Praveen Kumar[1] & Mohammad Firoz[2]

Abstract

In this article, we explore the connection between Environmental, Social and Governance (ESG) disclosures and Corporate Financial Performance (CFP) in the Indian context. For this purpose, the CFP is measured by ROCE and ROA. The ESG overall disclosure and factor scores are obtained from Bloomberg Terminals. The final dataset includes 77 companies for the sample period of 2015-2019. Eight different OLS multivariate regression analyses are performed. The first two is for overall ESG disclosure score, and then six different regressions are for each of E, S, and G factors with control variables such as company size, leverage, BTMV, age, growth, ownership and industry. The findings of this examination confirmed our hypothesis that better ESG disclosures practices positively and significantly affect CFP. Regression results found that there is a positive relationship between the ESG disclosure scores and CFP as well as the individual ESG factor scores except for social disclosures. The better ESG disclosures help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices. Moreover, in all eight regression models organizations' leverage and growth was found statistically positively and significantly linkage with CFP. However, this paper did not find any evidence to support that sample firms' size, BTMV, age, industry, and ownership affect CFP. This study provides managers and other stakeholders with important implications of corporate sustainability in the best interests of the long-term survival of an enterprise.

JEL classification: M40, Q56

Keywords: Environmental, social and governance disclosures, ESG, ROA, ROCE, CFP, Corporate sustainability

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Introduction

The firms throughout the world are also facing national and international pressure from different stakeholders to disclose on their sustainability activities (Luo et al., 2013; Manita, et al., 2018; Kumar & Firoz, 2019c and de Silva Lokuwaduge, et al., 2020). Resultant, the impact of the corporate sustainability disclosures on firms performance has become a matter of growing concern (e.g., Al-Tuwaijri et al., 2004; Clarkson et al., 2008; Saka and Oshika, 2014; Matsumura et al., 2014; Kumar and Firoz, 2019b). Corporate sustainability disclosures have emerged as a major trend over the last few years (Galbreath, 2013; Brooks and Oikonomou, 2018), which focuses on how companies handle their ESG risks (Economic Times, 2019). Consequently, the corporate houses are shifting from profits maximizing goals to sustainable ESG goals (Zhao et al., 2018; Kumar et al., 2020 and Armstrong, 2020). The word like Socially Responsible Investment (e.g., Statman, 2008; Abramson & Chung, 2000), Ethical Investment (e.g., Mackenzie & Lewis, 1999; Schwartz, 2003), Social Investment (e.g., Cox et al, 2003), Responsible Investment (e.g., Dembinsk et al., 2003; Thamotheram & Wildsmith, 2007; Viviers et al., 2009), and Sustainable Investment (e.g., Weber, 2005; Koellner et al., 2007; Nilipour, et al., 2020) are also being interchangeably used for corporate sustainability in literature.

We endeavored to examine the detailed effect of ESG divulgence on CFP. The present investigation is being conducted using a sample of S&P BSE top 100 Indian firms for the period 2015-2019. The CFP is measured by ROCE and ROA. The ESG overall disclosure and factor scores are obtained from Bloomberg Terminals. Eight different OLS multivariate regression analyses are performed. The article provides evidence of a positive relationship between the ESG disclosures and the CFP. The better ESG disclosures help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices.

The article adds to the previous literature in several ways: firstly, prior literatures have produced mixed results for the association between ESG and CFP. Few articles reported a positive linkage between two variables (i.e. Velde et al., 2005; Auer et al., 2016; Garcia et al., 2017; Fatemi et al., 2017; Blanchard et al., 2017; Giannarakis et al., 2014; Crifo et al., 2019) and on the other hand, some studies still observed as an exchange off instead of a success win condition (Hahn et al., 2010; Winn et al., 2012). The linkage between ESG and CFP is still inconclusive. Thus, the literature on CFP effects of ESG disclosure remains fragmented (Friede et al., 2015). Secondly, a majority of studies related to ESG disclosures are being conducted in developed economies (Brooks and Oikonomou, 2018). However, very few studies have examined the ESG disclosures of firms operating in developing and least-developed economies (de Silva, Yapa and Vesty, 2020), so, motivated by this research gap, we extended the previous social and environmental accounting literature to the Indian context.

Like other developing and least-developed economies, India is also not having any solid strategy structure and legitimate implementation to address social and environmental issues (Kumar and Firoz, 2018a). However, social and environmental issues, presently being perceived as an environment emergency and even environment crisis is a huge financial and strategy issue. At the same time, without legitimate commitments, just inside monetary contemplations can impart enough confidence among corporate to adopt ESG management practices. Hence, the current examination endeavors to give reasonable bits of knowledge in such manner by looking at the impact of ESG on CFP. Thirdly, one of most important study on ESG conducted by Clark et

al., (2015) in context of developing country was theoretical in nature. Hence, the current analysis also fills this gap through an empirical exploration of Indian firms. Fourthly, the prior studies on ESG are limited to only market-based criteria, i.e. a share price that restricts the utility of research (Hsu and Wang, 2012; Griffin and Sun, 2013; Galbreath, 2013; Mitsuyama & Shimizutani, 2015; Erian, 2016; Capelle-Blancard & Petit, 2016). In the absence of any such concrete study which unitizes accounting-based criteria of CFP like ROA and ROCE, managers and policymakers are uncertain about the outcome of ESG management practices. Hence, the current analysis also fills this gap in the theory. Finally, the findings will assist managers to undertake social and environment-friendly operations after considering their potential effect on CFP. The results may also be useful for institutions and regulators for convincing the industries to adopt ESG practices.

The article will proceed as follows: - literature review section covered the recent studies on ESG disclosures; research methodology section will explain the procedure followed to test our hypotheses. Our empirical findings are discussed in the data analysis section, and the implications and conclusion sections have contained a few concluding remarks.

Literature review

ESG disclosures and CFP

The ESG reporting is still at an infant stage, both national and international levels (Giannarakis et al., 2014). However, Velde et al. (2005) argued that high sustainability-based stocks have superior CFP than low-rated stocks. Auer et al. (2016) examined the connection between ESG and speculator relations in the USA, the Asia-Pacific region, and Europe. The study reported that investors may get relatively good returns through investment in firms with better EGS disclosures.

Sanches Garcia et al. (2017) investigated the linkage between ESG and CFP of 365 firms in BRICS for the period 2010-2012. The study reported that firms in sensitive industry sectors have superior EGS disclosures. Chelawat et al. (2016) also confirmed that better ESG performing firms have favourable CFP. Most importantly, Fatemi et al. (2017) also investigated the ESG effects on the valuation of a firm. The sustainability exposures were directly connected with the firm worth. Besides, the lower social and administration scores lead to bring down firm worth, while a higher score had little impact on a company's worth. Capelle-Blanchard et al. (2017) contemplated 33,000 ESG news stories for the period 2002-2010. The article reported that the stock costs of firms confronting basic ESG news dropped by 0.1%, while positive news had little effect. Likewise, Crifo et al. (2019) referenced that good EGS disclosures diminishes government security yield spread.

Through the above discussion, in general, ESG disclosures have a positive impact on CFP, which leads to the first hypothesis of this article as follow:

H1.There is a positive relationship between ESG disclosures practices and CFP.

Environmental disclosures and CFP

Hai et al. (1998) using a sample of publicly listed firms in Singapore found that companies with higher environmental disclosures scores have superior CFP. In the same line, Gozali et al. (2002) also mentioned that environmental performance positively influences CFP. Later, Murphy (2002) argued that better environmental performance positively influences CFP and vice-versa. Most importantly, Wagner et al. (2001) also found that better environmental performance improves ROCE. Further, Al Tuwaijri et al. (2004) also wrote that good environmental performance linked with good CFP. Moreover, Clarkson et al. (2008) demonstrated that organizations with positive environmental performance have a superior CFP in the market, while firms with poor environmental performance have a negative CFP.

Salama (2005) depicted a positive linkage between environmental performance and CFP. In the same vein, Murray et al. (2006) affirmed a positive association between environmental & social disclosures and CFP. Additionally, Peloza (2009) revealed that there is a little, however, the positive linkage between social performance and CFP. Similarly, Albertini (2013) analysed 52 research papers over 35 years. This investigation found a positive relationship between social performance and CFP. Griffin and Sun (2013) showed that shareholders consider a firm's voluntary green disclosure as positive news. Most recently, Kumar and Firoz (2018a) investigated 44 Indian companies for the sample period 2011-2015. This examination showed that ROE will be higher for corporations with a better environmental disclosure score.

The above literature survey portrayed a positive linkage between environmental performance and CFP. Based on the above discussions leads this investigation to the accompanying hypotheses:

H2. There is a positive relationship between environmental disclosures practices and the CFP.

Social disclosures and CFP

Previous literature generally documents a positive connection between Corporate Social Performance and CFP (Mishra and Suar, 2010; Bihari and Pradhan, 2011; Uadiale and Fagbemi, 2012; Singh, 2014 and Fernandez, 2016). Ruf et al. (2001) investigated a sample of 496 companies for the period 1992-1995. The article reported that companies with better social performance have superior CFP. Subsequently, Orlitzky et al. (2003) analyzed 52 research articles (Post 1991). The study reported a positive connection of social performance with CFP.

In this vein, Tsoutsoura (2004) also portrayed a positive linkage of CSR with the profitability of the S&P 500 and the Domini 400 Social Index firms. Mahoney and Roberts (2007) studied the TSE listed 300 firms for the period 1997–2000. The article showed a positive linkage between social performance and the number of institutions owning its shares. The paper also found a positive connection between social performance (w.r.t environmental and international activities) and CFP. Subsequently, Brammer and Millington (2008) also depicted that companies with positive social performance have a favourable CFP. Moreover, firms with poor social performance are doing best in the short run and firms with better social performance doing best in long-run.

Bedi (2009) attempted to know the dependency level of CSE on its annual profits using a sample of 37 companies rated by Karmyog (NGO). The outcomes of the regression analysis showed a high dependency on social expenditure on CFP. Besides, a positive relationship between CSR and FP was also portrayed. In a similar vein, Ghoul et al. (2011) also studied a sample of 2809 firms for the period 1992-2007. This examination demonstrated that organizations with better CSR have a lower cost of capital. Moreover, firms with better social performance have a higher valuation and lower risk. Bihari and Pradhan (2011) investigated the Indian financial industry and found a positive association between CSR and CFP.

Perrini et al. (2011) proposed a framework that assists corporations and stakeholders to better understand CSR and governance system. Further. The paper found that CSR positively affects CFP. Later on, Chen and Wang (2011) analysed a sample of 141 senior executives from Guangdong enterprises of China. This paper also concluded that CSR positively affects CFP. Uadiale and Fagbemi (2012) analyzed 40 listed enterprises on the Nigerian Stock Exchange for the year 2007. The outcomes of this study showed that CSR has a positive and significant impact on CFP.

Wang and Bansal (2012) reported that CSR assists corporations in enhancing market value, effective utilization of resources and hedging risks, but also cost funds, distract the administrative staff and aggravate connection between principals and agents. Further, Baird et al. (2012) reported a positive link between social performance and CFP. Consistently, Bolanle et al. (2012) mentioned that for every unit increase in the CSR expenditure will lead to 0.945 increases in the profit after tax (PAT). Servaes and Tamayo (2013) studied a sample of firms listed on the S&P 500 Index and the Domini 400 Social Index for the period 1991–2000. The paper found that CSR and firm value were positively linked with high customer consciousness, as peroxide by advertising expenditures. Similarly, Singh (2014) also showed a positive connection between CSR and CFP. Most recently, Fernandez (2016) investigated 107 Spanish corporations for the year 2009. The study demonstrated a positive linkage in both directions, that the social is profitable and that the profitable is social.

The directional hypothesis is predicted as follows:

H3.There is a positive relationship between social disclosures and the CFP.

Corporate Governance disclosures and CFP

Corporate administration is characterized as the association's code of conduct to ensure whether board members and executives actions are compatible with the stakeholder’s interests (Esteban-Sanchez et al., 2017). Previous literature revealed a positive association with better corporate governance performance and CFP (Esteban-Sanchez et al., 2017; Jamali et al., 2008; Velte, 2017). Soana (2011) found a significant positive effect of corporate governance performance on CFP. Later, Ntim et al. (2013) showed that companies with strong corporate governance practices may reduce the conflict between stakeholders and managers. On the other hand, Miras-Rodríguez et al. (2015) reported that firms with poor governance practices face high agency conflicts and lower profitability. Further, Sassen et al. (2016) studied the linkage between ESG and the deliberate, explicit, and total risks of 8752 listed firms in Europe for the period 2002-2014. The paper found that the improvement of environmental performance significantly diminishes the organization's

risks, while governance execution has no critical impact on the three previously mentioned sorts of risks. Further, Rose (2016) also found a positive relationship between the corporate governance performance and CFP of Danish companies.

Duen et al. (2016) reported that corporate governance performance has a positive effect on CFP and return on equity. Dincer et al. (2014) also found that Good corporate governance performance practices also lower the cost of capital. More recently, Esteban-Sanchez et al. (2017) found a significant positive connection between corporate governance performance and CFP.

Based on the above references, it is, therefore, hypothesized that:

H4.There is a statistically significant positive relationship between the corporate governance disclosures and the CFP.

Model Specification and Research Methodology

Research Objective

The objective of this investigation is to assess the impact of ESG disclosures practices on CFP. The ROCE and ROA are being used as a CFP parameter on which the effect of ESG disclosure scores and different control variables is being assessed using overall ESG disclosure scores as well as for each of E, S, and G factors.

Sources of data collection and sample

We collected financial data related to variables used under this analysis from the Prowess Centre for Monitoring Indian Economy (CMIE) and Capitaline database (Table 1). Moreover, scores related to ESG were sourced from the Bloomberg terminal.

Table 1. Secondary databases

Database	Description	Website
Bloomberg terminal	It is a financial database of Bloomberg L.P. It provides real-time market data of trading, news articles, share prices etc.	https://www.bloomberg.com/professional/
Prowess	It stores business information which is useful for different stakeholders. It is India's largest database which stores household incomes, the pattern of spending and savings etc.	https://prowessiq.cmie.com/
Capitaline	Capitaline covers financial and non-financial data, such as stock price, of around 9500 firms updated daily ensuring the latest financials.	https://www.capitaline.com/SiteFrame.aspx?id=1

Table 2. ESG disclosures

ESG Parameter	Better	Neutral	Worse
Environmental disclosures	1	0	-1
Social disclosures	1	0	-1
Governance disclosures	1	0	-1

Source: Bloomberg Terminal

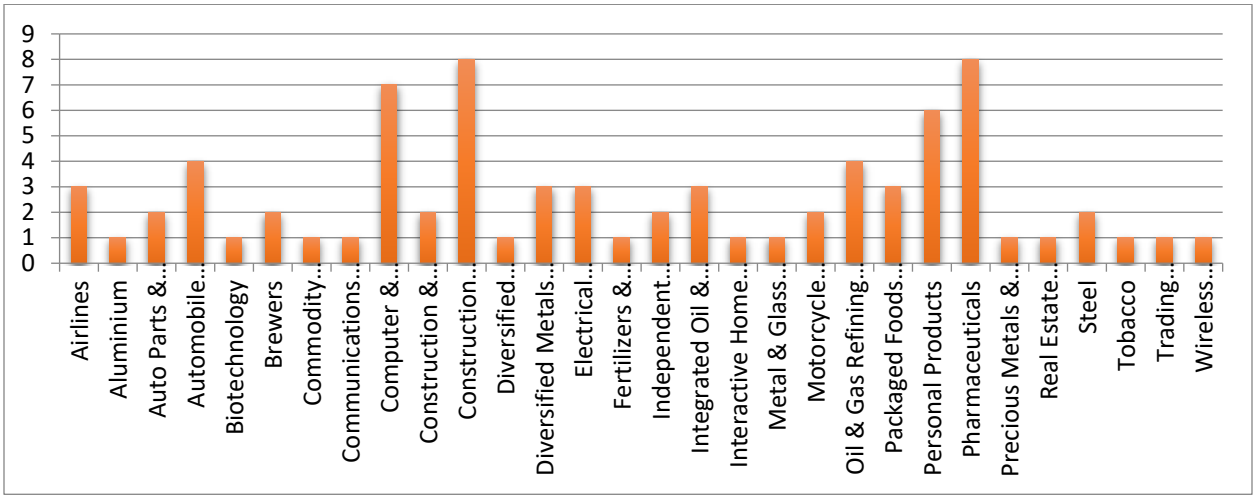

Figure 1. Industry composition in the sample

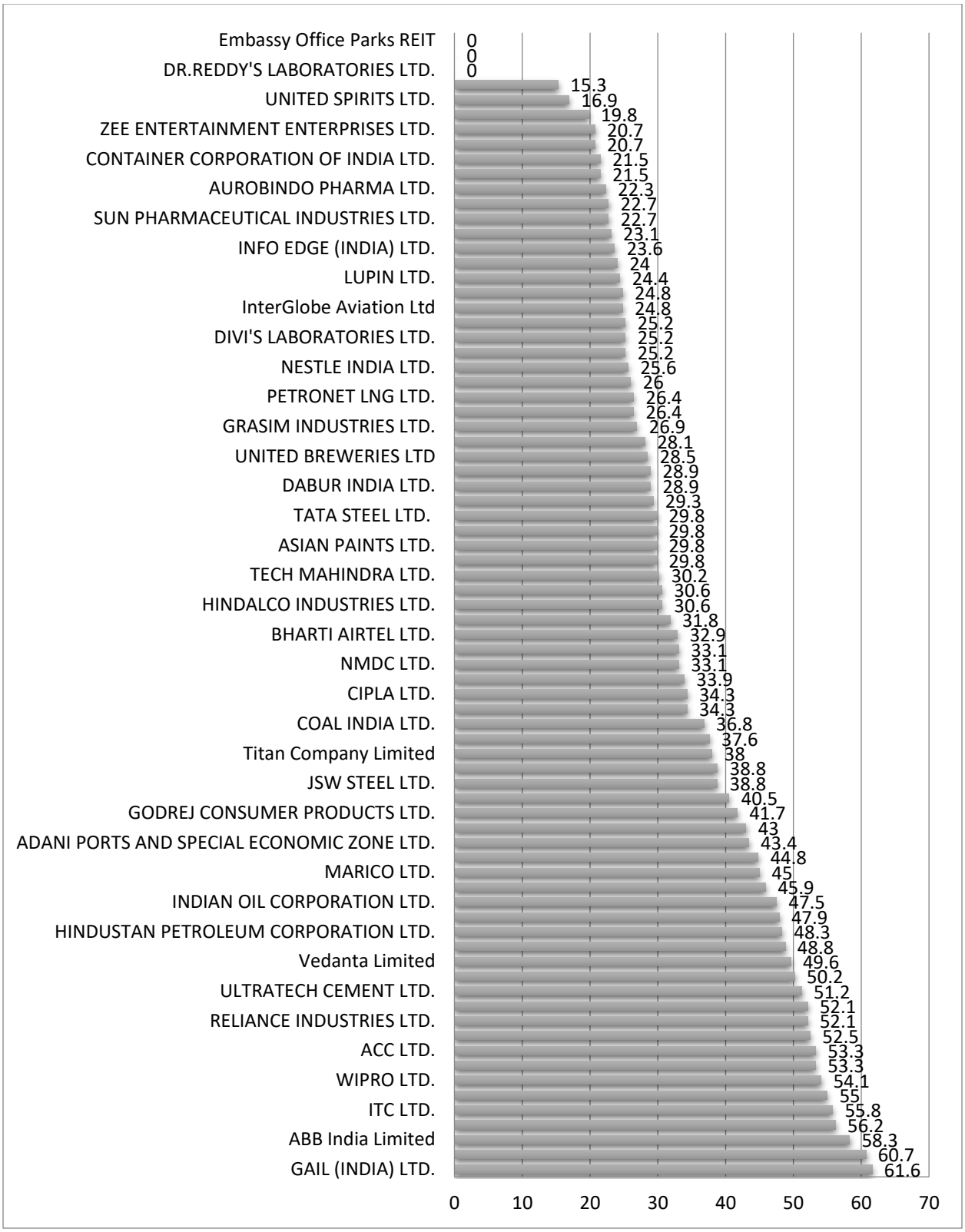

Figure 2. ESG scores of sample firms

Initially we covered S&P BSE top 100 Indian firms. The study excluded 23 firms from financial industries because the regulatory requirements or business practices and listing requirements of these firms differ from other segments (Hossain et al., 1995; Schultz et al., 2010; Nguyen et al., 2014). Finally, 77 corporations were chosen for analysis (Appendix I) for the sample period 2015-2019. We chose this period for two grounds: first, the ESG information was first reported by Indian corporations in 2015 on the Bloomberg Terminal database. Second, 2019 is the last year of ESG disclosure scores was available. The 77 sample firms belong to 27 sub-activity sectors as reported in Figure 1. The figure shows that pharmaceuticals and construction materials industry (8 firms from each industry, 20.77 per cent) has covered the highest proportion of total sample followed by 8 firms from personal products industry (see figure 1).

Methodology and variables of the study

We developed eight econometric models to assess the ESG effect on CFP. The general form of the multivariate models used to check our hypotheses are as per the following:

$$ROA_t = \alpha_0 INTERCEPT_t + \alpha_1 ESG_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (1)$$

$$ROA_t = \alpha_0 INTERCEPT_t + \alpha_1 ENV_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (2)$$

$$ROA_t = \alpha_0 INTERCEPT_t + \alpha_1 SOCL_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (3)$$

$$ROA_t = \alpha_0 INTERCEPT_t + \alpha_1 GOVER_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (4)$$

$$ROCE_t = \alpha_0 INTERCEPT_t + \alpha_1 ESG_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (5)$$

$$ROCE_t = \alpha_0 INTERCEPT_t + \alpha_1 ENV_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (6)$$

$$ROCE_t = \alpha_0 INTERCEPT_t + \alpha_1 SOCL_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (7)$$

$$ROCE_t = \alpha_0 INTERCEPT_t + \alpha_1 GOVER_t + \alpha_2 SIZE_t + \alpha_3 LEVERAGE_t + \alpha_4 BTMV_t + \alpha_5 AGE_t + \alpha_6 GROWTH_t + \alpha_7 OWNERSHIP_t + \alpha_8 INDUSTRY_t + \varepsilon_t \quad (8)$$

The present study used ROA and ROCE as two explanatory variables for the proxy of CFP. ESG is the overall score assigned by the Bloomberg terminal database. The five years average ESG scores, for the sample period 2015-2019, of each sample firm are reported in figure 2. It is cleared from the figure that GAIL (India) Ltd. has reported highest ESG disclosures (61.6 out of 100) followed ABB India Ltd. (60.7 out of 100, see figure 1). Further, ENV denotes environmental disclosures; SOCL is social disclosures; GOVER is corporate governance disclosures by a firm; this study operationalised all these variables as a bifurcate variable; taking a score of one (1) for

better EGS disclosures provided to Bloomberg terminal; zero (0), if a firm is ranked as neutral and minus one (-1) worse ESG performer (see table 2). The rest of the control variables used under this study and expected signs of their coefficients are reported in table 3.

Table 3. Description of variables under study

Variables	Expected sign	Descriptions
ROA	Explanatory variables	ROA measures the amount of Profit after tax (PAT) generated by a firm on the total amount of Assets (Hart & Ahuja, 1996; Haniffa & Cooke, 2005; Wagner et al., 2002; Russo & Fouts, 1997; Shen & Chang, 2009 and Kumar & Firoz, 2018a).
ROCE	Explanatory variables	ROCE measures the amount of Operating Profit (EBIT) generated by a firm on the total amount of Capital Employed Makhija and Trivedi, 2020).
ESG disclosures	+	Actual ESG scores provided by Bloomberg
Environmental disclosures (E)	+	See Table 2
Social disclosures (S)	+	See Table 2
Governance disclosures (G)	+	See Table 2
Size	+	The proxy for size of a firm which is obtained by taking the natural logarithm of its total assets (Demsetz & Lehn, 1985; Gulati, 1995; Hackston and Milne, 1996; McWilliams & Siegel, 2001; Black et al., 2006; El Ghoul, Guedhami, Kwok & Mishra, 2011; Ioannou & Serafeim 2012; Matsumura, Prakash Vera - Muñoz, 2014 and Kumar & Firoz, 2018d).
Leverage	+	Leverage is measured by total debt divided by total assets (Myers & Majluf, 1984; Waddock & Graves, 1997; Orlitzky, Schmidt & Rynes, 2003; Black, Jang & Kim, 2006; Cheng, Ioannou & Serafeim, 2014 and Kumar & Firoz, 2017).

BTMV	+	The BTMV is used to control firms' growth, which is measured as the company's book value over its market value (Li, Y., Eddie, I., & Liu, J., 2014 and Kumar & Firoz, 2018b).
Age	+	The age of a firm is used to control for the effect of a company's lifecycle on firm value (Drobetz, Schillhofer & Zimmermann, 2004; Black et al., 2006; Mishra, 2015 and Kumar & Firoz, 2018c).
Growth	+	The growth of a firm is measured by the percentage of changes in the sales level from year t-1 to year t (Wasiuzzaman, 2019).
Ownership	+	This shows whether the sample company is public or private. It is used as a dummy variable (Kumar & Firoz, 2018c).
Industry sector	+	An industry is categorized according to the 8-digit code of the Global Industry Classification Standard (GICS, see Table 4) (Noh, 2017; Kumar & Firoz, 2018c).
ε_t	?	Error Term

Table 4.GICS classification of Industries

Industry	Code	Number of companies
Airlines	20302010	3
Aluminium	15104010	1
Auto Parts & Equipment	25101010	2
Automobile Manufacturers	25102010	4
Biotechnology	35201010	1
Brewers	30201010	2
Commodity Chemicals	15101010	1

Communications Equipment	45201020	1
Computer & Electronics Retail	25504020	7
Construction & Engineering	20103010	2
Construction Materials	15102010	8
Diversified Chemicals	15101020	1
Diversified Metals & Mining	15104020	3
Electrical Components & Equipment	20104010	3
Fertilizers & Agricultural Chemicals	15101030	1
Independent Power Producers & Energy	55105010	2
Integrated Oil & Gas	10102010	3
Interactive Home Entertainment	50202020	1
Metal & Glass Containers	15103010	1
Motorcycle Manufacturers	25102020	2
Oil & Gas Refining & Marketing	10102030	4
Packaged Foods & Meats	30202030	3
Personal Products	30302010	6
Pharmaceuticals	35202010	8
Precious Metals & Minerals	15104040	1
Real Estate Operating Companies	60102020	1
Steel	15104050	2
Tobacco	30203010	1

Trading Companies & Distributors	20107010	1
Wireless Telecommunication Services	50102010	1
Total		77

Source: Park & Noh, 2017; Kumar & Firoz, 2018c

CFP Measures

Return on assets (ROA)

ROA is an indicator of how profitable a company is relative to its total assets. The ROA gives an idea as to how efficient management is at using its assets to generate earnings. It is calculated by dividing a company's annual earnings by its total assets and shown as a percentage. Consistent with the prior studies (Hart and Ahuja, 1996; Russo and Fouts, 1997; Shen and Chang, 2009) we have calculated ROA as follows:

ROA= Profit after tax (PAT)/ Total Assets (9)

Note: Total assets are a total of Net Block, Work in Progress and Total Current Assets.

Return on capital employed (ROCE)

ROCE can be utilized in surveying an organization's profitability and capital productivity and analyzing a company for investment. As it were, the ratio can assist with seeing how well an organization is producing money from its capital. Consistent with a few recent studies (Makhija and Trivedi, 2020). We have calculated ROCE as follows:

ROCE=EBIT/Capital Employed (10)

Note: EBIT (earnings before interest and taxes) is net operating income and is different from net income; Capital employed is total assets minus current liabilities.

Data analysis and interpretations

Descriptive statistics

Descriptive statistics of Numbers of firms with Better, Neutral and Worse ESG disclosures are reported in Table 5. It is clear from the table that a significant number of firms (36.36%) are provided better environmental disclosures, while 37 firms (48.05%) are having neither better nor worse environmental disclosures. Moreover, almost similar disclosures were found in case of social reporting. However, the majority of firms 46 (59.74%) are reported worse corporate governance disclosures. Moreover, descriptive measurements of the sample organizations are depicted in Table 6. The mean of ROA is 9.19 per cent which depicted that sample organization

are having an average return on their assets. The standard deviation of ROA is 8.23 per cent. The mean of ROCE is 25.22 per cent which depicted that sample organization are beneficial, progressive and having a decent profit for their capital utilized though the standard deviation of ROCE is 18.20 per cent. The most extreme and least estimations of ROCE are 96.65 per cent and 1.15 per cent. These insights depicted that sample comprises of certain firms with excellent CFP in the market and some are not ready to create a satisfactory profit for their capital utilized.

Table 5. Descriptive statistics of Numbers of firms with Better, Neutral and Worse ESG disclosures

ESG Parameter	Better	Neutral	Worse	Total
Environmental disclosures	28 (36.36%)	37 (48.05%)	12 (15.58%)	77 (100%)
Social disclosures	27 (35.06%)	37 (48.05%)	13 (16.88%)	77 (100%)
Governance disclosures	17 (22.07%)	14 (18.18%)	46 (59.74%)	77 (100%)

Table 6. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	77	0	46	9.19	8.237
ROCE	75	1	97	25.18	18.200
ESG	74	15.30	61.60	36.43	11.979
E	77	-1	1	.21	.695
S	77	-1	1	.18	.702
G	77	-1	1	-.29	.916
Size	74	27.85	863995.7	95514.67	134534.9
Leverage	75	0	3	.32	.525
BTMV	73	0	0	.00	.012
Age	77	10	191	47.79	29.291
Growth	75	-4	136	17.76	17.786
Ownership	77	Dummy	Dummy	. Dummy	Dummy
Industry	77	GICS	GICS	GICS	GICS

Note: ROA and ROCE are explanatory variables used to measures the CFP. ESG disclosures. ESG is Actual ESG scores provided by Bloomberg. E is Environmental disclosures. S is Social disclosures. G is Corporate Governance . Size is the natural logarithm of total assets. Leverage is measured by total debt divided by total assets. The BTMV is used to control firms' growth, which is measured as the company's book value over its market value. The age of a firm is used to control for the effect of a company's lifecycle on CFP. The growth of a firm is measured by the percentage of changes in the sales level from year t-1 to year t. Ownership denotes whether the sample company is public or private. Industry is categorized according to the 8-digit code of the Global Industry Classification Standard (GICS).

The mean value of ESG is 36.43, which indicates that voluntary ESG disclosure during the sample period is moderate. These findings portrayed that ESG disclosure is still at an early stage (Giannarakis et al., 2014). The minimum estimation of ESG is 15.30 which delineate that few enterprises uncovered lower ESG information. Besides, the maximum value is 61.60 which portrayed that few corporations provided reasonable ESG information. The descriptive measurements additionally accommodated the standard deviation of ESG is 11.97 which signifies the low scattering in sample corporations. The mean size is 95514.67 which show that the sample organizations utilized under this examination are enormous. The mean of the Leverage depicted

in Table 5 is 0.32, which is moderate and depicts that the Indian corporations generally use a lower debt portion in their capital structure. The maximum value of age is 191 years, which shows that Indian is having a long corporate history. Moreover, the mean of growth is 17.76 which indicate that sample firms are growing at a rapid phase.

Multicollinearity Check

Further, before applying regression, the multicollinearity among independent variables must be checked (Gujarati and Porter., 2009). A different parameter to handle multicollinearity is being suggested in previous literature. Hair et al. (2006) mentioned that coefficients of connection underneath 0.9 may not cause genuine multicollinearity issues, while Kennedy (2003) recommended the value underneath 0.8 shows no extreme multicollinearity. Table 7 portrayed the correlation amongst all variables are below this value.

Table 7. Correlation matrix

Correlations

Variables	ROA	ROCE	E	S	G	ESG	Size	Leverage	BTMV	Age	Growth	Ownership	Industry
ROA	1	.587** (0.000)	-0.085 (0.461)	0.022 (0.849)	-0.096 (0.409)	-.277* (0.017)	-.282* (0.015)	-.382** (0.001)	-0.121 (0.308)	0.02 (0.861)	-0.159 (0.173)	-0.089 (0.440)	0.186 (0.105)
ROCE		1	-0.117 (0.317)	-0.213 (0.067)	0.002 (0.985)	-.285* (0.015)	-.357** (0.002)	-.377** (0.001)	0.032 (0.788)	0.156 (0.182)	0.086 (0.462)	-0.07 (0.552)	0.04 (0.734)
E			1	-0.105 (0.361)	-0.009 (0.939)	.252* (0.031)	0.192 (0.102)	-0.114 (0.331)	0.064 (0.590)	0.042 (0.715)	-0.01 (0.934)	-0.177 (0.124)	0.044 (0.703)
S				1	-0.041 (0.724)	0.042 (0.719)	-0.055 (0.642)	-0.017 (0.884)	-0.113 (0.339)	-0.061 (0.595)	-0.218 (0.06)	0.053 (0.646)	-0.067 (0.563)
G					1	0.109 (0.356)	0.075 (0.526)	0.003 (0.982)	-0.166 (0.161)	0.067 (0.563)	-0.065 (0.578)	0.006 (0.960)	-0.02 (0.863)
ESG Scores						1	.316** (0.007)	-0.019 (0.875)	-0.099 (0.410)	-0.071 (0.548)	-.232* (0.05)	0.207 (0.077)	-.356** (0.002)
Size							1	0.085 (0.474)	-0.206 (0.081)	-0.166 (0.157)	-0.117 (0.323)	0.138 (0.24)	-0.069 (0.561)
Leverage								1	.323** (0.005)	-0.177 (0.130)	.305** (0.008)	.238* (0.04)	0.046 (0.693)
BTMV									1	-0.075 (0.530)	.612** (0.00)	-0.112 (0.346)	-0.028 (0.817)
Age										1	-0.152 (0.192)	-0.035 (0.76)	-0.133 (0.248)
Growth											1	-.246* (0.034)	0.029 (0.806)
Ownership												1	-0.157 (0.174)
Industry													1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: ROA and ROCE are explanatory variables used to measures the CFP. ESG disclosures. ESG is Actual ESG scores provided by Bloomberg. E is Environmental disclosures. S is Social disclosures. G is Corporate Governance. Size is the natural logarithm of total assets. Leverage is measured by total debt divided by total assets. The BTMV is used to control firms' growth, which is measured as the company's book value over its market value. The age of a firm is used to control for the effect of a company's lifecycle on CFP. The growth of a firm is measured by the percentage of changes in the sales level from year t-1 to year t. Ownership denotes whether the sample company is public or private. Industry is categorized according to the 8-digit code of the Global Industry Classification Standard (GICS). * = p < 0.01, ** = p < 0.05, *** = p < 0.10

Model I and II: Impact of ESG disclosure on CFP

Table 8 depicts the ESG disclosures' effects' on the CFP. It is clear from the table that the ESG disclosure is positively and significantly linked to the ROA and ROCE at the 1 and 5 per cent level of significance in Model I and II (p-value < 0.01 and p-value < 0.05). These statistics confirmed our H1, it means, better EGS disclosures delivers a great CFP for sample organizations (Murphy, 2002). These outcomes are following the past ESG studies (i.e.: Velde et al., 2005; Sanches Garcia et al., 2017; Fatemi et al., 2017; Capelle-Blancard et al., 2017; Crifo et al., 2019).

Table 8. Impact of ESG disclosure on financial performance

Variables	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII
Dependent Variable →	ROCE	ROA	ROCE	ROA	ROCE	ROA	ROCE	ROA
Independent Variable ↓	ESG Coeff. (p-value)	.ESG Coeff. (p-value)	E Coeff. (p-value)	E Coeff. (p-value)	S Coeff. (p-value)	S Coeff. (p-value)	G Coeff. (p-value)	G Coeff. (p-value)
Intercept	-10.876 (0.686)	8.966 (0.52)	-9.302 (0.745)	8.069 (0.577)	15.668 (0.58)	12.741 (0.376)	9.976 (0.71)	14.474 (0.294)
E-S-G	0.52 (0.003)*	0.222 (0.014) *	4.647 (0.086) ***	1.567 (0.049)**	3.848 (0.141)	0.13 (0.921)	4.944 (0.023)**	1.56 (0.056)**
Size	11.052 (0.06) **	2.253 (0.453)	5.871 (0.309)	0.274 (0.925)	1.132 (0.839)	-0.757 (0.789)	2.658 (0.619)	-0.809 (0.767)
Leverage	-17.365 (0.000) *	-5.803 (0.008) *	18.983 (0.000) *	06.23 (0.005) *	17.65 (0.000)*	6.028 (0.007)*	19.534 (0.000)*	6.39 (0.004)*
BTMV	113.268 (0.535)	61.816 (0.513)	138.891 (0.465)	56.454 (0.557)	81.031 (0.667)	38.192 (0.69)	136.65 (0.461)	54.56 (0.565)
Age	0.058 (0.431)	-0.024 (0.534)	0.062 (0.423)	-0.018 (0.639)	0.033 (0.669)	-0.022 (0.571)	0.037 (0.621)	-0.026 (0.496)
Growth	0.195 (0.149)	-0.08 (0.247)	0.264 (0.056) **	0.048 (0.089)***	0.23 (0.105)	-0.041 (0.566)	0.244 (0.073)***	-0.054 (0.061)***
Ownership	8.402 (0.134)	1.27 (0.659)	6.312 (0.287)	0.476 (0.873)	7.921 (0.178)	1.119 (0.706)	6.781 (0.24)	0.665 (0.821)

	-3.3307	5.76	1.4507	1.3407	9.5808	1.2807	7.6708	1.1207
Industry	(0.84)	(0.50)	(0.374)	(0.106)	(0.559)	(0.128)	(0.632)	(0.175)
Adjusted R Square	0.242	0.16	0.174	0.09	0.164	0.07	0.203	0.105

Note: ROA and ROCE are explanatory variables used to measures the CFP. ESG disclosures. ESG is Actual ESG scores provided by Bloomberg. E is Environmental disclosures. S is Social disclosures. G is Corporate Governance. Size is the natural logarithm of total assets. Leverage is measured by total debt divided by total assets. The BTMV is used to control firms' growth, which is measured as the company's book value over its market value. The age of a firm is used to control for the effect of a company's lifecycle on CFP. The growth of a firm is measured by the percentage of changes in the sales level from year t-1 to year t. Ownership denotes whether the sample company is public or private. Industry is categorized according to the 8-digit code of the Global Industry Classification Standard (GICS). The significance levels are given by: * = $p < 0.01$, ** = $p < 0.05$, *** = $p < 0.10$

Experimental outcomes for control variables are also showed in Table 8. The outcomes of multiple regression analysis show that the coefficient of size is positively and statistically significantly linked with ROCE at the 10 per cent level of significance in Model I (p-value < 0.10). Further, the coefficient for the organizations' Leverage is negativity but statistically significantly connected with ROA and ROCE at the 1 per cent level of significance in Model I and II (p-value < 0.01). These measurements show that organizations' capital structure impacts their CFP. The equity firms (or debt-free firms) have higher CFP than debt firms. Moreover, this analysis did not find any proof to support that the rest of the control variables influence sample firms' CFP.

The Model III and IV: Impact of environmental disclosures on CFP

We run eight different OLS multivariate regression. The first two is for overall ESG disclosure score, and then six different regressions are for each of E, S, and G factors with control variables such as company size, leverage, BTMV, age, growth, ownership and industry. Table 8 depicts the results of our H2 (see Model III and IV). It is observed from the table that there is a factually noteworthy positive linkage between environmental disclosures and ROA and ROCE at the 10 and 5 per cent level of significance in Model I and II (p-value < 0.10 and p-value < 0.05). In line with the previous research articles (i.e.: Hai et al., 1998; Stanwick and Stanwick, 2000; Gozali et al., 2002; Al-Tuwaijri et al., 2004; Kumar and Firoz, 2018a), the findings of this examination are also portrayed that the environmental disclosures are a financial material decision. This article argues that better environmental disclosures improve CFP and vice-versa (Murphy, 2002). The environmental disclosures for the most part connected with better firm execution (Brooks and Oikonomou, 2018).

Additionally, results for the independent factors that are identified with the organizations' CFP are also revealed in Table 8. The table shows that the coefficient for the organizations' leverage is positively and factually fundamentally connected with ROA and ROCE at 1 per cent level of significance (p−value < 0.01), respectively. These results are in line with the point that the leveraged firms have higher CFP then unleveraged firms (Kumar and Firoz, 2018c). Besides, the coefficient for growth is also positively and statistically fundamentally connected with ROCE at the 5 and 10 per cent levels (p-value<0.05 and p-value<0.10), which delineates that the growth firms are having better CFP. However, this paper did not find any proof to support that the sample organizations' size, BTMV, age, industry, and ownership influence CFP.

The Model V and VI: Impact of social disclosures on CFP

Further, it is clear from table 8 that there is a no statistically significant positive relationship between social disclosures and CFP. These outcomes are contrary to our H3 **(**Ruf et al., 2001; Tsoutsoura, 2004; Bedi, 2009; Mishra and Suar, 2010; Bihari and Pradhan, 2011; Uadiale and Fagbemi, 2012; Servaes and Tamayo, 2013; Dixon-Fowler et al., 2013; Singh, 2014 and Fernandez, 2016; Busch & Friede, 2018). These findings do not support the theory that slack resource availability and social disclosures are positively related (Waddock & Graves, 1997).

The results for independent variables are also revealed in Table 8. The table shows that the coefficient for the organizations' leverage is positively and factually connected with ROCE and ROA at 1 per cent level of significance (p−value < 0.01), respectively. These outcomes are in line with the fact that the leveraged organizations have better CFP then unleveraged firms (Myers & Majluf, 1984; Waddock & Graves, 1997; Orlitzky, Schmidt & Rynes, 2003; Black, Jang & Kim, 2006; Cheng, Ioannou & Serafeim, 2014 and Kumar & Firoz, 2018c). Furthermore, the coefficient for growth is also positively and statistically significantly related to ROA at the 10 per cent levels (p-value<0.10), which depicts that the growth firms have higher ROA (Wasiuzzaman, 2019). In any case, this paper did not find any proof to support that sample organizations' size, BTMV, age, industry, and ownership affect CFP.

Model VII and VIII: Impact of corporate governance disclosures on CFP

Table 8 also portrayed that corporate governance disclosures are positively and significantly related to CFP at 5 per cent level of significance (p < 0.05). These findings confirmed our H4, that there is a statistically significant positive relationship between corporate governance disclosures and CFP. These outcomes are consistent with the prior corporate governance studies (Jamali et al., 2008; Soana, 2011; Dincer et al., 2014; Rose, 2016; Duuren et al., 2016; Esteban-Sanchez et al., 2017; Esteban-Sanchez et al., 2017; Velte, 2017). Moreover, these results revealed that good governance practices improve CFP, in terms of increased profits, revenue and market value whereas negative corporate governance disclosures have their negative impact, in terms of decreased profits and market value. The superior corporate governance disclosures are generally associated with a good reputation in the market and customer loyalty.

The results for independent variables are also revealed in Table 8. The table shows that the coefficient for the organizations' leverage is statistically positively and factually connected with ROCE and ROA at 1 per cent levels of significance (p−value < 0.01), respectively. These outcomes are in line with the fact that the leveraged organizations have better CFP then unleveraged firms (Myers & Majluf, 1984; Waddock & Graves, 1997; Orlitzky, Schmidt & Rynes, 2003; Black, Jang & Kim, 2006; Cheng, Ioannou & Serafeim, 2014; Kumar & Firoz, 2018c). Furthermore, the coefficient for growth is also positively and statistically significantly related with ROCE and ROA at 10 per cent levels of significance (p-value<0.10), respectively, which depicts that the growth firms have better CFP (Wasiuzzaman, 2019). However, this paper did not find any evidence to support that sample firms' size, BTMV, age, industry, and ownership affect CFP.

Implications

Considering the dearth of examination in this domain in emerging nations, the outcomes of the article are valuable for academicians, managers and policymakers.

Theoretical implications

Theoretically, the article enhances the knowledge of the linkage between ESG practices and CFP in the Indian context. It adds value to the prior literature by examining the effect of ESG on CFP for developing and least-developed economies like India which is not having any solid strategy structure and legitimate implementation to address social and environmental issues (Kumar and Firoz, 2018a). However, social and environmental issues, presently being perceived as an environment emergency and even environment crisis is a huge financial and strategy issue. At the same time, without legitimate commitments, just inside monetary contemplations can impart enough confidence among corporate to adopt ESG management practices. Hence, the current examination endeavors to give reasonable bits of knowledge in this domain. Further, one of most important study on ESG conducted by Clark et al., (2015) in context of developing country was theoretical in nature. Hence, the current analysis also fills this gap through an empirical exploration of Indian firms. Finally, in the absence of any concrete study which unitizes accounting-based criteria of CFP like ROA and ROCE, managers and policymakers are uncertain about the outcome of ESG management practices. Hence, the current analysis also fills this gap in the theory.

Managerial and policy implications

As ESG arrangements are filled with gaps, administrators are uncertain about the after effects of ESG and subsequently the current findings are important for them. As the results convey positive relationship between the ESG disclosures and the CFP. This will spur to administrators to follow better ESG practices and quest for elective production processes that recognize the ESG concerns. Further, the current study advocates that the better ESG disclosures help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices. It affirms that shareholders consider ESG execution as value relevant despite the fact that organizations are not legitimately bound to do that and thus, they may exert pressure on enterprises to reveal ESG data. Considering, about this conduct of investors, executives may resort to ESG and CFP management as a methodology to position their organization as a "sustainable corporate" to improve its image worth and notoriety. Present outcomes are also significant for policymakers and controllers. To adjust financial development and sustainability, industrial help is inescapable. Policymakers can utilize the results of ebb and flow examination to pass on the financial benefits of ESG the executives. As the assessment upholds the "mutual benefit" contention, integration of the ESG practices alongside other exchange approaches might be acknowledged by the corporate undeniably. In addition, the outcomes reveals a considerable stake of ESG in explaining the firm worth, and subsequently, controllers ought to prescribe the organizations to reveal their ESG information publicly. This will additionally help stakeholders to esteem this "unbooked risk" of companies.

Conclusion

We investigated the impact of ESG disclosures on CFP. The present investigation is being conducted using a sample of S&P BSE top 100 Indian firms for the period 2015-2019. The CFP is measured by ROCE and ROA. The ESG overall disclosure and factor scores are obtained from Bloomberg Terminals. Eight different OLS multivariate regression analyses are performed. The first two is for overall ESG disclosure score, and then six different regressions are for each of E, S, and G factors with control variables such as company size, leverage, BTMV, age, growth, ownership and industry. The article provides evidence of a positive relationship between the ESG disclosures and the CFP. These outcomes are in line with the previous ESG literature (i.e.: Velde et al., 2005; Sanches Garcia et al., 2017; Fatemi et al., 2017; Capelle-Blancard et al., 2017; Crifo et al., 2019). Moreover, the multivariate regression results confirm that there is a positive relationship between CFP and the individual ESG factor scores except for social disclosures. The better ESG disclosures help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices. Moreover, in all eight regression models organizations' leverage and growth was found statistically positively and significantly linkage with CFP. However, this paper did not find any evidence to support that sample firms' size, BTMV, age, industry, and ownership affect CFP.

The corporate sustainability disclosures have emerged as a major trend over the last few years (Galbreath, 2013; Brooks and Oikonomou, 2018). It also has become a buzzword in companies big and small. The corporate houses also seriously taken into consideration, resultant, they voluntarily began to communicate more on the ESG to legitimise their activities (Campbell, 2004; Gray et al., 1995; Brown and Deegan, 1998; Deegan, 2002; Deegan and Rankin, 1996; Kumar and Firoz, 2018b) and to control the expected information asymmetric risks (Easley and O'Hara, 2004). So, it is suggested, that the ESG disclosure practices should be encouraged by the Indian firms. This will help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices. Therefore, further research can acquire a more in-depth understanding of the issues brought up in this examination. We used only accounting-based criteria of CFP e.g. ROA and ROCE, at times, impede generalizing the findings. Therefore, another study can be conducted using market-based criteria of financial performance such as stock price and Tobin Q. The present work is limited to S&P BSE 100 companies situated in India only. Another research covering foreign countries can also be undertaken.

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Appendix

Appendix I. List of companies under study

Company	Company
ABB India Ltd.	Interglobe Aviation Ltd.
ACC Ltd.	ITC Ltd.
Adani Ports & Special Economic Zone Ltd.	JSW Steel Ltd.
Ambuja Cements Ltd.	Kansai Nerolac Paints Ltd.
Asian Paints Ltd.	Larsen & Toubro Infotech Ltd.
Aurobindo Pharma Ltd.	Larsen & Toubro Ltd.
Avenue Supermarts Ltd.	Lupin Ltd.
Bajaj Auto Ltd.	Mahindra & Mahindra Ltd.
Berger Paints India Ltd.	Marico Ltd.
Bharat Petroleum Corporation Ltd.	Maruti Suzuki India Ltd.
Bharti Airtel Ltd.	MothersonSumi Systems Ltd.
BhartiInfratel Ltd.	Nestle India Ltd.
Biocon Ltd.	NMDC Ltd.
Bosch Ltd.	NTPC Ltd.
Britannia Industries Ltd.	Oil And Natural Gas Corporation Ltd.
Cipla Ltd.	Oracle Financial Services Software Ltd.
Coal India Ltd.	Petronet Lng Ltd.
Colgate-Palmolive (India) Ltd.	Pidilite Industries Ltd.
Container Corporation Of India Ltd.	Piramal Enterprises Ltd.
Dabur India Ltd.	Power Grid Corporation Of India Ltd.
Divi's Laboratories Ltd.	Procter & Gamble Hygiene & Health Care

DLF Ltd.	Reliance Industries Ltd.
Dr.Reddy's Laboratories Ltd.	Shree Cement Ltd.
Eicher Motors Ltd.	Siemens Ltd.
Embassy Office Parks Reit Ltd.	Sun Pharmaceutical Industries Ltd.
GAIL (India) Ltd.	Tata Consultancy Services Ltd.
GlaxoSmithKline Consumer Healthcare	Tata Motors Ltd.
Godrej Consumer Products Ltd.	Tata Steel Ltd.
Grasim Industries Ltd.	Tech Mahindra Ltd.
Havells India Ltd.	Titan Company Ltd.
HCL Technologies Ltd.	Torrent Pharmaceuticals Ltd.
Hero Motocorp Ltd.	Ultratech Cement Ltd.
Hindalco Industries Ltd.	United Breweries Ltd.
Hindustan Petroleum Corporation Ltd.	United Spirits Ltd.
Hindustan Unilever Ltd.	UPL Ltd.
Hindustan Zinc Ltd.	Vedanta Ltd.
Indian Oil Corporation Ltd.	Wipro Ltd.
Info Edge (India) Ltd.	Zee Entertainment Enterprises Ltd.
Infosys Ltd.	

Source: BSE S&P 100, 2019