

# Does green finance matter for sustainable entrepreneurship and environmental corporate social responsibility during COVID-19?

Environmental  
corporate  
social  
responsibility

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## Abstract

**Purpose** – The discourse aimed to investigate green finance practices under the assumptions of several notable climate advisors and speculators in Asia and particularly in Southeast Asia. The study intrigues by considering financial specialists to vent government spending on green restoration plans leading toward green bankable venture openings for the public and private sector. This section distinguishes a few of the green fund components and approaches that can be joined by national and neighborhood governments, essentially in Southeast Asia, into their post-COVID-19 techniques, but are too valuable inputs for domestic commercial banks and private corporates.

**Design/methodology/approach** – It can be defined as a functional type for Cobb Douglas development. ARDL technology is a way of calculating complex forces at the classification level at long-term and short-term stages. This ARDL approach has many advantages and can be implemented when incorporated in level I (0) and level I first (1) with the original variable. Still, it offers robust ability to the outcomes and standardizes the lag, considering the number and sample size used. Pooled mean group (PMG) method is becoming a convenient technique for monitoring data over the period and a good approach for energy impact panels – growth ties for creating links between energy emissions and environmental sustainability and businesses in the nation.

**Findings** – There is a positive partnership between creativity and a sustainable world. Corporations are recommended to uphold the principles of CSR in the development process by introducing environmentally friendly advanced technologies. The main objectives of corporate social responsibility (CSR) are economic growth, environmental sustainability and social justice. Several programs have been established to expand businesses' responsibilities to improve their confessions in sustainable growth. SMEs are a primary source of production of innovative products and technologies. The key concerns of stakeholders and politicians in the new competitive business climate are the protection of environmental sustainability and social responsibility, recognizing factors driving economic development for SMEs.

**Originality/value** – During the COVID-19 era, the prime responsibility of pandemic confronting governments is to spend on help activities (that have been started in earlier phase) and recovery endeavors (yet to start in the situation). Therefore, the governments may devise policies to pool resources from commercial, private, public-private partnerships and other capital market sources. With rising hazard recognitions particularly emerging from at-threat income projections, governments ought to make the correct mechanisms and instruments that can perform this catalytic part of derisking and drawing in such capital. This too can be an opportunity for governments to enhance and execute such financial instruments that offer assistance, quicken their commitments to climate alter beneath the Paris Agreement and the sustainable development goals (SDGs), and thus "build back better" is being progressively voiced over the world.

**Keywords** Ecological enterprises, Sustainability growth, Ecological emission Kuznets curve

**Paper type** Research paper



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## 1. Introduction

Researchers, scholars and investors have been working extensively in recent innovation technologies and competitiveness to discuss the value for local communities and society of corporate social responsibility (CSR). CSRs imprison healthy behavior and objectives to draw potential global players and include various input processes to turn into outputs. The CSR relationship dimensions and their financial value for the market environment are emphasized in the literature in this field (Murtaza *et al.*, 2014). Unfortunately, this partnership has not proved its casual directionality (Rasheed *et al.*, 2018). Modern theorists prefer (as in the case of agency theory) to use local and environmental company capital to build management and social advantages for society rather than simply raise the shareholder dividend ratios. They stressed that changes in a company's management and social performance would often result in better product marketing for resource optimization. High qualified workers would benefit from the hidden business opportunities compared with other rivals (Brandão *et al.*, 2017).

Entrepreneurship is seen as a critical element for creativity, job development and growth. Conversely, it was not thoroughly known the root of entrepreneurship. All possible determinants of enterprise tendency are human desires, expertise, schooling and financial capital. There have also been recent analyses of the influence of colleges, organizations or societies. Although the implications of the different situations are well-known, part of why people choose to enter these environments based on their skills and interests is known (Apostolopoulos *et al.*, 2018). At the preliminary phases of private life, therefore, the origins of entrepreneurial behavior should be studied (Lordkipanidze *et al.*, 2005). Today's cornerstone of many economic policies is sustainable development because it includes achieving environmental, social and economic objectives of sustainable development. However, because of a lack of capital and rapid population growth, policymakers face challenges to achieve those goals (Mohsin *et al.* (2018b) and Moya-Clemente *et al.* (2020). Environmental unsustainability tends to focus on curbing excess carbon emissions and extenuating the impacts of climate change, ozone depletion and biodiversity degradation and thereby attaining sustainable development targets (Mohsin *et al.*, 2019a) and (Iqbal *et al.*, 2021).

Ecological entrepreneurship tackling environmental and climate change has been considered (Mohsin *et al.*, 2018b) and (Iqbal and Mohsin, 2019). Environmental business is also of considerable importance for biodiversity conservation and tackles social and environmental problems. Pakistan has a less complimentary environmental view. The region is also widespread in land loss, ecosystem destruction, deforestation and water scarcity. Over 32 percent of people are left without electricity in Pakistan, hampering the country's economic growth and generating confusion regarding achieving the objectives of sustainability (Gast *et al.*, 2017) and (Mohsin *et al.*, 2019b). The first adopted in Pakistan in the early 90s was the implementation of CSR. It is now significant for the sustainability of the country's economy and has become widely practiced in Pakistani enterprises. At present, the Pakistani government is working on legislation and regulations to increase stakeholder protection and create a healthy relationship between the company and society. The key indicators should be the management of companies, improved technology, proposals to enhance international stakeholders and extend investment incentives through various register sectors (Ahmad *et al.*, 2014). This has been combined with the increasing value of business development collaborations to recognize business practices and grow new ideas (Anser *et al.*, 2020) and (Sun *et al.*, 2020); our approach to literature would be that we consider environmental enterprise to be an effective way of addressing negative impacts on the environment (Iqbal *et al.*, 2020), (Sun *et al.*, 2019) and (Iram *et al.*, 2020).

Consequently, to evaluate its position in environmental emissions, we integrate green enterprise through the EKC method. This research encourages entrepreneurial awareness by researching sustainable entrepreneurship and offers a method for mitigating environmental emissions based upon previous awareness. In conclusion, our report answers why and how

the use of a sustainable entrepreneurial strategy can regulate or reduce environmental pollution. Our research contributes to this by providing a sustainable entrepreneurial approach to reducing environmental pollution.

CSR and market literature focus primarily on broad first in emerging economies (Iqbal *et al.*, 2012), (Mustafa *et al.*, 2012) and (Baloch *et al.*, 2020). These studies' findings for the relationship between CSR and company success were not systematic (Schramm-Klein *et al.*, 2015) and (Liu *et al.*, 2020). The current research's overall objective is to highlight the importance of social company accountability in domestic and foreign organizations. This study used data from Pakistan in order to find the above target.

This paper is organized accordingly. We shall incorporate a literature review in the section 2 and define an analytical strategy in section 3. Then present analytical findings and discussion in section 4 and, lastly, include conclusions, policy implications and recommendations in section 5.

## 2. Green finance and post-COVID world

Settling a “green recovery” at the center of all economic recuperation procedures is progressively seen as the finest and as the only way nations could restore their economies. Green in this perspective envelops a number of components, counting supportability of characteristic assets and climate versatility, as well as comprehensiveness for all areas of society. Green foundation for a green recuperation is a particularly basic range to center on given the scale of impacts that foundation improvement can and have had both positive and negative. Earlier to the COVID-19 widespread, the Worldwide Commission on the Economy and Climate had concluded that solid climate activity has the potential to create over 65 million unused low-carbon employments by 2030, provide at slightest \$26 trillion in net worldwide financial benefits and maintain a strategic distance from 700,000 untimely deaths from air contamination. The Global Commission on Adaptation estimated that investing \$1.8 trillion worldwide from 2020 to 2030 in resilience constructions measures could generate \$7.1 trillion in entire new benefits. Green recuperation methodologies would in this manner guarantee an increasing speed of endeavors to meet as of now existing dangers and challenges, as highlighted encourage within the criticalities noted here, and not fair good quick financial development that might really hurt individuals, the environment and the planet within the longer-term. As pointed out by the fusion of fund priests for climate activity, a bunch of 52 back priests locked in in endeavors to address climate alter through financial and budgetary approaches agreeing to the six Helsinki Standards, “There can be no going back to the ancient ordinary.

As a result of the COVID-19 pandemic and the resulting worldwide recession, previously planned ventures in renewables, natural conservation, mitigation, energy effectiveness and green projects are expected to experience downward revisions. The noteworthy drop in financial movement related with the pandemic has brought about in an exceptional lessening in fossil-fuel costs. This, in turn, has had a negative impact on assist improvement of renewable energies investments and has made sun oriented, wind and other renewables less competitive. This postures a critical risk to the effective usage of the Paris agreement (and its objectives with respect to climate change). Appropriately, modern and inventive green fund arrangements may have to be executed in arrange to restrain these negative impacts of the COVID-19. Such activities may incorporate the changing of monetary and financial arrangement, green foundation projects, taxing carbon emanations (at the territorial or worldwide level), green financing advancements, streamlining directions (and techniques) that bargain with green financing, encouraging the issuance of green bonds, building up a set of measures for green credit appraisals, focusing on vitality endowments (counting the diminishment of coordinate and backhanded appropriations to fossil fills) and presenting

open de-risking devices (such as green credit ensure conspire) for lessening the risks of green investments.

Maybe the plausibility of rising imperial obligation is one of the greatest challenges confronting governments within the COVID-19 period, itself arising from the have to be spend on help exercises (generally underway) and recovery activities (mostly however to begin). There's hence a genuine and basic have to be catalyze stores from commercial, private, PPP and capital market sources. With rising hazard recognitions particularly emerging from at-threat income projections, governments ought to make the correct mechanisms and instruments that can perform this catalytic part of derisking and drawing in such capital. This can be too an opportunity for governments to enhance and execute such financial instruments that offer assistance quicken their commitments to climate alter beneath the Paris Agreement and the sustainable development goals (SDGs), and thus "build back better" is being progressively voiced over the world.

Amid discourse in planning this paper, a number of climate advisors and speculators famous the clear signaling by financial specialists, counting benefits reserves in Europe, of their intrigued in governments, in Asia in common and Southeast Asia in specific, to make maintainable and green recuperation plans that can lead to green bankable venture openings for them. For this to happen there's in this way require for modern and financially innovative approaches to be created by governments within the locale that can react to this intrigued whereas moreover relieving the stretch of rising majestic indebtedness. This section distinguishes a few of the green fund components and approaches that can be joined by national and neighborhood governments, essentially in Southeast Asia, into their post-COVID-19 techniques, but are too valuable inputs for domestic commercial banks and private corporates. Each approach would of course get to be planned per the nearby circumstances but guided by the standards laid out here.

Furthermore, (Markman *et al.*, 2016) estimated to have used FMOLS and found EKC in 24 countries in sub-Saharan Africa (Yao and Kuang, 2019) and have also validated the EKC (Yao *et al.*, 2020) in six geoeconomic regions using FMOLS and DOLS. Other scientists in NAFTA and BRICS used pooled mean group (PMG) to guesstimate EKC and set up EK. However, most studies the country/region groups used are not large enough to deliver reliable results, irrespective of their economic conditions and methods. Therefore, the guidelines could be threatened, and the different steps adopted by all countries in the community could not be afforded. We use the PMG-ARDL approximation to assess the EKC hypothesis. This valuation technique provides very accurate results and can be used to evaluate many panels, such as paper conditions.

### 3. Methodology

#### 3.1 Data and model specification

This article practices the World Bank Community time series data, including indicators of global growth. We have utilized data of World Bank on Pakistan to compile the research sample. The following can be defined as a functional type for Cobb Douglas development (Diwan, 1968).

$$EP_t = f(EE_t, FD_t, TO_t, IPC_t, HD_t, ) \quad (1)$$

By means of the natural log of Eqn 1 can be stated below:

$$\text{Ln}EP_t = \alpha_0 + \beta_1 \text{Ln}EE_t + \beta_2 \text{Ln}FD_t + \beta_3 \text{Ln}TO_t + \beta_4 \text{Ln}IPC_t + \beta_5 \text{Ln}HD_t + \varepsilon_t \quad (2)$$

LnEPt is the natural logarithm of environmental pollution calculated in metric tonnes of CO<sub>2</sub> emissions. LnEEt represents the natural environmental entrepreneurship logarithm, as a

proxy, calculated with a percentage of renewable energy. LnFDt also represents a natural financial growth logarithm calculated by domestic credit and public credit for the GDP sector; LnTOt constitutes a natural trade-operated logarithm based on the GDP trade ratio; LnIPCt represents the natural per-capita revenue logarithm calculated as GDP per-capita at a constant US\$ 2010, and LnHDt represents the natural per-capita revenue logarithm.

### 3.2 Co-integration analysis of autoregressive distribution lag (ARDL)

ARDL technology is a way of calculating complex forces at the classification level at long-term and short-term stages. This ARDL approach has many advantages and can be implemented when incorporated in level I (0) and level I first (1) with the original variable. Still, it offers robust ability to the outcomes and standardizes the lag, considering the number and sample size used. The ARDL model guarantees a fair estimate in long-term simulations, including the t-statistical significance (Ebiringa *et al.*, 2014) ARDL can also introduce a vigorous usability modification method by using a simple linear regression. The long-lasting and short-term dynamic balances are intersected with long-term knowledge integrity in the dynamic free error correction model. When endogenous and correlations occur in time series data, the ARDL approach is considered an effective method. Unrestricted dynamic mistake correction models were employed to calculate and analyze the dynamics of possible variables. The co-integration equation of the ARDL limit test is as follows

$$\begin{aligned} \Delta \ln EP_t = & \delta_0 + \delta_1 \sum_{i=1}^{\beta} \Delta \ln EE_{t-1} + \delta_2 \sum_{i=1}^{\beta} \Delta \ln FD_{t-1} + \delta_3 \sum_{i=1}^{\beta} \Delta \ln IPC_{t-1} \\ & + \delta_4 \sum_{i=1}^{\beta} \Delta \ln TO_{t-1} + \delta_5 \sum_{i=1}^{\beta} \Delta \ln HD_{t-1} + \delta_6 \sum_{i=1}^{\beta} \Delta \ln IVA_{t-1} + \varphi_1 \ln EP_{t-i} \\ & + \varphi_2 \ln FD_{t-i} + \varphi_3 \ln IPC_{t-i} + \varphi_4 \ln TO_{t-i} + \varphi_5 \ln EE_{t-i} + \varphi_6 \ln HD_{t-i} + \mu_t \end{aligned} \quad (3)$$

Where  $\Delta$  represents a constant word, a short kinetics  $\beta$  signifies a long-term coefficient, and  $\mu_t$  is an error term.  $\beta$  implies a short-term kinetics. The ARDL method uses  $F$ -statistics in this empirical study to assess long-term integration ties among ecological undertakings, economic growth, opening up trade, human development, income per-capita and environmental pollution. The lowest crucial limits (LCB) and outermost crucial limits (UCB) for the validity of the model were proposed by (Peterson *et al.*, 2017). The null hypothesis that there is no enduring co-integration among the variables chosen cannot be disallowed if the measured value for  $F$ -stat is lower than the LCB. Similarly, if the measured  $F$ -stat value is higher than the UCB, it implies long co-integration and rejection of the zero hypothesis. Moreover, if the  $F$ -Stat value varies between the LCB and the UCB, an ARDL limit's estimated outcome is not definitive.

### 3.3 Pooled mean group (PMG)

PMG method is becoming a convenient technique for monitoring data over the period, and a good approach for energy impact panels – growth ties for creating links between energy emissions and environmental sustainability and businesses in the nation (Hansen, 1982) – demonstrated the successful work of PMG estimators on poor assumptions. Further, PMG models can be used in a heteroscedastic, serial and non-linear sense (Cragg *et al.*, 1983). has shown that the gain of using the PMG estimator is the over-identification of parameters. The PMG also points out that PMG is also applied to non-exogenous models that are especially useful in estimating the relationship of economic growth to energy variables. (Gast *et al.*, 2017). The PMG environment is especially appropriate since many studies have shown that

there is a bi-directional link between economic growth and energy use in some countries. However, studies have shown that it is unidirectionally causal. The PMG model (Arnold and Wied, 2010) is defined as follows:

$$Y_{i,t} = \alpha + \beta Y_{i,t-1} + \delta X_{i,t} + \mu_{i,t} + \varepsilon_{i,t} \quad (4)$$

Where  $Y_{i,t}$  is the variable dependable on a country  $i$  at time  $t$ ,  $Y_{i,t-1}$  that is the initial level of the dependent variable (its lagged value),  $X_{i,t}$  is a set of descriptive variables,  $\mu_{i,t}$  is the country-specific effects, and  $\varepsilon_{i,t}$  is the error term. Our dependent variable is GDP per-capita growth, explanatory variables  $X_{i,t}$  (independent variables). The lagging independent variables are being cast-off as tools for this PMG method (Greene, 2004):

$$EP = \alpha_{i,t} + \beta_{i,t}EE_{i,t-1} + \gamma_{i,t}FD_{i,t} + \delta_{i,t}TO_{i,t} + \lambda_{i,t}IPC_{i,t} + \eta_{i,t}HD_{i,t} + \varepsilon_{i,t} \quad (5)$$

Earlier literature reviews on current issues suggest that CSR activities have established long-term partnerships between society and organizations, as individuals are generally assumed to purchase goods from companies that are actively engaged in CSR practice (Mares and Peña, 2020). CSR environmental obligations include organizational performance enhancements by recycling, waste management and energy conservation (Kakabadze et al., 2008). The SME sector will reap more advantages and long-term benefits as it is environmentally friendly. Thus, businesses are encouraged to recognize their environmental obligation for CSR for long-term growth and development, improving the company performance positively. The environmentally and social CSR system can be an effective way of managing and enhancing organizational performance, financial performance, employee engagement and organizational credibility, evaluating the needs of the corporate stakeholders, consumer loyalty, customer evaluation and general market performance in (Mohsin et al., 2019a) and (Mohsin et al., 2018a).

The structure model demonstrates the transition model that supports the happy relationship between social enterprise, communal responsibility, ecological accountability and the SME field. Earlier research has exposed that businesses everywhere playing an essential part in enhancing organizational efficiency and encouraging CSR activities. CSR companies develop their image in our society and increase the industry (Shum and Yam, 2011). Owners of SME cannot publish CSR activities because of the lack of awareness and contact between society and companies.

The following hypotheses of research are therefore developed:

*H1.* Social CSR and Environmental CSR have good ties with high success in Pakistan's SME sector

*H1a.* SME sector success in Pakistan is well-known for social CSR

*H1b.* CSR is also positively linked to Pakistan's SME industry results.

SME departments and CSR companies are (Fifka and Pobizhan, 2014) committed to enhancing company efficiency, credibility and employee participation. The strength of CSR operations and the improvement of its business fame and business performance are characteristic for SMEs and other large business enterprises since business fame can enhance the reputation and give competitive advantages in terms of long-term business performance (D'Aprile and Talò, 2015). Employee loyalty is used as a term for workers to get a competitive advantage through their jobs, interest in the company and dedication to the organization. When workers dedicate themselves to the company, they improve the organization's efficiency while reducing employee rations. Studies in this area showed that CSR and employees' engagement have optimistic and significant connectivity to vigorous corporate relations.

Therefore, to measure corporate credibility, the following research hypotheses are developed:

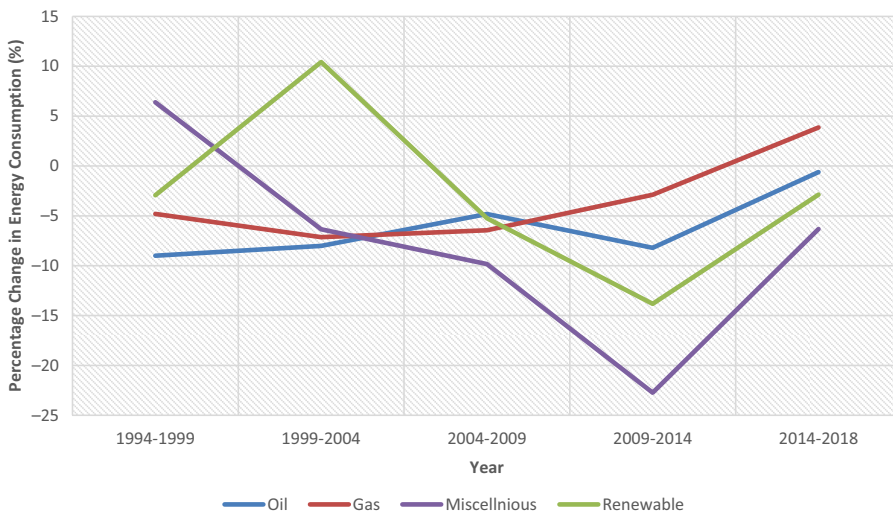
- H2. Socio-cultural CSR and ecological CSR get an excellent bond to Pakistan’s SME market picture.
- H2a. In Pakistan’s SME market, the image of corporates and social CSR is expected to be positive
- H2b. Likewise, the relationship between environmental SSRs and SMEs is predictable to be constructive in Pakistan

Employee and CSR interactions within the company are substantial and constructive (McNamara *et al.*, 2017). Companies and associations have been active in CSR operations to handle human resources and improve their preparation for enduring benefits (Collier and Esteban, 2007). Global businesses always rely on their workers, attract them and inspire them to meet their full production and result (Greller and Valentine, 2019).

Therefore, to measure staff engagement, the following research hypotheses are developed:

- H3. Social CSR and environmental CSR have optimistic ties with employees’ engagement in Pakistan’s SME market.
- H3a. Employee engagement and social responsibility should be strongly linked in Pakistan’s small and medium-sized business market.
- H3b. Again, employees’ engagement and environmental CSR should be positively connected to Pakistan’s SME industry.

Figure 1 displays the conceptual model centered on the research hypotheses described above. This model will enable us to decide if SMEs in Pakistan have questions about CSR and whether it will boost SMEs’ performance.



**Figure 1.**  
Sector-specific energy  
usage (%)

**4. Results and discussion**

The analysis uses a measurement dimension (Table 1), references (Rodhouse and Vanclay, 2016). This method enables one to determine the reliability, validity, or reliability of the inside accuracy measures and the convergent rationality.

Table 2 shows that the importance of all four variables (social CSR, employee engagement, financial performance and company reputation) of Cronbach’s alpha is more significant than 0.80. The alpha value of CSR in Cronbach’s is near 0.80, which shows that the variables were evaluated with a suitable technique for respectively each dimension. More tests verified that there is no adverse association in every measurement and domain and that they do not contribute as required to up grow every alpha value. The structural model (Figure 2) was initially proposed to allow for a significant connexion between the various dormant variables (sized) of the model to be developed. The results of these hypotheses in Table 3 indicate that only four are confirmed by a sample of six under consideration (H1a, H1b, H2b and H3b).

The results of Table 4 suggest that three hypotheses have a strong and positive association, while H2 and H3 are endorsed only in certain respects. As far as the first hypothesis was concerned, it is evident that in Pakistani companies, the social CSR and the environmental CSR, as supported by Govindan *et al.*, contribute positively to good results. Nevertheless, CSR’s environmental characteristic is crucial for Pakistani companies based on these findings. Concerning hypotheses 2 and 3, the results specify that only environmental CSR contributes positively to employee engagement and credibility in Pakistani companies. Thus, for worker engagement and corporate credibility, the environmental CSR is more

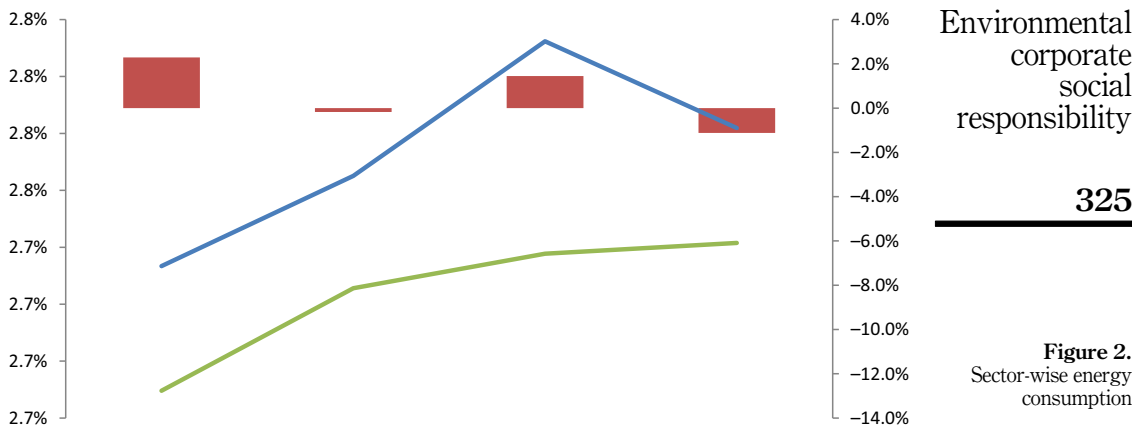
**Table 1.**  
CSD test

Variables	ln EP	lnIPC	lnIPC <sup>2</sup>	lnEE	lnFD	lnTO	lnHD
CD-testing	37.61	75.01	78.03	39.37	65.02	17.01	85.01
p values	0	0	0	0	0	0	0

**Table 2.**  
Reliability test

Variable	Items	Factor loading	Reliability
Financial CSR	FP1	0.827	0.918
	FP2	0.783	
	FP3	0.837	
	FP4	0.736	
	FP5	0.837	
	FP6	0.825	
Environmental CSR	EC1	0.776	0.882
	EC2	0.813	
	EC3	0.882	
Corporate CSR	CR1	0.727	0.821
	CR2	0.810	
	CR3	0.778	
Social CSR	SC1	0.832	0.810
	SC2	0.821	
	SC3	0.745	
Supporting volunteer CSR	ENC1	0.726	0.789
	ENC2	0.751	
	ENC3	0.820	
	ENC4	0.690	
	ENC5	0.787	
	ENC6	0.754	





relevant than the social CSR, which was found by (Liao *et al.*, 2013), (Jiang and Wong, 2016) and (Aigner, 2016). As the outcomes of the cross-sectional correlation test in Table 3 show, cross-section independence is available under the null hypothesis. Therefore, the null hypothesis is dismissed if the  $p$ -value of the test statistics is below the meaning mark. The  $p$ -values of any CD test sequence in the country (Table 1) are 1 percent relevant based on CD test statistics and their following  $p$ -values, with no cross-sectional reliance on the null hypothesis ( $H_0$ ) refused. When designing policy, it is crucial to reflect cross-sectional dependency to understand the government's variables better. The CIPS 2<sup>nd</sup> generation root test unit is suitable meanwhile the cross-sectional association because it delivers exact and consistent outcomes for our analysis in Table 3.

#### 4.1 Unit root test: Pesaran's CIPS test

The test of the CIPS panel unit is a rigorous method assuming it is not stationary. Table 3 explains CIPS statistics that are calculated to take advantage of hidden characteristics with patterns and constants. The unit root test results for the CIPS Unit indicate an orderly national integration of environmental emissions, per-capita incomes, environmental enterprise, financial growth, opening up trade and human development. As the CIPS testing outcomes demonstrate that the parameters are incorporated in the estimated variables, this is the basis for the ARDL estimation model. The linkage with pollution, per-capita income levels, environmental enterprises, economic expansion, openness to trading and social evolution is expected to be long-term. Maybe we could explicitly estimate PMG-ARDL.

#### 4.2 Estimated long-term partnership: pooled mean group (PMG) stimulator

Table 5 offers a summary of PMG's projections of long-term per-capita revenue, environmental sector, funding, transparency in trade, and human development ties in Canada. These surveys indicate that the jobs, financial growth and free trade per-capita coefficients are positive at 1% statistics, while the environmental and human growth coefficients are negative at 1% statistical significance. These results show that Pakistan relies heavily on financial growth and openness to trade. According to previous studies, each 1% rise in funding and trading transparency increases natural environment emissions by 0.113, respectively 0.236. Besides that, research results found that significant emissions declines through 0.350 to 0.401 alike per each 1% rise in ecological enterprise and human

**Table 3.**  
Panel unit root:  
CIPS test

		ln EP	ln IPC	ln IPC <sup>2</sup>	ln EE	ln FD	ln TO	ln HD
Pakistan	Cons./trend	-2.11	-3.01	-2.22	-2.47	-2.76	-1.9	-2.05
	F. Diff	-2.89***	-3.56***	-3.87***	-3.90***	-3.41***	-3.63***	-3.15***

**Note(s):** \*\*\*, \*\* and \* Indicate 1 percent, 5 percent and 10 percent, respectively

growth. The correlation is due to other empirical studies, which indicate opportunities for the environment and the ease of implementing technologies of environmental significance (such as energy-saving technologies). Environmental entrepreneurs' capacity to minimize pollution capital will support decreasing the usage of fossil fuels and other environmental problems.

The findings from the analysis highlighted a critical sector that requires depth discussion and their conceptual contribution. The goal of this paper is to examine environmental entrepreneurship in developing countries' complementarity with sustainable development. The results show the cross-sectional dependency of different research variables through the application of the Pesaran CD test. This presence of cross-sectional dependence between the different community-panels means that air quality in silk road economic belt nations across the SSA is similarly affected by natural deterioration and LIC and MIC panels, consistent with (Sun *et al.*, 2019). The shift in pollution levels depends on their relationships and the other episodes. Thus, numerous policy objectives and strategies, like implementing and encouraging sustainable entrepreneurial goods or outcomes, can ultimately lead to reductions of CO<sub>2</sub> emissions, consistent with SDGs. Furthermore, CIPS root tests have shown that the first order of all investigation variables (I(1)), meaning they are stationary, were incorporated. It should also be noted that static variables are significant for regression models as they are useful in estimating the models.

Figure 1 Demonstrations the industry's astute energy use. Collaboration through fixed sequences, thus prevents artificial results from being produced. This reflects (Omri and Hasna, 2018) results that use the CIPS root test in the international context for entrepreneurship, sectoral production and environmental change. The managers in America whose organizations had welcomed small businesses (Biswas and Roy, 2015) had a similar impression in an overview.

Moreover, in an efficient survey under the direction of (Chen and Tung, 2014), he found that EMS-standard associations have extended their creation limit to appreciate higher exhibitions and increased accountability for ecologically related organizational goals instead of those which they avoid to follow (Nittala *et al.*, 2014). developed an experimental model based on enhanced EMS estimates. This method showed the environment-friendly company condition participation with a significant effect on partnerships' financial execution.

Hypothesis Relationship	H1a SC and FP	H1b ENC and FP	H2a SC and CR	H2b ENC and CR	H3a SC and EC	H3b ENC and EC
Path coefficient	0.258	0.31	0.129	0.26	0.162	0.25
Mean	0.257	0.308	0.127	0.259	0.158	0.248
Sd	0.05	0.078	0.103	0.07	0.108	0.082
T	3.721	3.918	1.722	3.022	1.662	2.891
P	0.002**	0.000***	0.162	0.004**	0.142	0.002**
Result	Significant	Significant	Insignificant	Significant	Insignificant	Significant

**Note(s):** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; SC = Social-CSR; FP = Firm Performance; ENC = Environmental-CSR; EC = Employee Commitment; CR = Corporate Reputation

**Table 4.** SEM and Hypothesis testing Results

Variable	ln IPC	ln IPC <sup>2</sup>	ln EE	ln FD	ln TO	ln HD	ECT
Coefficient	2.66***	-0.11***	-0.26***	0.14***	0.20***	-0.35***	-0.33***
Problem.	0	0	0	0	0	0	0

**Table 5.** Long-term Forecasts for PMG-ARDL

4.3 Removal function: component factor analysis

Rotation method: varimax with Kaiser normalization: The structure condition display is shown in Table 6. The structural equation model linked to the exploration of an auxiliary relation of the dormitory develops factors that have more critical CSR output than EMS not-adopters at the end of the analysis, which refers to the selection of EMS organizations in their IMS. We argued that IMS's positive outcome could be improved by cooperation at all organizations with prominent companies, corporate management and managers. All factors that are a fruitful consequence of IMS teamwork can typically be measured in a subjective and perceptive manner, even though the expert estimate requires a coherent process to implement its various opinions, which can be viewed as an integrated executive system execution.

The second natural CSR company notoriety shows a surprising way of implementing 0.260 coefficients that demonstrate that environmental CSR plays a positive role in managing the company in money areas.

Figure 2 describes the various dimensions of the sector's wise energy use. Any deviations from the long-term balance would also be corrected.

4.4 COVID-19 and economic recovery

The emergency uncovered shortcomings in economies, Governments and social orders, with created nations incapable to deliver essential items like covers and ventilators, as their populaces endured destitute wellbeing without satisfactory social assurance. In the interim, the worldwide lull is having a genuine impact on creating countries, particularly those depending on trades, as markets collapse. The widespread is anticipated to thrust over 70 million individuals back into extraordinary destitution and cause 132 million more to endure from undernourishment in 2020. Less advanced countries, small isle, emerging states and non-coastal growing countries are portion of distressing groups of countries in specific situations and for Small Island developing states, where tourism report though 80% of exports, the effects of this pandemic are disturbing. Numerous states are again seriously in debt, the world is facing the probability of a novel debt crisis, as profits drop down due to this pandemic. It is a misfortune that the absence of sovereign debt reorganization of frameworks in undertaking rising debt. The financial destruction due to COVID-19 worldwide is to a countless amount determined by a drop in demand, connotation that there are no buyers to buy the products and services reachable within the international economy.

This dynamic can obviously be seen in strongly impacted businesses such as travel and tourism. To employ retail as an explanation, an increase in unemployment will composite the deficiency in deals that ensued from the closing of shops, dropping the emergency ended to the online retail section.

Early gages predict that, should the infection end a global pandemic, most major economies will lose at least 2.4% of their gross domestic product (GDP) over 2020, leading economists to reduce their global economic development forecasts for 2020 from around 3.0%–2.4%. To put this number in perspective, GDP in the world was evaluated at around 86.6 trillion U.S. dollars in 2019 – This means that a fair 0.4% drop in financial development

**Table 6.**  
Exploratory factor  
analysis model

Variables	Financial CSR	Environmental CSR	$\chi^2$	Value of Cronbach Alpha	Eigenvalues	Level of significance (p-value)
F1	0.711	0.753	298.7	0.742	3.711	0
F2	0.688	0.783	101.7	0.719	1.612	0

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amounts to almost US\$3.5 trillion in misplaced financial returns. In any case, these predictions were made earlier when COVID-19 became widespread throughout the world and, sometime recently, the use of far-reaching limitations on social contact to stop the spread of infection.

## 5. Conclusions and policy implication

Environmental problems involving an in-depth comprehension of the relationships between environment and sustainable growth are fundamental to solve. CSR efficacy has already been thoroughly researched on both technology and sustainable efficiency. Conceive creativity, therefore, by introducing products, systems and management practices to the product or service supply. There is a positive partnership between creativity and a sustainable world. Corporations are recommended to uphold the principles of CSR in the development process by introducing environmentally friendly advanced technologies. The main objectives of CSR are economic growth, environmental sustainability and social justice. Several programs have been established to expand businesses' responsibilities to improve their confessions in sustainable growth. SMEs are a primary source of production of innovative products and technologies. The key concerns of stakeholders and politicians in the new competitive business climate are the protection of environmental sustainability and social responsibility, recognizing factors driving economic development for SMEs. To inspire SMEs to enforce CSR, improving efficiency is necessary, as creativity is equally important.

Finally, with a PMG-ARDL estimator, we measure the long-term relationship. In our results, which indicate that a 1% rise in per-capita income at a positive level of economic development will result in environmental emission reductions of 2.88%, 4.54% and 2.48%. In exacerbating environmental degradation, the paramount importance of financial growth illustrates the need for governments to collaborate with economic entities to build environmentally friendly goods, environmentally focused enterprises and Plans for ecological sustainability. Policies reformers can enable economic entities to devise various loan-related lending requirements, such as adequate collateral. It should also be enabled to evaluate and track green investors' tasks so that their company conforms with the sustainable development objectives. As the region proliferates, low levels of human resources and environmental issues have intensified because of the high rate of analphabetism in most nations. To this end, the authority must start educating and encourage the public to think about the future of climate change and different potential environmental concerns. They should build entrepreneurial education policies and concentrate on eco-friendly products. Authority must be educating the public by the organization of seminars and exhibits about how to use eco-friendly products; these minerals are more effective than fossil fuels in producing electricity.

### 5.1 Policy implications

Legislators require to understand the value of free commerce in an age where the key source of atmospheric degradation and global warming is often carbon dioxide emissions. As clean energy throughout the nation is inadequate for addressing ecological issues and ensuring sustainable development, legislatures must foster information and technology spillovers.

Consequently, more efforts must be made to balance economic changes and environmental protection and improve the policy on import and export of emerging technology between the countries and other regions. Finally, carbon regulation and taxation should be introduced for current and new and unrelated businesses to solve all potential carbon-lock-in problems to achieve Sustainable development objectives.

In place of the more technological and environmental aspects, for example, budget restrictions, deficiency of accessible infrastructure and decrease reliance on the consumption

of fuel, etc., we propose to decrease environmental pollution by considering the enterprise dimensions (for example, sustainability, continuous improvement and productivity maximization) in Pakistan. It is only because those things are hard to accomplish at a generic level in Pakistan. People in the consumption of pollution-based products that harm the environment are more uninformed, unknown and less visionary. Our recent proposal would help update the community purpose and mindset toward using environmentally safe goods from sustainable entrepreneurship on the domestic markets. Therefore, a careful position for entrepreneurial owners should be performed to transform the typical person's purchasing and consumer behavior, such as compulsive behavior and impulse. Recent proposals for using the alternative method of reducing environmental emissions by relying on conventional and expensive intervention in Pakistan's developing economy will therefore be the first dewdrop. We have had less recognition at the government level of the local environment and pollution factors to date. We have noted a few government side-marks that support the results of our study to reduce environmental pollution. The main explanation is, in particular, the less constructive position and imaginative aspect of political and government leaders. However, with the help of the particular unit called the Chambers of Commerce to carry out businesses using environmentally friendly goods and services, we recommend that the local government be given a visionary position to assist entrepreneurs.

We further recommend to the Pakistani Government that the Chamber of Commerce actively supports the pollution problem and propose that the unit establish, through Entrepreneurship, a national plan of action for pollution reduction. Then the national action plan should be speeded up to accomplish the main goals with practical implementation. We also recommend that entrepreneurial companies undertake sustainability and environmentally friendly practices, goods and services be kept in record and to maintain a database with the coordination of such initiatives in order to encourage environmentally friendly culture. Workshops, talks and webinars can be held to increase public perception of environmentally sustainable methods and intentions with the active help of these entrepreneurship units' seminars. In order to achieve the aim of cleaning up the world through entrepreneurship.

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