the log of total assets. Previous studies found that firm performance may vary due to their size (Atan et al., 2018; Velte, 2017). Bank leverage is measured by using the ratio of *long-term debt to total assets*. Leverage is considered as a control variable as it can have an effect, positive or negative, on the bank performance (Atan et al., 2018; Esteban-Sanchez et al., 2017). Lastly, the dividend yield is taken as a control variable based on the study of Chollet and Sandwidi (2018) and measured by the ratio of dividend per share to the current price per share.

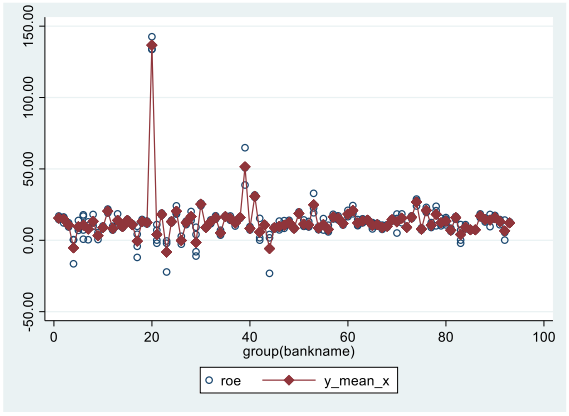
Table 1: Descriptive statistics

Variable	Mean	Std.Dev.	Min	Max	Observations
ROE	13.52	14.88	-23.16	142.59	N=303, n=93, T=3.26
ROA	1.91	3.02	-2.15	22.43	N=283, n=90, T=3.14
ENV	0.80	0.04	0.76	0.87	N=372, n=93, T=4.00
SOC	0.59	0.12	0.42	0.76	N=372, n=93, T=4.00
GOV	0.79	0.13	0.63	0.92	N=372, n=93, T=4.00
Log (Total Assets)	9.15	1.12	2.70	12.11	N=302, n=92, T=3.28
Leverage ratio	2.00	4.69	0.00	18.73	N=306, n=93, T=3.29
Dividend yield	2.42	2.25	-8.30	15.00	N=357, n=93, T=3.84

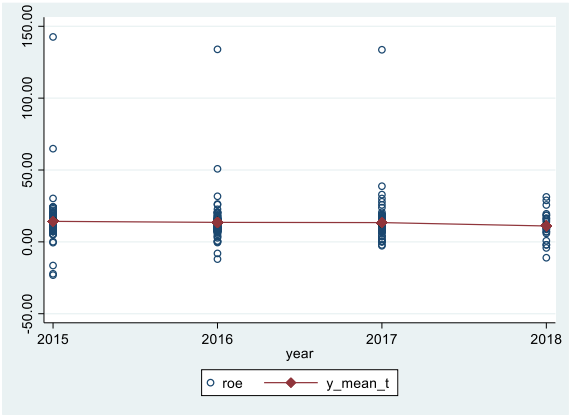
Table 2: Correlation matrix

	ROE	ROA	ENV	SOC	GOV	Log (Assets)	Leverage ratio	Dividend yield
ROE	1							
ROA	0.530*	1						
ENV	0.003	-0.035	1					
SOC	0.020	-0.039	0.939*	1				
GOV	0.006	-0.046	0.908*	0.852*	1			
Log (Assets)	-0.099^{+}	-0.209*	0.023	0.002	0.027	1		
Leverage ratio	-0.096^{+}	-0.117*	0.027	0.045	0.031	-0.070	1	
Dividend yield	0.177*	0.017	0.099^{+}	0.098^{+}	0.074	0.024	-0.293*	1

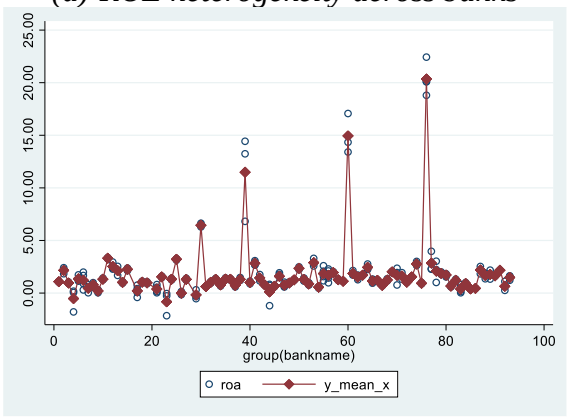
****p<0.001, **p<0.01, *p<0.05,$^{+}$p<0.10*



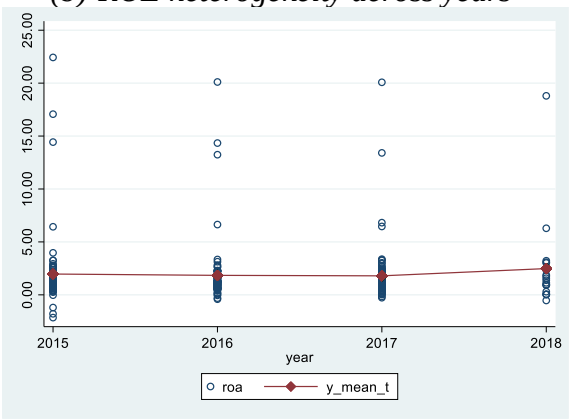
(a) ROE heterogeneity across banks



(b) ROE heterogeneity across years



(c) ROA heterogeneity across banks



(d) ROA heterogeneity across years

Figure 1: ROE and ROA heterogeneity across banks and over years

3.2 Generalized methods of moments (GMM)

This study employs two dynamic panel data models, difference GMM and system GMM. Studies exist employing these methods in similar contexts (Lensink, Mersland, Vu and Zamore, 2018; Tebaldi, Nguyen and Zuluaga, 2018; Fufa and Kim, 2018). While many studies have used fixed effects and random effects model for panel data (for example, Glass, Cook and Ingersoll, 2016; Atan et al. 2018), Athanasoglou, Brissimis, and Delis (2008) stated that perseverance of bank performance over the time might disturb the following year's return. Thus, issues of endogeneity, the lag of the dependent variable, unobserved heterogeneity make fixed and random effect models unsuitable for estimations (Nickell, 1981). To address these issues, difference and system GMM estimations were developed by Holtz-Eakin, Newey and Rosen (1988), Arellano and Bond (1991), and Blundell and Bond (1998), and became very popular (Roodman, 2009). Arellano and Bond (1991) initially proposed the standard or differenced GMM. Standard GMM is unique because it corrects for endogeneity and simultaneity bias in ordinary least squares (OLS). This technique uses "first difference lag levels for each variable as instrumental variables" (Arellano & Bond, 1991). It eliminates the bias from omitting variables from the cross-section data. However, this model has limitations as the lagged level of regressors could be weak instruments for the differenced variables. The system GMM was then introduced (Arellano and Bond, 1991; Blundell and Bond, 1998), which adds level form moment conditions on top of difference form the moment conditions. Thus, this study employs both difference and system GMM models to scrutinise the impacts of environmental, social and governance performance of emerging market banks on their financial performance. This can be expressed as in a dynamic specification as follows:

$$Y_i t = \alpha Y_{it-1} + \beta X_{it} + Z_t + \mu_i + \vartheta_{it} \qquad (1)$$

Where, Y_{it} is bank i's financial performance (that is ROE or ROA) in year t; Y_{it-1} is bank i's financial performance in year t-1; X_{it} is a vector of current values of independent variable, that is environmental or social or governance performance of bank i at year t; Z_t captures time-specific effect; μ_i is an observed independent variable time-invariant effect which allows for heterogeneity in the means of Y_{it} series across banks; ϑ_{it} is disturbance term which is independent across banks.

Equation (1) as difference GMM estimation can be written as:

$$y_{it} - y_{it-1} = (y_{it-1} - y_{i,t-2}) + \beta\left(X_{it} - X_{i,t-1}\right) + (\varepsilon_{it} - \varepsilon_{i,t-1}) \quad (2)$$

Where, Y_{it-2} is bank i's financial performance in year t-2; $X_{i,t-1}$ is a vector of current values of independent variable at t-1; $\varepsilon_{i,t-1}$ is error term at year t-1.

For Equation (2), the difference GMM has conditions expressed in Equation (3) and (4), and the system GMM has conditions expressed in Equation (3), (4), (5) and (6) as follows:

$$E\left[y_{it-l}\left(\varepsilon_{it} - \varepsilon_{i,t-1}\right)\right] = 0, for\ l \geq 2, t = 3, \dots, T \quad (3)$$

$$E\left[X_{i,t-l}\left(\varepsilon_{it} - \varepsilon_{i,t-1}\right)\right] = 0, for\ l \geq 2, t = 3, \dots, T \quad (4)$$

$$E[(y_{it-l} - y_{it-l-1})(\mu_i + \varepsilon_{it})] = 0, for\ l = 1 \quad (5)$$

$$E\left[(X_{i,t-l} - X_{i,t-l-1})(\mu_i + \varepsilon_{it})\right] = 0, for\ l = 1 \quad (6)$$

It might be noted that out of the two GMM models, system GMM is superior in the case of unbalanced panel data since standard GMM has the weakness of magnifying gaps (Hayakawa, 2007; Roodman, 2009). Also, system GMM is more appropriate in the case where N is greater than T and the autoregressive parameter is low (Arellano and Bond, 1991; Blundell and Bond, 1998), alike this study.

4. Results

For each of the hypothesis presented in Section 2, we estimated four models, that is 12 models in total. Among the four models for each of the hypothesis, two models use difference GMM estimation using ROE and ROA as the dependent variables, and again two use system GMM using ROE and ROA as the dependent variables. All estimated models for each of the hypothesis are presented in Table 3, 4 and 5, respectively. After estimation of models, the Sargan test is applied for over-identifying instrument restriction, where the null hypothesis is the independence of the instruments and the error terms. A Sargan test p-value that is higher than 5% fails to reject the null hypothesis. However, "system GMM regressions are almost always overidentified" (Roodman, 2009, p. 143) as can be seen in Table 3, 4 and 5. Also, the Arellano-Bond (AR) autocorrelation test was used to check for serial correlations of error terms, where the null hypothesis is the independence of the instruments and the error term. AR test statistics in Table 3, 4 and 5 confirm that autocorrelation is not an issue in all the models estimated in this study.

The effect of environmental performance on financial performance

Overall, Table 3 shows that environmental performance has a significant and positive effect on financial performance at 5% statistical significance. The coefficients of environmental performance are positive and significant in both difference and system GMM when ROE is the dependent variable. In the system GMM, size of firms (proxied by the log of total assets) also has a positive effect on ROE, and dividend yield has a negative effect. However, environmental performance and none of the control variables have a significant effect on ROA at 5% statistical significance.

Table 3: The effect of environmental performance on financial performance

	ROE		**ROA**	
	(1) Difference GMM	(2) System GMM	(3) Difference GMM	(4) System GMM
Lag (ROE/ROA)	0.03	0.05	0.44*	0.99
	(0.13)	(0.09)	(0.20)	(0.13)
Environmental performance	**17.54***	**12.73***	**0.12**	**-0.60**
	(8.43)	**(6.01)**	**(2.18)**	**(1.61)**
Control variables				
Log (Total Assets)	8.55	10.37*	-2.10	-2.61^{+}
	(10.77)	(5.31)	(3.34)	(1.55)
Leverage ratio	0.06	0.08	-0.003	0.02
	(0.29)	(0.26)	(0.06)	(0.04)
Dividend Yield	-0.37	-0.48*	-0.05	-0.08
	(0.25)	(0.25)	(0.04)	(0.06)
Constant	-80.18	-91.66^{+}	20.22	24.69^{+}
	(103.31)	(49.91)	(32.23)	(15.06)
Number of observations	113	205	99	187
Number of banks	89	92	83	88
Number of instruments	8	10	8	10
Sargan test	5.52	10.72	4.60	5.08
(p-value)	(0.06)	(0.03)	(0.10)	(0.28)
Arellano-Bond: AR(1)	-1.23	-1.17	-1.62	-1.78
(p-value)	(0.22)	(0.24)	(0.10)	(0.07)
Wald test	7.05	10.09	11.06	66.43
(p-value)	(0.22)	(0.07)	(0.05)	(0.00)

****p<0.001, **p<0.01, *p<0.05,$^{+}$p<0.10*
Standard error in parenthesis, except for Sargan test, Wald test and Arellano-Bond: AR(1). Stata commands used for each of the models are: ***(1)*** *xtabond roe env logtotalasset leverage dividendyield, lags(1) twostep;* ***(2)*** *xtdpdsys roe env logtotalasset leverage dividendyield, lags(1) twostep;* ***(3)*** *xtabond roa env logtotalasset leverage dividendyield, lags(1) twostep;* ***(4)*** *xtdpdsys roa env logtotalasset leverage dividendyield, lags(1) twostep.*

The effect of social performance on financial performance

Table 4 shows similar results as in Table 3. Overall, it can be interpreted that social performance has a significant and positive effect on financial performance at 5% statistical significance. In both difference and system GMM, the coefficients of social performance are positive and significant when ROE is the dependent variable. Again, in the system GMM estimation, size of firms has a positive effect while the dividend yield has a negative effect on ROE. However, social performance and none of the control variables have a significant effect on ROA at 5% statistical significance.

Table 4: The effect of social performance on financial performance

	ROE		ROA	
	(5) Difference GMM	(6) System GMM	(7) Difference GMM	(8) System GMM
Lag (ROE/ROA)	0.03	0.05	0.45*	0.99***
	(0.13)	(0.09)	(0.20)	(0.13)
Social performance	**5.36***	**3.92***	**0.02**	**-0.17**
	(2.53)	**(1.82)**	**(0.66)**	**(0.49)**
Control variables				
Log (Total Assets)	8.44	10.46*	-2.20	-2.61^{+}
	(10.61)	(5.27)	(3.35)	(1.55)
Leverage ratio	0.06	0.08	-0.003	0.02
	(0.29)	(0.26)	(0.06)	(0.04)
Dividend Yield	-0.37	-0.48*	-0.05	-0.09
	(0.25)	(0.25)	(0.04)	(0.06)
Constant	-68.03	-84.34^{+}	21.20	24.32^{+}
	(97.98)	(47.46)	(31.06)	(14.41)
Number of observations	113	205	99	187
Number of banks	89	92	83	88
Number of instruments	8	10	8	10
Sargan test	5.29	10.52	4.61	5.07
(p-value)	(0.07)	(0.03)	(0.10)	(0.28)
Arellano-Bond: AR(1)	-1.22	-1.16	-1.62	-1.78
(p-value)	(0.22)	(0.24)	(0.11)	(0.08)
Wald test	7.17	10.23	11.08	66.85
(p-value)	(0.21)	(0.07)	(0.05)	(0.00)

****p<0.001, **p<0.01, *p<0.05,$^{+}$p<0.10*

Standard error in parenthesis, except for Sargan test, Wald test and Arellano-Bond: AR(1). Stata commands used for each of the models are: ***(5)*** *xtabond roe soc logtotalasset leverage dividendyield, lags(1) twostep;* ***(6)*** *xtdpdsys soc env logtotalasset leverage dividendyield, lags(1) twostep;* ***(7)*** *xtabond roa soc logtotalasset leverage dividendyield, lags(1) twostep;* ***(8)*** *xtdpdsys roa soc logtotalasset leverage dividendyield, lags(1) twostep.*

The effect of governance performance on financial performance

In contrast to the previous two tables, Table 5 shows that governance performance does not influence the financial performance of banks in emerging markets. Rather unexpectedly, governance performance and none of the control variables have a significant effect on financial performance at 5% statistical significance, both in the difference and system GMM, and both when ROE and ROA are used as a proxy for financial performance.

Table 5: The effect of governance performance on financial performance

	ROE		ROA	
	(9) Difference GMM	(10) System GMM	(11) Difference GMM	(12) System GMM
Lag (ROE/ROA)	0.07	0.10	0.34*	0.97***
	(0.14)	(0.08)	(0.17)	(0.14)
Governance performance	**0.25**	**0.54**	**0.26**	**-0.44**
	(2.15)	**(1.86)**	**(0.52)**	**(0.54)**
Control variables				
Log (Total Assets)	-5.17	4.66	-1.06	-2.89^{+}
	(9.17)	(5.11)	(2.90)	(1.60)
Leverage ratio	0.28	0.12	-0.01	0.02
	(0.30)	(0.29)	(0.05)	(0.04)
Dividend Yield	-0.30	-0.30	-0.02	-0.09^{+}
	(0.23)	(0.23)	(0.04)	(0.06)
Constant	59.09	-30.88	10.77	27.23^{+}
	(84.64)	(46.26)	(26.93)	(14.92)
Number of observations	113	205	99	187
Number of banks	89	92	83	88
Number of instruments	8	10	8	10
Sargan test	8.32	14.37	7.72	5.79
(p-value)	(0.02)	(0.01)	(0.02)	(0.22)
Arellano-Bond: AR(1)	-1.48	-1.28	-1.62	-1.84
(p-value)	(0.14)	(0.20)	(0.10)	(0.07)
Wald test	3.22	4.83	10.70	56.13
(p-value)	(0.67)	(0.44)	(0.06)	(0.00)

****p<0.001, **p<0.01, *p<0.05,$^{+}$p<0.10*
Standard error in parenthesis, except for Sargan test, Wald test and Arellano-Bond: AR(1). Stata commands used for each of the models are: ***(9)*** *xtabond roe gov logtotalasset leverage dividendyield, lags(1) twostep;* ***(10)*** *xtdpdsys roe gov logtotalasset leverage dividendyield, lags(1) twostep;* ***(11)*** *xtabond roa gov logtotalasset leverage dividendyield, lags(1) twostep;* ***(12)*** *xtdpdsys roa gov logtotalasset leverage dividendyield, lags(1) twostep.*

5. Discussion

This study finds a positive association of environmental and social performance with the financial performance of banks in emerging countries. Previous studies also found a positive association of environmental and social performance with financial performance in the company level (Aboud & Diab, 2018; Velte, 2017) and bank level (Buallay, 2019; Esteban-Sanchez et al., 2017). The positive link may occur due to stakeholders' interest in the company or bank ESG disclosure. In the same vein, Buallay (2019) examined the impact of ESG on

European banks performance and found a positive association among ESG and bank performance. In Europe, banks are rewarded in the market due to higher environmental and social performance (Buallay, 2019). However, Atan et al. (2018) found insignificant effects of environmental, social and governance performance on financial performance, in the context of Malaysian firms. One reason could be that managers sometimes overinvest in ESG to fulfil their personal interests, for instance, to cover up bad news, recover personal image in the market and catch the media attention, which may not lead to an improvement in financial performance.

Besides, this study finds an insignificant connection between corporate governance and bank financial performance which is contradicting with the findings of previous studies (Dincer et al., 2014; Esteban-Sanchez et al., 2017; Miras-Rodríguez et al., 2015). It may happen due to the overall weak corporate governance performance of emerging market banks. For instance, we observed that the percentage of female board members is zero among the 93 examined emerging market banks in this study. Such weak corporate governance may fail to influence the ultimate financial performance of firms. However, Buallay (2019) found a negative relationship between corporate governance and bank financial and operational performance. On the contrary, previous studies found a positive link between corporate governance and company/bank performance (Dincer et al., 2014; Esteban-Sanchez et al., 2017; Miras-Rodríguez et al., 2015). Thus, improving overall corporate governance among emerging market banks might turn beneficial in the future. Summary of hypothesis testing is presented in Table 6.

Table 6: Summary of results

No.	Hypothesis	Remark
H1	Environmental performance of emerging market banks and their financial performance are positively associated.	Supported
H2	Social performance of emerging market banks and their financial performance are positively associated.	Supported
H3	Governance performance of emerging market banks and their financial performance are positively associated.	Rejected

6. Conclusion

This study examined the effect of environmental, social and governance activities on the financial and operational performance of banks in emerging countries. Due to the possible endogeneity and heterogeneity concerns with the study design, we used the GMM estimation technique for analysis. Data of 93 banks were collected from the Asset4 and Datastream databases. We found a significant positive effect of environmental and social performance on banks' financial performance. However, the effect of corporate governance on bank performance is not present in the context of emerging market banks. It may happen due to the weak corporate governance practices of emerging markets banks and lack of legal and regulatory pressure from regulatory bodies such as securities commission, central bank and other environmental and social agencies. Relying on our findings, top management executives of banks should consider investing in environmental and social activities of banks, which will improve the future cash flow of the banks.

Future studies may consider the moderating effect of board characteristics, for instance, gender diversity, the experience of board members, CEO duality and audit committee independence on the association of environmental and social performance of banks with their financial performance. A comparative study among Islamic and conventional banks may

provide useful insights to the policymakers in deciding which type of banks are more ethical and concerned about the environment, social and governance practices. Further studies may also consider the asymmetric link between environmental, social and governance performance and banks financial risk, for instance, systematic and idiosyncratic risk. The systematic and idiosyncratic risk is crucial for a firm (Jo & Na, 2012). Future studies may consider both risk measures and examine which risk type is affected more due to ESG performance.

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Appendix A: Emerging economy country list and number of banks included in this study

Country	Number of banks
Brazil	6
Chile	1
China	10
Colombia	2
Czech Republic	1
Egypt	1
Greece	6
Hungary	1
India	11
Indonesia	5
Malaysia	8
Philippines	4
Poland	5
Qatar	1
Russia	2
South Africa	5
Taiwan	11
Thailand	6
Turkey	7