

Environmental, Social, Governance (ESG) and Financial Performance of Firm in the Context of Corporate Governance Code 2019 in Pakistan

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Abstract

Environmental, Social, and Governance (ESG) practices are somehow matured in advanced countries. However, yet these are the matter of concerned in under-developed countries like Pakistan. Accordingly, this research study empirically investigates the ESG overall and individual components i.e. E, S, and G on FP in the context of corporate governance code 2019 in Pakistan. This study employed two stage least squares (2SLS) model to PSX 100 index for the period of five years from 2017 to 2021(pre-period 2017-18) (post-period 2020-2021) in Pakistan. The latest corporate governance code 2019 was considered as the base year. Based on three approaches of stakeholder theory, the results investigates that ESG overall and its individual factors i.e. environmental (E), social (S) and governance (G) have positive impacts on FP in the context of corporate governance code 2019 in Pakistan. These findings designated that there is a substantial growth in the level of ESG practices and relevant strategies in Pakistan. This rise has been amplified by the government initiatives such as amended corporate governance code 2019. Finally, on the basis of the results, the study strongly recommends that ESG practices have positive impacts on financial performance on listed firms in Pakistan. However, regulatory bodies need to consider the effective ESG practices by firms to provide better results in Pakistan. The results finding provide an important understanding for ESG practices in developing countries like Pakistan. The outcomes of the study provide an important insight for all the stakeholders i.e. government bodies, practitioners, researchers, academic circles, banks, and Securities and Exchange Commission of Pakistan (SECP) etc.

KEYWORDS: Environmental, Social, Governance (ESG), Corporate Governance Cod 2019, Financial Performance, ROA, Tobin's Q

Introduction

Environmental, social and governance (ESG), practices have been mainly owned by companies across the globe due to need of stakeholders to be massive transference on environmental, social and governance (ESG) issues. Recently due to industrial, educational and economic development and awareness about environmental change, carbon radiation and various environmental related

issues shifted the attention of all stakeholders towards such issues (Gupta & Gupta, 2020), (Gavana et al., 2022). Environmental, social, and governance (hereafter ESG) practices are contributing to enhance the firm's value for stakeholders and highlighted the role of a firms in sustainable development (Liao et al., 2018), (Nguyen, 2022), (Pertiwi, 2023). The ESG involvement ensures to safeguard the interest of various stakeholders (Donaldson and Preston, 2014), (Wu, & Zhou 2022). In recent dynamic and complex business environment, ESG practices and disclosures are considered as one of the fundamental policy towards sustainable development and strategic business decisions. Government bodies and policy makers are also established and implement the ESG new parameters (Harjoto et al., 2018). The core issue of environmental related factors shifted the direction of all business firms to adopt and implement a proactive approach to enhance its sustainability related performance (Epstein, 2018).

Likewise, in business world it is the responsibility of the firms to contribute to society for sustainable development and research identified a link between social responsibilities, financial performance and sustainable development (Baumgartner, 2018), (Wu & Ullah, 2020). Furthermore, Corporate Governance (CG) is the combination of management system, business direction, and basis of business strategies, performance and a framework for decision-making. Effective corporate governance provides road map to safeguard the firm future prosperity and its image (Rashid, 2018). Likewise ineffective corporate governance badly affects firm's performance and its market (Valte et al., 2018, Chouaibi et al., 2022).

The general public awareness through media and others ecological related issues are also highlighting the role of ESG practices and sustainable development. The inclusion of other stakeholders necessitates the need for top management to concentrate on such issues. ESG practices are non-financial information and have no standard format like financial information. Similarly, there are cases identifying that ESG disclosure comes out different throughout firms and countries (loaned and sera Fein, 2017), (Kuo et al., 2021). This is due to relaxation in information disclosure and diverse format adopted by firms (Duuren, 2016), (AL Mubarak, 2023). Moreover, Baldini, (2016) argues that country certain aspects such as governance, manpower laws, economic and social factors greatly affect firm's ESG disclosure. ESG has acquired central consideration among companies and third parties particularly investors. A global survey indicates that 76% of managers believe that ESG practices contribute positively to long term shareholders value and 55% agree that ESG helps their companies build a strong reputation (Me Kinsey, 2010), (Zimon et al., 2021).

Furthermore, ESG recently become the main component of the business strategy to make sure competitiveness and efficiency of utilizing resources and innovative policy for promoting the

efforts to safeguard the environmental factors (Garcia-Sánchez and Araújo-Bernardo, 2020). Research identified that the firms engaged in ESG practices are more profitable than those firms with less involvement in such practices (Orlitzky et al., 2003; Vogel, 2005). The ESG practices meet the balance among stakeholders interest (Martin, 2016).

For this purpose such activities are adopted by firms to meet the demand of various stakeholders. ESG practices are not an option for business firms but an important component of business strategy to attract investors (Trabelsi et al., 2019), (Durane et al., 2021). Moreover, United Nations Environmental Programme Finance Initiative (UNEFI) in collaboration with global law firm published a legal analysis report on association between ESG practices and investment (UNEP, 2005). Furthermore, such activities are considered as global norms and attended as an opportunity to regenerate investment, especially institutional investors (Lee, 2020). Likewise, in 2006 United Nation introduced six principles of responsible investment and was signed by 1750 large companies to follow United Nation Principles of Responsible Investment (UNPRI). ESG is emerging as a substantial factor prompting the long-term sustainability of companies and society beyond corporate social responsibility, (CSR). However, for long term sustainable economic development firms needs to consider financial as well as non-financial activities i.e. ESG practices to support sustainability (Kapur et al., 2021).

ESG informational is important for institutionalize investors to take investment decision, yet such information and its quality is not enough to take such decision. Institutionalize investors have certain observation about the availability and quality of such information (Ivanova et al., 2023). In order to cover the gap of demand for ESG information and the availability and quality of such information, almost all countries of the world have framed regulations to follow and properly implement the ESG practices and disclosure with certain standard. Therefore, the development of ESG practice has emerged as innovative field for research (Ahmad et al., 2021). Initially, research was concentrated on whatever firm's report and how they ought to report all the activities related to ESG practices. Afterwards, the studies concentration moved to correlational research studies for ESG practices and other variables and factors like its benefits to business firms, especially financial performance (Rehman et al., 2020). Certain previous research evidences identified positive link between organization's ESG practices and financial performance and negative connection between ESG practices and earning management involvement (Choi and Pae, 2011), (Wu, & Zhou, 2022).

However, studies discovered diverse findings containing positive and negative as well as zero impact of ESG on FP (Buertey et al., 2020). More researches were accomplished to determine the association between ESG and FP. Nevertheless, no ultimate results can be recognized, and

consequently the question is yet not answered (Lee et al., 2013). A lot of literature proposes that the relationship would be investigated considering some other affecting variables which are most relevant for investigation (Lee et al., 2020; Rehman et al., 2020).

Earlier in Pakistan, sustainability related issues were scrutinized by finance ministry, state bank of Pakistan and corporate law authority. However, in 1997, after establishment of Securities and Exchange Commission of Pakistan (SECP) is now the governing body of such issues. In March 2002, Securities and Exchange Commission of Pakistan (SECP) introduce the code of CG 2002 revised in 2012, 2017 and recently in 2019. The theme of the code is to ensure sustainable business practices, fair exposure of financial information and effective administration of corporate bodies for the purpose to protect the rights of all stakeholders (A Akbar, 2015). To be more effective and to complement with international standards the corporate governance code was revised for the third time in 2019 (Akbar et al., 2019). Hence, the current code consists of certain new parameters related to such issues which will be very helpful for all stakeholders. ESG related performance can be measured by varieties of indicators like sustainability index, ESG disclosure, content analysis and ESG data basis (Dechow et al., 2010), (Yang et al., 2022).

In past many research studies was conducted in different ways which focused on the association between ESG and FP. In majority cases one technique commonly adopted to measure the ESG activities adopted by corporations is the ESG disclosure score. The method identified FP in the form of ROA, ROE and Tobin's Q ratio. FP evaluates efficiency of firms in utilizing resources to earn profit. The efficiency in terms of ROA provides an overview how efficient the firm is by investment in assets. However, return on equity, return on asset, dividend yield, and Tobin's Q can be used to calculate firm's FP (Alexander & Hengky, 2017; Delai & Prasetyono, 2013). Financial performance of the firms can be evaluated through the annual return on stock of the company. The performance is identified from the perspective of the capital market through annual returns on shares or the rate of returns on stock on investments made by investors. Financial performance can be judged from the fair rate of return on investment which can led to high trust of investors to invest in shares which is very helpful for companies in obtaining more capital for business (Wu et al., 2020). However, certain factors exists that affect financial performance of the firms including quality of internal auditors, business strategies and policies, competitive environment, sustainability reports (ESG Practices) and Earning Management involvement (Cahyono, 2023).

Usually, in under-developed and new emerging economies the stakeholders are interested only in the financial performance of their firms. The investors and shareholders have more focus to get financial benefits from these firms. The management of these business firms does not give

proper consideration to ESG practices and reporting (Aras, Aybars, & Kutlu, 2010). Furthermore, some firms believe that such practices and its associated incorporated strategies have an adverse effect on their firms' FP, and are thus hesitant to adopt these practices (Said, Zainuddin, & Haron, 2020). This could be due to the ambiguous arguments regarding effect of ESG practices on firms' FP, particularly in developing economies (Ameer & Othman, 2011; Naughton & Wang, 2015; Elfenbein & Walsh, 2008; Pelozo, 2009; Zulkifli & Muhamad, 2011; Marcus & Wagner, 2010). Furthermore, no serious efforts and practical initiative and motivation on the part of business organizations in integrating corporate strategies and efforts to ensure ESG practices and its disclosure (Battaglia et al., 2016; Bursa Malaysia, 2015a; Klettner et al., 2014; Maas et al., 2016; Searcy & Buslovich, 2014; Suarez et al., 2016), (Durana et al., 2022).

Literature Review

Theoretical Framework

The traditional concept of shareholder theory is that the basic role of a business firm is to maximize shareholders wealth by best utilizing the existing resources. On the other hand, stakeholder theory states, that management need to emphasis on the interest of various stakeholders along with the shareholders wealth maximization concept (Cheng et al., 2016). The shareholder theory, also famous as the Friedman-Doctrine, contends that a firm basic responsibility is the satisfaction of the shareholders (Friedman, 1970). Some followers of the shareholder theory have against firm's involvement in ESG practices because it contrasts with the shareholder's basic interest. According to this philosophy, a business firm involvement in ESG practices will negatively affect FP because such activities are costly (Friedman, 1970). Furthermore, such activities may leads to an agency problem between management and shareholders because of the concept that management take part in ESG-practices to gain private advantage and to improve their reputation. As per the concept of shareholder theory, a business firm commitment in ESG will negatively affect the FP and hence the ESG and FP association is likely to be negative (Hussaini et al., 2021).

According to Freeman et al., (2004), stakeholder is the persons and group that can affect a business firm and have a claim on firm and affected by its operations. So, the stakeholder theory states that firm's success and profitability depends on the interest of not only shareholders but should also considered the interest of various stakeholders (Freeman et al., 2004; Porter & Kramer, 2002), (Tribelsi, 2023). However, this theory states that a business organization engaged in ESG practices will have a positive impact on FP and the ESG and FP association is likely to be positive. These contrasting views are among many possible reasons for the diverse results between

ESG and FP (Castelo, 2013). As per ESG is concerned, the stakeholder theory acquired central position and utmost important doctrine to consider. According to this theory management need to consider the interest of various stakeholders including shareholders. This concept is noticeable because it recognizes that stakeholders are also important to the firm's value-maximization. According to Jensen (2005), firm's management should recognize the value and support of all stakeholders for the business success and value maximization. According to Freeman et al. (2004), firm should consider the interest of all stakeholders that would be affected by a firm's business decision and actions. It includes customers, employees, management, suppliers, creditors, debtors and society etc.

The shareholder theory is contrast to society and firm's objectives. A study by Porter & Kumar, (2022) identified that a firm is continuously in connection with its numerous stakeholders and is reliance on society to operate. However, firm long term fortune is depends on the association with various stakeholders. According to enlightened shareholders concept the firm long term prosperity depend on engagement in ESG practices. In contrary to the ideas of initial exponents of shareholder theory, such as Milton Friedman, majority recent business philosophers have the view that engagement in ESG related activities are not exploiting financial resources of the business firm belong to the right to shareholders (Jensen, 2005), (Porter et al., 2002). In a company form of business the management and owners are basically separated parties. However, regardless of which theory is incorporated, the central point is to reduce information asymmetry. So, according to this theory a firm should disclose both monetary and non-monetary information to stakeholders fairly. This will create more transparency and led to information asymmetries between all stakeholders (Cheng et al., 2016).

Hypothesis Development

ESG and Firm financial performance

Kim (2019), competes that socially responsible attitude have positive connection between ESG and quality of earnings. Likewise, Yaun (2022), elaborate that a positive link exists between the level of ESG practices and FP of the firms. Kim (2019), competes that socially responsible attitude have positive connection between ESG and quality of earnings. Likewise, Yaun (2022), elaborate that a positive link exists between the level of ESG practices and FP of the firms. Hong and Anderson Focusing on ESG and Sustainable development is basically a business approach whose target is not only profit maximization, but also concentration on societal and community development (Cera et al., 2022; Gavurova et al., 2022). As stated by Mai et al., (2021), a clear goal is to take initiative to reduce negative environmental impacts of business on environment. Firm's

policy regarding waste management, production and other functions should be ecological (Vo et al., 2020).

However, ESG is a comparatively novel concept in the area of sustainability practices, the number of research studies is focusing on ESG practices and FFP have flowed during the 21st century (Friede et al., 2015). Friede and colleagues (2015), accumulated more than 2000 research studies on the matter and identified that majority studies showed positive association between ESG and firm' FP. Such was additionally elaborated on different aspects i.e. market, operative, accounting, perceptual, risk or performance of a broad ESG selection.

Hypothesis1. There is a positive association of Environmental, Social, Governance (ESG) and financial performance.

Environment and Financial Performance

Environmental factors includes reducing environmental impacts on business, protection of natural resources, effective waste management techniques and minimization of material and energy intensity of processes in business activities (Metzker et al.,2021). Business also have some close impact on society so, socially responsible behavior of the firms in this way help to control and reduce the adverse consequences and impacts on entire social system (Cera et al., 2022). It is concerns with safety of employees, charitable and philanthropic activities, equal employment opportunity, corporate social responsibility (CSR) and other issues related to society. All these factors have been shown significant impact on earning management (Buertey et al., 2020). By deducting the number of research that found a negative connection from the studies that was showing a positive association, the individual component of environmental views out as the component with the maximum quantity of positive associations (Friede et al., 2015), (Abbas et al., 2022). The impact of environmental related performance on financial performance of a firm's is the issue which was extensively debated in literature since 1980s. The empirical research work of Martha et al., (2023), is one of the initial research that provide summary of the theoretical point of view for a relationship between environment related performance and FFP. Author concluded three theoretical concepts which explain all for a unlike association. First, management should consider a balance between environment and FP.

Hypothesis 2 There is a positive association of Environment and financial performance.

Social and Financial Performance

Likewise meta-analysis of Friede et al., (2015) & Agustia et al., (2022), identified that the sub component social identified the smallest degree of positive association. As for as the social component is concerned, a great quantity of literature identified the question that Human

Resource Management (HRM) does affect the firm’s FP? Among these research studies the result was identified that HRM strategies can provide a straight and economically substantial positive influence on the firm’s FP (Hussaini, 2021).

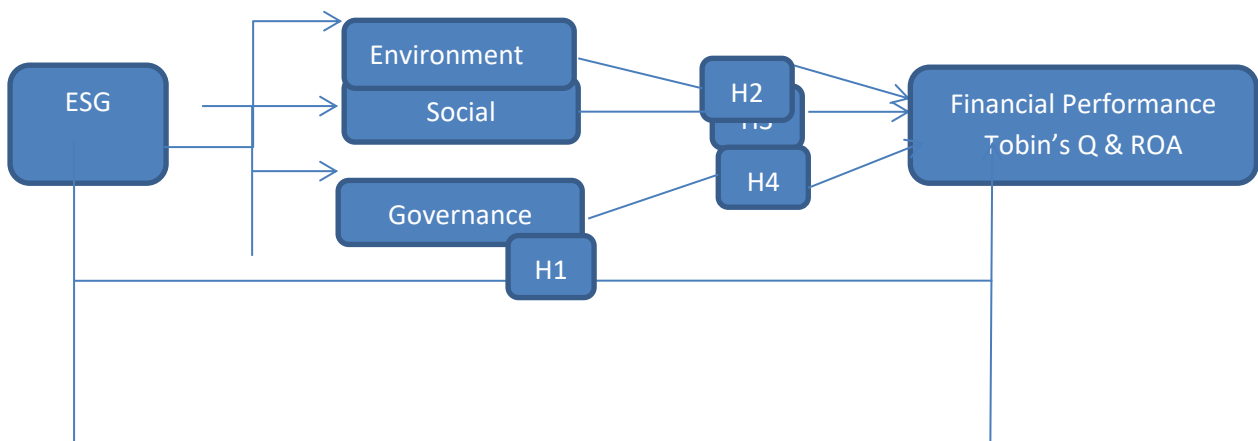
Hypothesis 3 There is a positive association of Social and financial performance.

Governance and Financial Performance

Likewise, majority of the literature that identified the effect of CG on firm’s FP, is focusing on either variances among countries or difference in governance among organizations in a particular country. Variances in impact of CG on firm FP across different industrial sectors are one of the dominant issues in the research study of Daszyńska-Żygadło (2016), (Christensen et al., 2022). They concluded the significance of a CG system varies crosswise different sectors. They identified a positive and substantial connection for firms in the raw material, manufacturing and finance divisions.

Hypothesis 4. There is a positive association of Governance and financial performance

Hypothesized Model



Research Methodology

The current research study is descriptive in nature. Quantitative analysis method is used in Descriptive research design which is the most suitable method to provide answers the research questions and to solve the research problem. However, this research design is the best method that outfits the current research study. However, quantitative research technique with deductive approach was used under positivist philosophy. Likewise, secondary data collection method with descriptive research design was adopted for investigating the association among variables of the study. The secondary data was collected from annual financial reports, sustainability reports and other related sources of firms listed in Pakistan stock exchange in 2019.

The listed companies in Pakistan stock exchange (PSX), in 2019 consist of 535 firms were population of the study, while (PSX)-100 indexes of 2019 were sample and method of sampling was purposive sampling technique. The PSX 100 index is usually adopted because it represents the picture of our economy and 85% of market capitalization and the combination of diverse industries in an economy (Wang & Yekini, 2019). Study tenure was 5 years from 2017 to 2021. Two years (2017 & 2018) before and two years (2020 & 2021) was selected after of the issuance of amended CG code 2019. Pre study period was 2017 and 2018, while post study period was 2020 and 2021. The latest CG code 2019 was considered as base year. This study period was selected due to the issuance of revised CG code in 2019 in Pakistan. Likewise, this research study is basically a pre-post analysis of ESG impact on FP of the firm's in the context of CG code 2019 in Pakistan. This research study used secondary data for analysis. The Secondary data sources are basically the interpretation of the primary data (Saunders, Lewis, & Thornhill, 2007). The data was attained from the annual financial statements and sustainability reports of the companies including in PSX-100 index. The annual reports were used because it is the main and authentic source of information regarding such data. The annual financial statements are identifying the interest and commitments of the management in business affairs (Orlitzky, 2019).

Measurement Of Variables

Some of these financial performance indicators represent short-term performance e.g. stock-price, (market based indicator) and on the other hand, some indicators e.g. ROA represent long-term financial performance (accounting based indicator). Therefore, both might have unlike results based on diverse financial performance variables. Furthermore, it also depends on the nature of industry and its processes. However, this study used Tobin's Q and ROA as indicators of FP.

This research study adopted the content analysis technique for ESG calculation from annual reports of companies published during the year from 2017 to 2021 respectively. This method is the most commonly used and widely accepted method for calculating ESG components in research (Boesso & Kumar, 2007; Said et al., 2009). This method of data collection is less costly and as well as less unmistakable relative to others data collection method of ESG practices. This technique has been applied most frequently in research related to ESG practices (Delai & Takahashi, 2013). The firm's size is calculated with different techniques e.g., firm's total assets, firm's total employees and firm's total sales. However, in literature no specific evidence supports the adoption of a one specific technique (Galbreath, 2013). Nevertheless, in majority past studies the firm's size is calculated by adopting natural logarithm of firm's total assets (Dissanayake et al., 2016; Tracey, 2014).

Hence in this research the firm's size is calculated by adopting the natural logarithm of firm's total assets. Firms' behavior also varies from more leveraged to low leveraged position. High leveraged firms behavior is different as compare to low leveraged firms because the degree of risk are different in investment in ESG practices and impact on firm's FP. In this current study, leverage is calculated by debt to equity ratio in reference to past research studies (Lee et al., 2020; Madi, 2012). However, greater the declared earnings of a firm, higher will be the expectation of shareholders for dividend and therefore an overall rise in market value of share. Dividend is measured with the help of dividend-payout ratio which is measured by dividing dividend per share by earning per share (Cho & Chun, 2016). In control variables, big four was measured through dummy variable. It can be denoted by 1, in case if a firm is audited by the Big-Four audit firms, or otherwise 0, if not audited by Big-Four audit firms (Bozzolan et al., 2015). This study used SPSS and STATA research software for regression, correlation, Descriptive statistics, and pre-post analysis to analyze the variables and their relationship.

The Structure of The Proposed Econometric Model

FP (TQ and ROA) = $\beta_0 + \beta_1ESG_{it} + \beta_2 FSize_{it} + \beta_3 FAge_{it} + \beta_4 FLeverage_{it} + \beta_5 DPS_{it} + \beta_6 Big4_{it} + \beta_7 LagofDV_{it} + \beta_8 YD_{it} + \beta_9 ID_{it} + \epsilon_{it}.....$ Equation 1

FP (TQ and ROA) = $\beta_0 + \beta_1ESG$ (Env, Soc, and Gov) + $\beta_2 FSize_{it} + \beta_3 FAge_{it} + \beta_4 FLeverage_{it} + \beta_5 DPS_{it} + \beta_6 Big4_{it} + \beta_7 LagofDV_{it} + \beta_8 YD_{it} + \beta_9 ID_{it} + \epsilon_{it}.....$ Equation 2 Where:

FP = financial performance

TQ = Tobin's Q

ROA = return on assets

ESG = environmental, social and governance

F Size = firm size

F Age = firm age

F Leverage = firm leverage

B4 = big4

DPS =Dividend per share

LagofDV = Lag of dependent variable

YD= Years dummies for the time effects

ID = Industries dummies for the industries effects

γ_{Xi} = Independent Variable

ϵ_{it} = Error term

Result And Analyses

Descriptive Statistics

The table 4.1 shows descriptive statistics for ESG and FP of the firm in the Context of CG code 2019 in Pakistan. First of all, ESG and financial performance is examined as indicated in table 4.1. Explanation of variables required.

Table.1 Descriptive Statistics

	Min	Max	Mean	Std. Dev.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	S.E	Statistic	S.E
Tobin's Q	-2.904	2.906	0.000	1.000	.003	.109	-.144	.218
ROA	-.659	0.867	0.079	0.110	.000	.109	-.140	.218
ESG	29	53	47.92	6.204	-.283	.109	.074	.218
Environmental	1	12	9.13	4.332	-.776	.109	-.815	.218
Social	18	30	29.47	2.023	-3.304	.109	9.503	.218
Governance	6	11	9.32	1.301	-.260	.109	.659	.218
Firm Size (in mil)	3	20000000	265552	1014865	.000	.109	-.140	.218
Firm Age	5	159	41.61	23.792	.002	.109	-.143	.218
Firm Leverage	-2.808	3.670	0.015	0.992	-.118	.109	-.267	.218
DPS	9	300	44.51	30.723	.898	.109	.387	.218
Big4	0	1	.75	.432	-1.174	.110	-.625	.219

The above table 4.1 shows minimum value for Tobin's Q is -2.904, maximum value is 2.906 and standard deviation is 1.00000, while the mean value is 0.000. Similarly, ROA minimum value, maximum value, standard deviation and mean value is -.659, .867, .110378 and .07905. The mean value of these two indicators is very low which explains that the latest code does not have any impact on the ESG and financial performance of the company. In the same way, ESG ranges from 29 to 53 and its mean value is 47.92 while std. Dev. is 6.20. The minimum value for environmental is 1 while the maximum value is 12, mean value is 9.13 and std.Dev is 4.33. For social these values are 18, 30, 29.47, and 2.023. Similarly, minimum value of governance is 6 maximum values are 11 while mean value is 9.32 and std.Dev is 1.30.

Pearson's Correlation Matrix

This section discusses the association among variables analyzed during this study. Purpose of this analysis is twofold. First, it assesses that whether the independent variables are significantly correlated with the dependent variables. Second, to check if there is any strong association among independent variables i.e. the issue of multicollinearity exists (Weisberg, 2005). Tabachnick, (2007) explained that if the correlation among two independent variables is greater than 0.90, so it indicates the problem of multicollinearity. The Pearson's Correlation Matrix presented below in table 4.2, provides insights into the relationships between various variables included in the study, along with their Variance Inflation Factors (VIFs). The diagonal elements of the matrix represent the VIFs, which indicate the extent of multicollinearity between each variable and the other variables in the model. Generally, VIF values greater than 10 suggest high multicollinearity, indicating potential issues with the reliability of regression coefficients. Examining the off-diagonal elements, significant correlations emerge between different variables. Notably, Tobin's Q (TQ) and Return on Assets (ROA) exhibit a moderately positive correlation ($r = 0.30$, $p < 0.001$), suggesting a relationship between firm valuation and profitability. However, AEM and REM show weak correlations with other variables, indicating limited associations with Tobin's Q and ROA.

Table.2 Pearson’s Correlation Matrix

	V	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	IF														
1. TQ	1.1	1.00													
	1														
2. ROA	1.1	0.30	1.00												
	1	***													
3. ESG	1.	0.02	0.02	0.	-	1.00									
	01			04	0.1										
					1*										
4.	2.	0.05	0.05	0.	-	0.78	1.00								
Environ	2			03	0.1	***									
mental	3				0*										
5.	1.1	0.0	0.0	-	0.	0.47	0.26	1.0							
Social	1	4	4	0.	03	***	***	0							
				06											
6.	2.	-	-	0.	-	0.74	0.72	0.1	1.						
Govern	10	0.03	0.03	09	0.1	***	***	4*	0						
ance				*	0*			*	0						
7. Firm	1.	-	-	-	0.	-	-	0.0	-	1.					
Size	0	0.29	0.29	0.	03	0.06	0.09	4	0.	0					
	2	***	***	00			*		0	0					
									4						
8. Firm	3.	0.07	0.07	-	0.	-	0.02	0.0	-	0.	1.00				
Age	2			0.	01	0.01		3	0.	0					
	8			02					0	6					
									2						
9. Firm	1.	0.00	0.00	-	0.	0.02	0.02	-	0.	0.	-	1.			
Leverag	0			0.	05			0.0	03	0	0.0	0			
e	0			05				2		3	3	0			
10. Lag	1.	-	-	-	0.	0.01	0.01	0.0	-	0.	-	-	1.		
of ESG	01	0.00	0.00	0.	02			0	0.	01	0.0	0.	0		
				03					03		7	0	0		
												2			
11. DPS	3.	0.09	0.08	-	0.	-	0.03	-	-	0.	0.81	-	-	1.00	
	2			0.	00	0.01		0.0	0.	0	***	0.	0.		
	4			01				6	0	6		0	0		
									0			2	4		
12. Big4	1.	-	-	-	0.	0.02	-	-	0.	-	-	-	-	-	1.
	0	0.06	0.06	0.	09		0.00	0.0	03	0.	0.18	0.	0.	0.15	0
	4			03	*			2		0	***	01	0	***	0
										8			2		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Similarly, Environmental, Social, and Governance (ESG) scores demonstrate slight positive correlations with Tobin's Q and ROA, although these associations are not statistically significant. Similarly, individual components of ESG—Environmental, Social, and Governance—exhibit varying degrees of correlation with financial performance measures, suggesting potential influences of these factors on firm outcomes. Regarding the assessment of multicollinearity issue, the information described show that the highest correlation among predictors is lower than 0.80, therefore, there is no problem of multicollinearity (Hair et al., 2006). This observation suggests that the predictor variables included in the analysis maintain a reasonable level of independence from one another. The absence of multicollinearity within the data set strengthens the reliability of the regression coefficients estimated in the subsequent analysis.

ESG And Firm Performance

The study objectives to investigate the influence of ESG on firm performance. For this purpose, the obtained data for overall ESG and its individual components was regressed against the firm performance measured on ROA and Tobin's Q using a 2SLS estimator. Below table 4.3 presents the results of the said analysis.

Table.3: 2sls Regression Results (Overall And Dimensions: (ESG > FP)

	(1)	(2)	(3)	(4)
	TQ	ROA	TQ	ROA
ESG	.895*** (.202)	.887*** (.200)	- -	- -
Environmental	- -	- -	.158 (.106)	.158 (.106)
Social	- -	- -	.715* (.416)	.712* (.415)
Governance	- -	- -	.555** (.263)	.552** (.263)
Firm Size	-.263*** (.055)	-.26*** (.054)	-.359*** (.134)	-.357*** (.134)
Firm Age	-.002 (.003)	-.002 (.003)	.01 (.009)	.01 (.009)
Firm Leverage	.003 (.052)	.003 (.052)	.005 (.081)	.004 (.08)
Lag of DV	0	-.001	.008	.008

	(.009)	(.009)	(.012)	(.012)
DPS	.006**	.006**	.014**	.014**
	(.003)	(.003)	(.007)	(.007)
Big4	-.184	-.181	-.23	-.235
	(.131)	(.128)	(.177)	(.176)
Constant	2.564***	2.539***	-24.24*	-24.146*
	(.419)	(.415)	(13.957)	(13.94)
R-squared	0.111	0.111	0.191	0.191
Heteroscedasticity	14.12***	14.08***	32.08***	31.97***
Autocorrelation (DW)	2.112	2.065	2.003	1.993
Ovtest Ramsey test	5.79**	5.79**	3.37**	3.36*
Durbin				
Durbin (score) chi2 (1)	1.047	1.047	21.206	21.283
Wu-Hausman F	28.364	28.327	23.046	23.135
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes

Robust standard errors are in parentheses

*** p<.01, ** p<.05, * p<.1

The table 3 consists of the outcomes of the 2SLS (Two-Stage Least Squares) regression analysis, focusing on the relationship between overall ESG and its individual factors and two dependent variables TQ and ROA, measuring the firm performance. The table includes 4 distinct models; model 1 and 2 assess the effect of overall ESG on FP, while models 3 and 4 show the effects of individual factors i.e. environmental, social and governance on the dependent variable. In model 1, the table shows that ESG has a significant positive impact on FP, measured as Tobin's Q. The coefficient of ESG is 0.895 and is significant at a level of 1%. It means that for each single unit of change in ESG, the firm performance will change by 0.895 units in the same direction as ESG. In the second model, the coefficient value of 0.887 reveals that there is a significant effect of ESG on firm FP, measured as ROA. The coefficient value suggests that an increase on 1% in ESG will cause a 0.887% rise in firm performance.

Based on these results, hypothesis (H1) of the study, assuming a positive effect of ESG on firm performance is substantiated. These results are consistent with the previous studies in the area including Aybars, et al., (2019) and Rahman, et al., (2023). Moving to model 3, the table shows that Environmental aspect demonstrates no significant influence on any of the performance indicators on the other hand social and governance aspects of ESG have significant positive impact of both the indicators (TQ and ROA) of firm performance. Considering these results, the second hypothesis (H2) is rejected while the third (H3) and

fourth (H4) hypothesis of the study is accepted for this model. The findings concur with the prior studies of Balasubramanian, (2019) and (Khan et al., 2021). The insignificant impact of the environmental factor can be attributed to the reason that in an emerging market the cost of environmental innovation exceeds its financial benefits up to a particular time (Landi, et al., 2019; Liu, Shao, & Lee, 2022). Since Pakistani market still lags behinds the advanced economies in environmental performance, therefore this insignificant impact of environmental factor on firm performance is justified.

Moreover, control variables such as Firm Size, Firm Age, Firm Leverage, Lag of DV, DPS (Dividends per Share), and the presence of Big4 are also included in the regression models. These variables demonstrate diverse effects across different models, indicating their varying influences on TQ and ROA. In addition, the presence of year dummies and industry dummies suggests that the analysis controls for time-specific and industry-specific effects, respectively, ensuring that any observed relationships are not confounded by such factors. The table 3 also presents results for some statistical tests, including R-squared values and tests for heteroscedasticity and autocorrelation. These tests offer insights into the inclusive goodness-of-fit of the models and the validity of the regression results. Additionally, tests such as the Ramsey RESET test and the Wu-Hausman F test evaluate the presence of model specification errors and potential endogeneity concerns, respectively. The lower R-squared values indicate that the independent variables capture a little proportion of the dependent variable in the model. However, since the study is aimed at investigating the impact of certain variables on the firm performance and is not examining the overall determinants of the construct, the lower R-squared values are not a matter of serious concern. Moreover, Ozili (2023) suggests that the value of R-squared above 0.1 is acceptable if most of the variables in the model are significant. Since this condition is satisfied by the model, R-squared values are considered acceptable in current study.

It is significant to note that the Hausman test statistics are insignificant across the models. This suggests that the instrumental variables used in the 2SLS regression adequately address endogeneity concerns. In other words, the choice of instrumental variables seems to be exogenous and does not introduce bias into the estimation. Therefore, the regression results obtained from the 2SLS method are likely unbiased and consistent. This finding enhances the confidence in the validity and reliability of the regression analysis, affirming the suitability of the chosen modeling approach to explore the relationship between the variables under investigation.

Moreover, heteroscedasticity was addressed using Panel-Corrected Standard Errors (PCSE), hence the significance of the heteroscedasticity tests becomes less crucial. PCSE is a method used to correct for heteroscedasticity in panel data analysis by adjusting the standard errors (Zahid, et al., 2020). The use of PCSE ensures that the standard errors are robust to heteroscedasticity within the panel data framework, allowing for more accurate inference on the coefficients. Therefore, while the heteroscedasticity tests still indicate the presence of heteroscedasticity in the original model, the application of PCSE addresses this issue, making the results more reliable and reducing the potential bias in the coefficient estimates. This underscores the importance of employing appropriate methods to correct for heteroscedasticity in panel data analysis, ensuring the validity of the regression results.

Discussion

The study aimed to explore the association of ESG and firm FP in the context of GC 2019 in Pakistani listed companies. In order to conduct, the data acquired from the companies listed on PSX-100 index in 2019 and selected through a purposive sampling was analyzed. Firm performance was the dependent variable in the study and is measured using the proxies of Tobin's Q and ROA. Likewise, ESG was independent variable and was measured its overall and individual component's impacts on FP through content analyses technique. The study has tested four hypotheses related to the impact overall ESG and individual scores i.e. E, S and G (Environmental, Social and Governance) and firm FP in the context of CG code 2019 in Pakistan. These hypotheses were tested through various statistical techniques including regression and correlation using the tool STATA 13.0.

The results of the study offer appreciated insights into the affiliation among dependent and independent variables. First, the (H1) of the study assumes that the ESG scores positively influence the firm FP. The regression analysis aimed to investigate the association between ESG and firm performance provides the substantial evidence in support of the hypothesis and hence the study accepts it. The significant positive impact of ESG score on firm performance highlights that the firms with high ESG scores tend to achieve higher financial gains. This finding indicates the increased focus of Pakistani listed companies on ESG related initiatives. Some of the previous studies including Aybars et al., (2019) and Rahman et al., (2023) also concluded that the firms with high ESG scores show better financial performance.

Second hypothesis of the study states that environmental component of ESG positively influences the firm performance. However, the statistical evidence obtained through the analysis of sample data does not support it. Therefore, H2 of the current study is rejected. This

insignificant impact of the environmental factor can be explained through the argument of Lanoie et al., (2011) and Lv, Shao, & Lee (2021), stating that the cost of environmental innovation generally exceeds its financial benefits in short term within emerging markets. Taking this factor into account, this insignificant impact of environmental factor on firm performance is justifiable in Pakistani market due to its underdeveloped structure. Further analysis revealed that both social (H3) and governance (H4), dimensions of ESG positively influence financial performance, highlighting the critical role of social responsibility initiatives and effective governance structures in driving firm performance. These results align with existing literature of (Balasubramanian, 2019; Khan et al., (2021), emphasizing the importance of social and governance factors in enhancing firm value and mitigating risks. So, (H2) is rejected while (H3) and (H4) are accepted.

Implications of the Study

The study has following theoretical and practical implications.

Theoretical Implications

This study has some important theoretical implications in different ways:

1. The availability of limited literature on ESG impacts on FP in respect of CG code 2019 in Pakistan. Most previous studies were investigated ESG and FP or ESG and EM but limited studies exist in the context of CG code in Pakistan.
2. This study was basically focused on ESG and FP in the context of code of CG 2019 in Pakistan. Hence, it would help to evaluate the effectiveness of such code in Pakistan. Therefore, this study has properly addressed the gap in Pakistan and extended the literature by evaluating the ESG overall and individual dimensions on financial performance in Pakistan.
3. The study time period has certain importance because the code of corporate governance was revised in 2019 for the third time in Pakistan and 2019 was taken as base year for the study. Hence, it would help to identify the impacts of such regulations in Pakistan.
4. The study has certain theoretical applications by stakeholder theory validation. The study lends empirical support to the stakeholder theory by demonstrating that Environment, Social, and Governance (ESG) factors positively influence firm financial performance. This validates the notion that firms operating with a broader stakeholder perspective, beyond mere shareholder interests, can achieve sustainable financial success.

5. This study focused on all the three approaches (Descriptive, Normative and Instrumental aspects) of stakeholder theory while previous studies usually ignored the instrumental aspect of this theory.

Practical Implications

1. **Strategic Decision-Making:** The study provides actionable insights for firms seeking to enhance their FP in the context of evolving CG frameworks. By emphasizing the importance of ESG considerations, organizations can strategically align their business practices with sustainability goals to drive long-term value creation.
2. **Shareholders and Investor Decision-Making:** Shareholders and Investors can use the study findings to inform their investment decisions, recognizing firms that prioritize ESG factors as potentially more resilient and sustainable over the long term. This encourages capital allocation towards socially responsible companies, thereby promoting responsible investment practices.
3. **Regulatory Compliance:** Policymakers and regulators can use the study results to strengthen corporate governance regulations and encourage greater ESG disclosure and transparency. By incentivizing firms to adopt sustainable practices through regulatory frameworks, authorities can promote economic stability and societal well-being.
4. **TO assess the effectiveness of code CG 2019:** This study explored the impact of ESG on firm's FP in the context of CG code 2019. The study will have some practical contributions for the state bodies and policy makers. The results are important for the officials concerned for the purpose that how to enhance the role of companies in environmental and societal development related issues. This study will also highlight the role of ESG practices and effectiveness of CG code 2019 in Pakistan.
5. **Legislation guidance:** The study will help the legislative bodies to evaluate the results and will help to assess the regulations, their effectiveness, and to make sure it is according to the international standard and will modify the regulations as per requirements.

Limitations of the Study

The present study, alongside its contribution to the existing literature and valuable theoretical and practical implications, is subject to certain limitations as well. These limitations are discussed as under.

1. Findings of the present study may be limited in their generalizability due to the focus on Pakistani listed companies. Different regulatory environments, market conditions, and social

factors in other regions may yield diverse results. Hence, carefulness should be applied when put on these findings to businesses operational in other contexts.

2. The use of purposive sampling, particularly focusing on the PSX-100 indexes of 2019, may introduce sampling bias. Companies included in these indexes may not fully represent the broader population of Pakistani listed firms, potentially skewing the results. Additionally, the exclusion of certain companies or industries may impact the study's comprehensiveness.
3. Despite attempts to address endogeneity using techniques like lagged dependent variables, the possibility of unobserved variables influencing both the independent and dependent variables cannot be fully ruled out. Omitted variable bias and reverse causality may confound the relationships examined in the study, potentially leading to biased estimates and erroneous conclusions.
4. The study's focus on short-term financial performance metrics may overlook the long-term effects of ESG practices on firm value creation and sustainability. ESG initiatives often entail significant investments and may not yield abrupt financial returns.
5. Likewise, lack of sustainability reports especially in Pakistan makes it difficult to collect effective and reliable ESG related data from annual reports of the firms through content analysis.

Recommendations for Future Research

Based on the findings and limitations of the study, several recommendations for future studies and practice emerged:

First, the future research should employ longitudinal designs to explore the dynamic association concerning ESG factors and FP over time. Longitudinal studies can provide insights into the causal mechanisms underlying the observed associations and help assess the long-term impact of ESG practices on firm value creation and sustainability.

Second, complementing quantitative analyses with qualitative research methods, such as interviews, case studies, and focus groups, can offer deeper insights into the underlying processes and mechanisms driving the relationship concerning ESG practices and firm FP. Qualitative approaches can help elucidate the motivations, challenges, and best practices associated with ESG integration from the perspectives of managers, investors, and other stakeholders.

Third, given the heterogeneity of industries and sectors, future research should consider conducting sector-specific analyses to account for industry-specific dynamics and challenges. Different sectors may face distinct ESG-related risks and opportunities, necessitating tailored

strategies for ESG integration and performance evaluation. Fourth, comparative studies across countries and regions can provide valuable insights into the impact of regulatory frameworks, cultural norms, and institutional contexts on the relationship between ESG factors and firm FP. Cross-country analyses can help identify global trends, best practices, and policy implications for promoting sustainable finance and CG worldwide.

Fifth, furthermore, Government required to properly address such issue and to announce policies and incentives for the firms to adopt such practices in Pakistan. To promote, implement and enhance ESG activities, Government should take more concrete steps by advance regulations through effective regulatory bodies like Securities and Exchange Commission of Pakistan (SECP).

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