

CSR Investment, ESG Signaling, and Sustainable Finance across Global Capital Markets

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Abstract

Purpose-CSR and Environmental, Social and Governance (ESG) issues have quickly developed out of voluntary ethical behavior to essential elements of contemporary financial decision-making. The proposed study incorporates conceptual theory, global empirical investigation, and policy insights to investigate the role of CSR and ESG initiatives as financial indicators in the global capital markets and the effect of such initiatives on firm value.

Methodology-The paper relies on Signaling Theory and Financial Intermediation Theory to conceptualize the idea of CSR and ESG as strategic tools to reduce information asymmetry and increase investor confidence. The study analyzes the financial impact of CSR and ESG using panel, sample size of 600 firms in 40 countries between the year 2015 and 2023 through the fixed effects model, random effects model, and system GMM model.

Findings-Findings indicate that CSR (0.142; 0.002) and ESG (0.284; 0.000) have a significant positive correlation with firm value, and the mediators are investor perception and financial intermediation. The European Union, UK, Japan, and Singapore have a more pronounced sustainability regulation and therefore have a high CSR-ESG impact



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whereas emerging economies such as Pakistan have weaker but still positive impact because of institutional and regulatory limitation.

Implications- The paper gives a detailed proposal of a sustainable finance policy framework to implement on a global basis based on conceptual and empirical understanding with specific country-specific proposals like Pakistan.

Value- The analysis reaches the conclusion that the CSR and ESG practices are not an ethical duty only but the effective financial tools that can help to increase transparency, attract investments, and contribute to national and global sustainability objectives.

Keywords- Corporate Social Responsibility, ESG, Signaling Theory, Sustainable Finance, Firm Value, Pakistan, Global Capital Markets

1. INTRODUCTION

1.1 Background

Sustainability is no longer a marginal issue but a key pillar to corporate strategy and world financial systems in the last twenty years. Increased concern over climate change, depletion of resources, loss of biodiversity, social injustice and failure in governance has radically altered the manner in which firms do business and how the markets judge them. Global environmental crises like the Deep water Horizon oil spill, extensive corporate frauds, including Enron and the emissions cheating of Volkswagen, and global climate responsibilities as enforced by the Paris Agreement have heaped pressure on companies to implement responsible, transparent and long term business conduct. Companies are no longer expected to be profitable only but resilient, full of integrity, compliant with regulations, and environmentally responsible, as investors, regulators, consumers, and international institutions now expect. This has seen sustainability become entwined with financial performance, corporate reputation and long term value creation.

One of the rising trends which have been defining this global change is the Corporate Social Responsibility (CSR) and the Environmental, Social, and Governance (ESG) frameworks. CSR has traditionally focused on the wider responsibilities of the corporation to the society including community development, philanthropy, ethical labor practice, and environmental protection. It is an expression of voluntary obligation of a firm to do good in excess of the legal responsibility. Nevertheless, CSR has since become less about philanthropic efforts and more of strategic movements that can be found deep within the business operations, supply chains and even the relationship with the stakeholders. Conversely, ESG is a more rigorous and evidence-based model based on which it is possible to assess the environmental performance of a company (e.g., carbon emission, energy use), social performance (e.g., work ethics, workplace diversity), and governance quality (e.g., board composition, disclosure, anti-corruption stance). Institutional investors, asset managers, banks, credit rating agencies and regulators are increasingly common when using ESG metrics as a means of measuring risk exposure and long term sustainability. The evolution represents an overturn in the qualitative CSR stories in favor of corresponding, comparable, and auditable, ESG indicators, which enable financial markets to have a systematic way of pricing sustainability as an element in investment choices.

Both CSR and ESG have turned out as potent financial indicators in the current capital markets. Based on empirical findings, it has been found that firms that have excellent sustainability performance tend to have lower capital costs, better stock values, better credit ratings, and greater access to international investment capital. The performance of sustainability lowers information asymmetry, enhances investor confidence, and indicates managerial effectiveness, reduction of risk, and ethical conduct. Financial institutions are becoming more active in incorporating ESG requirements when making lending decisions, risk models and portfolio choices; regulators around the globe have made compulsory disclosures,

green finance taxonomies and sustainability reporting frameworks. Therefore, the CSR and ESG schemes do not only determine corporate reputation but also directly determine the value of the firm, investor behavior, lending behavior, adherence to regulations, and stability of international financial systems over time.

1.2 International Significance of CSR and ESG

International financial frameworks, especially those in the European Union (EU), United States (USA), the United Kingdom (UK), Japan, Singapore and China have officially included the CSR and ESG in their corporate reporting systems, investment-screening systems and national regulatory systems. These economies have gone past voluntary sustainability reporting and have now imposed mandatory disclosure criteria, sustainability taxonomies, stewardship codes and climate-risk reporting criteria. This has made ESG performance an issue of great concern in financial analysis that has influenced institutional investment, portfolio allocation and corporate governance practices. To select companies with solid ethical governance, effective environmental management, minimal regulation and climate risks exposure, and long-term strategic viability, investors, in particular, huge asset managers and sovereign wealth funds, are more and more turning to the ESG ratings and sustainability indices. The sustainable finance industry has become a multitrillion-dollar worldwide industry which is backed by the fast expansion of financial instruments e.g. green bonds, climate-transition bonds, ESG-indexed equity and bond funds, sustainability-linked loans, and carbon credit markets. The Green Deal and Climate Taxonomy of the EU have increased flows of green capital, and the Government Pension Investment Fund (GPIF) of Japan, the largest pension fund in the world is moving large blocks of its portfolio into ESG-oriented holdings. Likewise, the reforms in green finance in China have also created one of the largest green bonds market globally. Incentives, mandatory reporting, and

standardization of regional ESGs have helped Singapore become one of the greatest sustainable finance centers in Asia.

There is a vast amount of empirical evidence that proves that sustainability-based firms will always excel in a range of aspects, such as risk-adjusted returns, operational efficiency, investor trust, capital accessibility, and market valuation (Friede et al., 2015; Liang and Renneboog, 2020). Companies that score high in the ESG have a lower tendency to be volatile, receive a higher credit rating, lower cost of equity and higher shareholder values in the long run. Good ESG performance also hedges companies against reputational crises, regulatory fines as well as environmental risks, hence enhancing financial security. With rising trends in the global market to focus on sustainability, ESG disclosure has emerged as a global standard, but not a discretionary action. International sustainability reporting has been standardized by regulatory bodies like the EU Sustainability Reporting Standards (ESRS), the Task Force on Climate-Related Financial Disclosures (TCFD), the International Sustainability Standards Board (ISSB) and the Global Reporting Initiative (GRI). This standardized reporting does not only provide comparability among the firms and industries but also increases the transparency, decreases information asymmetry and builds confidence of the investors. As a result, the CSR and ESG performance has taken its place in the world financial architecture and has become an essential part of capital market behavior, as well as corporate strategic decision making.

1.3 The Emerging Economies and Pakistan challenge.

Even the emerging economies have a long way to go to incorporate sustainability in corporate and financial system as has been done in developed markets. There are a number of structural and institutional drawbacks that do not allow the implementation of CSR and ESG models in Asia, Africa, Latin America, and the Middle East. These issues are low or ineffective sustainability reporting systems, lack of domestic investor awareness, lack of credible local ESG rating agencies, and voluntary CSR

that is mostly symbolic and not strategic. In emerging markets, green finance ecosystems are poorly developed, green bonds are issued insignificantly, the system of climate-risk assessment is weak, and the banking and capital market regulations do not incorporate ESG. In addition, institutional gaps, governance issues and regulatory discrepancies provide a background in which sustainability programs are not enforced, monitored and in accordance with international standards.

Pakistan is a classic case of a developing market in which CSR and ESG practice are being underdeveloped but are not yet institutionalized and operationalized. The adoption of ESG guidelines at both firms, banks, and participants in the capital market is still highly limited, despite the fact that the first ESG guidelines in the country were issued by the Securities and Exchange Commission of Pakistan (SECP), and the State Bank of Pakistan (SBP) presented the policies of green banking and climate-risk management. The majority of listed corporations continue to practice CSR in terms of traditional philanthropy donations, charity, religious donations, and community initiatives, as opposed to embedding sustainability in corporate strategy, supply chain management and risk modeling as well as financial signaling. ESG reporting is voluntary, piecemeal, and inconsistent, and lack of standard measures, domestic ESG rating, and third party verification of sustainability reports.

The imperative of sustainability integration is further aggravated by the peculiar weaknesses of Pakistan. The nation is in the top 10 list of the countries the most vulnerable to climate, as it faces massive floods, water shortages, heat waves, environmental damages, and food insecurity. These are compounded by economic instability, elevated inflation rates, poor institutional governance and political uncertainty which exposes firms to operational risks, regulatory risks and market risks. Within such a fragile economic framework, the lack of good ESG practices exposes it to financial instability, scandal, and governmental scrutiny by international investors and trading partners. There is thus a need to integrate CSR and

ESG in financial architecture of Pakistan as a vision of economic stability and competitiveness on the global scale. Improving corporate sustainability reporting, developing domestic ESR rating systems, improving investor education and increasing green finance instruments would put Pakistan in line with global norms like the EU Taxonomy, TCFD, GRI, and ISSB. Such alignment fosters transparency, reduces information asymmetry and boosts investor confidence, particularly of foreign institutional investors and impact funds interested in sustainable investment. Incorporating sustainability into financial policy not only helps to increase the credibility of firms at the firm-level but also leads to macroeconomic stability, environmental resilience and national development at the long-run.

The extent to which these structural constraints apply can be well illustrated by the term 'institutional voids' (Khanna & Palepu, 1997), which refers to the lack of intermediating institutions, information infrastructure and contract-enforcement mechanisms that are taken for granted in developed markets. The signaling theory of voluntary disclosure is theoretically less clear in such environments: while the voluntary disclosure may provide information to investors, third party verification is weak, analysts provide few services, and disclosure is not enforced consistently.

Pakistan therefore offers a useful boundary case in which to test whether the CSR ESG firm value relationship established in mature markets survives, attenuates, or disappears once these institutional supports are largely absent.

1.4 Research Gap

There are three significant gaps in the literature:

1. Disintegrated studies, which divide conceptual, empirical and policy visions.
2. Deficiency of inter-country empirical research comprising CSR, ESG, firm value and mediated by financial intermediation.

3. Lack of studies to implement sustainability signaling to Pakistan based on international benchmarking schemes.

The paper fills these gaps by presenting a single conceptual- empirical-policy study.

1.5 Research Objectives

This study aims to:

Define CSR and ESG as sustainability indicators conceptually

Look at the theoretical premises of Corporate Social Responsibility (CSR) and Environmental, Social, and Governance-practices (ESG). Evaluate the application of CSR and ESG as a means of communication to indicate that a firm is keen on sustainable practices to investors, stakeholders, and the general population. Discover the application of the signaling theory in the context of voluntarily undertaken actions of CSR and ESGs by firms and the impact of these practices on opinions about the credibility, transparency and the long-term sustainability of firms.

Test the impact of CSR and ESG on the value of the firm empirically across nations

Explore the connection between CSR/ESG performance and financial performance of firms and their profitability, market value and reduced risks. Cross-country analysis to determine regional variations in the effect CSR and ESG have on firm value, taking into account the economic development, regulatory systems, and awareness of its investors. Quantify these impacts and apply quantitative approaches and sound statistical frameworks to capture both developed and emerging markets evidence.

Create a system of sustainable finance policy

Suggest a combined framework, which links CSR and ESG programs with the concept of sustainable finance, which is based on the long-term value creation and responsible investment. Determine major policy tools, regulatory policies and reporting frameworks that can improve the transparency, comparability, and accountability over sustainability

practices. Provide incentives for bringing ESG into corporate decision making, risk management and capital allocation.

Make recommendations throughout the world and locally, in Pakistan

Useful information to international policymakers, regulators, and financial institutions to further embrace ESG and increase firm value. Provide context-based solutions to Pakistan based on the dynamics of the local market, regulatory developments (e.g. ESG in guidelines issued by SECP and green banking in policies by SBP), and industry preparedness. Recommend ways to counteract hindrance of lack of investor awareness, absence of ESG rating agencies, voluntary or token CSR activities and inadequate green finance infrastructure.

Evaluate barriers and opportunities of ESG implementation

Understand typical challenges encountered by companies in their application of ESG practices such as availability of data, reporting standards, and stakeholder engagement. Market ESG initiatives as a way of competitive advantage, risk reduction, and improved corporate image.

Bridge theory and practice in sustainable corporate behavior

Combine scholarly research and practice to show how CSR and ESG efforts can be transformed into financial and non-financial results. Give examples or case studies of companies that have managed to increase value with the help of sustainability signaling.

2. LITERATURE REVIEW

2.1. Conceptual Literature Review

CSR and ESG have transitioned from ethical frameworks to strategic instruments. Based on Signaling Theory (Spence, 1973), firms participate in CSR to communicate unobservable characteristics such as moral dedication or reduced long term risk. ESG frameworks offer quantifiable measures of sustainability performance, thereby alleviating information asymmetry between businesses and investors.

In addition to Signaling Theory, two other theoretical perspectives are used to explain the rationale for CSR and ESG activity to be of relevance to financial markets. One form of CSR engagement and ESG engagement that can be observed is as a function of how well management meets the claims of shareholders, employees, communities, regulators and the environment (Stakeholder Theory; Freeman, 1984). Agency Theory (Jensen & Meckling, 1976), on the other hand, sees CSR and ESG investment as a possible way of addressing the separation between ownership and control – well-governed firms with low agency costs have greater incentives to engage in costly sustainability commitments that are credible, while poorly governed firms may resort to CSR spending symbolically to hide poor oversight. These three theories, read together, imply that the CSR/ESG performance is a market signal, a mechanism for balancing stakeholder interests, and a governance measure and is therefore measured in various ways in the empirical literature reviewed below through its financial consequences.

2.2 Empirical Literature Review

Empirical studies testing the theoretical predictions, which has been on the rise, are organised around the most important channels through which CSR and ESG performance is claimed to impact firm value: (1) direct impact on financial performance, (2) the cost of capital, (3) external finance, and (4) credibility of the disclosed information itself.

What the world has learned about sustainability and company performance: There is now a level of consensus that is far more unusual in a contentious research field in management, on the connection between sustainability and financial performance. Orlitzky, Schmidt, and Rynes (2003) meta-analyzed several decades of studies and reported a robust positive association between corporate social performance and financial performance, concluding that the relationship was too consistent to be attributed to chance or publication bias alone. Eccles, Ioannou, and Serafeim (2014) extended this line of work using a matched sample of

"high-sustainability" and "low-sustainability" US firms and found that the former significantly outperformed the latter in both stock market and accounting returns over an 18-year horizon, particularly when the sustainability practices were embedded in firm processes rather than treated as public relations. Friede, Busch, and Bassen (2015) aggregated roughly 2,200 individual studies in the largest meta-analysis of its kind and reported that approximately 90 percent found a non-negative relationship between ESG and corporate financial performance, with the majority reporting a positive relationship that was stable across asset classes and regions.

Orlitzky et al. (2003): They discovered strong associations between CSR participation and financial success in that socially responsible companies better succeed financially.

Eccles et al. (2014): Demonstrated that high sustainability standard companies perform better than others in terms of stock returns and return on Assets (ROA), the financial advantage in both short and long-term.

Friede et al. (2015): An empirical analysis of 2,200 studies being meta-analytical conducted by them, revealed that about 90% of those studies indicate that ESG positively affects the performance of firms, as such a strong relationship has been established between sustainability and value creation.

Beyond the direct performance link, a second stream of research traces the mechanism through the cost and availability of capital. El Ghouli et al (2011) found that the cost of equity capital for the firms in the United States with the highest CSR scores was significantly lower, which they believed was due to lower perceived risk and wider investor base. Similarly, Cheng, Ioannou and Serafeim (2014) reported that high CSR firms experienced less capital constraint as a result of lower agency costs and information asymmetry between managers and capital providers due to better stakeholder communication and transparency. Others have enhanced this picture by demonstrating that Khan, Serafeim and Yoon (2016) that the

financial payoff to sustainability performance is concentrated in material ESG issues specific to an industry, while performance on immaterial issues has little or even a mildly negative association with future stock returns, a finding that has become central to how modern ESG materiality frameworks are constructed. An important qualification was added by Fatemi, Glaum and Kaiser (2018) who found that the positive effect of ESG performance on firm value is subject to the quality and credibility of ESG disclosure when sustainability performance is high, but disclosure is not, this can actually lower firm value, a point emphasized by this study as an element of investor perception as a mediating channel. A separate study by Clark, Feiner and Viehs (2015) concluded likewise, based on more than 200 academic sources they compiled for the University of Oxford and Arabesque Partners, a firm that provides research and data on sustainability. This paper builds upon previous reviews of the corporate finance literature on ESG and CSR in general and correlates sustainability engagement with positive firm performance, which is also generally upheld in recent reviews by Gillan, Koch and Starks (2021) (in their broad review of the corporate finance literature) and by Anto et al (2020) (in their global review).

2.3. The variation in CSR-ESG Effect is a global phenomenon

The available empirical evidence suggests that CSR and ESG practices have varying effectiveness on the level of the countries:

The effects of CSR-ESG on firm value are the highest for Developed Markets, defined as firms from countries with deep and liquid financial markets, good financial market regulations, and financially literate investor bases. Reporting standards that are credible and enforcing mechanisms that are active enable sustainability signals to be verified, not merely asserted, leading to more credence being given to the signals by investors (Liang & Renneboog, 2017).

In developing markets, where the regulation of CSR/ESG is weak, there is less trust and less reporting, the impact of CSR/ESG on the performance

of companies is weaker. The sensitivity of the market to the sustainability initiatives is being mitigated by several factors, including voluntary reporting, poor governance and lack of investor awareness.

These patterns are consistent with the institutional-voids reasoning set forth in Section 1.3, where a strong signal of the credibility of the information is a CSR or ESG disclosure, and where a weak signal means that the disclosure is less informative and thus has less valuation effect. This is the main empirical claim examined in the present study that posits the comparison of pooled global estimates and the Pakistani subsample.

2.4. Implications

The comparative evidence highlights how the institutional framework, regulatory strengthening and investor education are important to the successful implementation of CSR and ESG effort into firm value. It also suggests that sustainable development can be speeded up in developing countries like Pakistan without creating new concepts of sustainability but by copying and modifying institutional structures, disclosure requirements, rating frameworks, and investor up-skilling that work across the board in other parts of the world.

Global Markets (EU, USA)	Emerging Markets (Pakistan)
Mandatory ESG Disclosure	× Voluntary Reporting
High Investor Literacy	× Limited ESG Knowledge
ESG rating Agencies	× No Domestic ESG scores
Green Finance Ecosystem	× Limited sustainable funding

Table 1: Global vs. Emerging Markets CSR-ESG Gap

2.5. Policy Literature

Global sustainability policies include: EU ESG Taxonomy, TCFD climate disclosure codes, Green finance regulations in China, and Mandatory sustainability reporting in Japan. Pakistan is in the early stages of this process and needs to be well institutionalized.

Author(s)	Focus	Findings
Spence (1973)	Signaling	CSR reduces information asymmetry
Orlitzky et al. (2003)	CSR- Performance	Strong positive impact
Eccles et al. (2014)	Sustainability	Higher long-term performance
Friede et al. (2015)	ESG Meta-Analysis	90% positive ESG impact
EU Commission (2018)	Finance	Mandatory ESG increase transparency

It's not a symbolic assembly of hard law and soft guidance. EU and UK-based securities regulation, including the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD, 2017), include the TCFD recommendations, in whole or in part, while the Global Reporting Initiative (GRI) and the newer International Sustainability Standards Board (ISSB) have adopted similar, verifiable disclosure metrics that mitigate the "aggregate confusion" historically linked to divergent private ESG ratings (Berg, Kölbel, & Rigobon, 2022). The scope of capital which falls under these frameworks is important in and of itself: by the beginning of the 2020s, for example, over USD 35 trillion of professionally managed assets globally had integrated ESG considerations, according to the Global Sustainable Investment Alliance (2021); and by this time, KPMG's (2022) global survey indicated that sustainability reporting had become near-universal among the world's largest listed companies. The policy architecture of Pakistan, which has its roots in the voluntary ESG guidelines of the SECP and the green banking framework of the SBP, is still in its early stages and needs to include the disclosure requirements, verification systems, and rating agencies that lend credibility to these international frameworks.

Table 2: Summary of Key CSR-ESG studies

2.6. Research Hypotheses

Building on the theoretical and empirical literature reviewed above, this study formulates four hypotheses that are tested in Sections 4 and 5.

H1: Corporate Social Responsibility performance is positively associated with firm value.

H2: Environmental, Social, and Governance performance is positively associated with firm value, and this association is at least as strong as that of CSR given the more verifiable, quantitative nature of ESG metrics.

H3: Investor perception and financial intermediation partially mediate the relationship between CSR/ESG performance and firm value, consistent with the signaling and financial intermediation channels developed in Section 3.

H4: The positive association between CSR/ESG performance and firm value is significantly weaker in emerging-market institutional settings, proxied here by Pakistan, than in the pooled sample of jurisdictions with mature ESG regulation, consistent with the institutional-voids reasoning outlined in Section 1.3.

3. THEORETICAL FRAMEWORK

3.1. Signaling of Firm Quality

Market Signaling using CSR and ESG: CSR and ESG practices are plausible indicators to the market that a company believes in ethical, sustainable, as well as socially responsible business practice. Through these initiatives, an active involvement by firms helps them be transparent, accountable, and with long-term strategic planning.

Operational Signaling Channel: Firms also signal quality through the operational choices that CSR and ESG commitments require, such as supply chain audits, labor standards monitoring, and emissions tracking systems. Because these systems are costly to build and difficult for low-quality firms to fake convincingly, their presence functions as a complementary, harder-to-mimic signal alongside voluntary disclosure narratives.

Good CSR and ESG performance shows good leadership, governance and risk management proactive attitude. This is because such firms have a

better chance of managing the environmental, social, and regulatory issues, which lowers chances of operational or reputational crisis.

3.1.1. A reaction to the events by investors

Strong CSR/ESG practices are viewed by investors as an indicator of reliability and sustainability of a firm in the long term. This perception improves market value, since the investors will reward companies that have improved sustainability practices. Gets long term investors such as institutional and socially responsible investors. Signals reduce risk of investment which can lead to better access to capital and good financing terms.

Strategic Implication: Companies are advised to properly align ESG activities with business strategic goals and to communicate directly sustainability performance. Good signaling by CSR and ESG improves credibility in the markets, builds trust in the investors and contributes to the overall value of the firms.

3.2. Financial Intermediation

3.2.1. Enhanced Access to Capital

The more the companies post high CSR and ESG scores, the more they are considered risk-averse borrowers to the banks and other financial organizations. The sustainability spirit is an indicator of their sound management and survival in the long run, which leads to easier access to finance. A financial decision-making model that incorporates ESG components can provide a competitive edge within the financial sector.

Integrated ESG in Financial Decisions: An integrated financial decision-making model should include the elements of ESG that will give it a competitive advantage in the financial field. Capital markets, institutional investors, and commercial banks are also adopting ESG criteria in the process of lending, investment, and portfolio management. The trend is indicative of increased awareness in the world about the fact that ESG-compliant companies are more likely to manage operational, regulatory, and reputational risks.

Net Present Value (NPV)

- Appearances of ESG BSC
- Investment in ESG BSC
- Adoption Costs
- Implementation Costs
- Maintenance Costs
- Saving Benefits
- CSR Recovery Indicators
- Unintended (Intangible) Benefits
- Post-CSR Recovery Indicators
- Recovery of Equity
- Treatment through ESG BSC
- Reevaluation of CSR BSC

Firms can by showing good governance in terms of environmental, social and governance risks management. Obtain loans at a lower cost of interest as the perceived risk is less. Prospective green financing as well as sustainable investment funds, the terms of which are usually favorable. Expand access to a wider range of socially conscious investors who give preference to ESG-compliant companies.

3.2.2. Impact on Firm Value

This is the increased financial intermediation and it results in direct and indirect gains in the value of firms. Lower costs of finance, higher investor confidence, and more effective capital allocation can help firms to invest in the growth opportunities, innovate sustainably and perform better in the long term.

3.2.3. Strategic Implication

Businesses ought to also actively enhance ESG activities and offer clear ESG reports to financial institutions and investors by using sustainability as a capital mobilization instrument.

3.3. Stakeholder and Agency Theory Foundations

Signaling Theory explains why CSR and ESG information is transmitted to the market, but it does not by itself explain why firms choose to generate that information in the first place. Stakeholder Theory (Freeman, 1984) supplies this complementary logic: firms operate within a network of stakeholders, employees, suppliers, communities, regulators, and the natural environment, whose cooperation and goodwill are themselves productive assets. Investment in CSR and ESG activity can therefore be understood as an investment in stakeholder relationships that lowers the probability of costly disputes, boycotts, regulatory sanctions, or supply chain disruption, effects that show up in firm value with a lag through fewer negative shocks rather than through an immediate revenue increase. Agency Theory (Jensen & Meckling, 1976) contributes a second, more governance-oriented explanation. Because CSR and ESG commitments typically require multi-year capital outlays with uncertain and diffuse payoffs, they are more credible when undertaken by firms with governance structures that already constrain managerial opportunism, independent boards, concentrated long-term ownership, and transparent reporting lines. This implies that ESG performance may partly proxy for underlying governance quality rather than operating purely as an independent driver of value, a possibility this study addresses econometrically through firm fixed effects and the System GMM specification described in Section 4, both of which absorb time-invariant firm-level differences in governance quality.

3.4. Investor Perception

The board member must ensure that they can influence the expectations of investors.

Shaping Investor Expectations: CSR and ESG activities are important factors that determine the future of a firm by investors. Organizations that embrace sustainable practices are an indication that they have long-term strategic vision, discipline in their operations and good governance. This

defines the perception of investors towards the growth potential of the firm, its stability and risk profile.

3.4.1. The development of Reputation and Credibility

Companies that are involved in ESG activities are usually seen to be progressive, socially responsible, and resilient towards environmental, regulatory, or reputational pressures. These impressions build investor confidence and indicate that the firm is willing to succeed in changing market and regulatory environments.

3.4.2. Financial Implication of Positive Perception

Improved liquidity of stock: The increased investor confidence will promote increased trading and participation by shareholders.

Lower cost of capital: Investors view less risk which is translated into less required returns in equity and debt.

Increased market valuation: Favorable sustainability performance views are commonly converted into greater company valuation.

3.4.3. Strategic Implication:

Companies can also use ESG communication and reporting to impact the investor perception in a proactive way. Open reporting of the environmental, social, and governance programs boosts reputation, long-term investors and the overall financial performance.

4. METHODOLOGY

4.1. Data & Sample

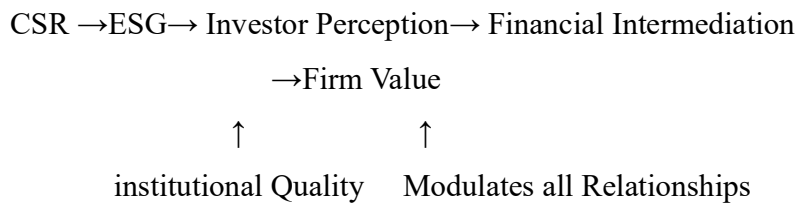
- 600 Global Firms.
- 40 Countries.
- 2015-2023 (panel data)
- Sources: Bloomberg, Refinitiv, World Bank.

The panel was constructed by matching firm-level CSR and ESG scores, drawn from Refinitiv's ESG database and Bloomberg's ESG disclosure scores, to firm financial statement data over the same period, and merging

both with country-level institutional and macroeconomic indicators obtained from the World Bank's World Development Indicators and Worldwide Governance Indicators. Firms with fewer than five consecutive years of non-missing CSR, ESG, and financial data were excluded to preserve a balanced enough panel for fixed-effects and dynamic GMM estimation, and firm-year observations were winsorized at the first and ninety-ninth percentiles on all continuous variables to limit the influence of extreme outliers on the regression estimates. The resulting sample spans developed markets (the European Union, the United Kingdom, the United States, Japan, and Singapore) and a smaller set of emerging markets that includes Pakistan, allowing the cross-country comparison that motivates Hypothesis 4.

4.2. Variables

4.2.1. Conceptual Model



Variable	Symbol	Description
Firm Value	FV	Tobin's Q
CSR	CSR	Corporate Social Responsibility Score
ESG	ESG	Environmental, Social, Governance Score
Investor Perception	IP	Sentiment Index
Financial Intermediation	FI	Institutional Investment Ratio
Firm Size	SIZE	Total Assets (log)
GDP	GDP	Country-level economic control

This conceptual model introduces CSR and ESG performance as an exogenous sustainability variable that is expected to influence firm value via two mediation variables, namely investor perception and financial intermediation, and institutional quality as a moderator that is expected to simultaneously amplify or dampen the impact of all variables in the model.

This structure is directly derived from the theoretical discussion from Section 3: Signaling Theory is the theory that motivates the CSR/ESG to investor-perception path, Financial Intermediation Theory is the theory that motivates the parallel path through access to capital, and the institutional-voids literature is the literature that motivates the treatment of country-level governance quality as a moderator rather than a simple control.

Table 3: Variable Description

The operational definition of each variable in the models listed above is summarized in table 3. Because Tobin's Q is a forward-looking variable based on investors' expectation, it is the theoretically relevant variable to use when the underlying variable is investor perception, as opposed to an accounting return, such as ROA. CSR and ESG are retained as separate regressors, despite their moderate correlation reported in Table 5, because the literature reviewed in Section 2.2 suggests they capture related but distinct constructs, voluntary ethical commitment on one hand and verifiable, standardized performance metrics on the other.

4.2. Econometric Models**Model 1: Fixed Effects**

$$FV_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 ESG_{it} + \beta_3 IP_{it} + \beta_4 FI_{it} + \beta_5 SIZE_{it} + \beta_6 GDP_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

In this specification, FV_{it} is Tobin's Q for firm i in year t , CSR_{it} and ESG_{it} are the Refinitiv/Bloomberg sustainability scores, IP_{it} is the investor-perception sentiment index, FI_{it} is the institutional-investment ratio proxying financial intermediation, $SIZE_{it}$ is the natural logarithm of total assets, and GDP_{it} is the log of the host country's GDP per capita, included as a macroeconomic control. The terms μ_i and λ_t are firm and year fixed effects, which absorb time-invariant firm characteristics, such as governance quality discussed in Section 3.3, and common shocks that affect all firms in a given year, while ε_{it} is the idiosyncratic error term, clustered at the firm level to allow for serial correlation within firms.

Model 2: System GMM

Fixed-effects estimation controls for time-invariant unobserved heterogeneity but cannot rule out reverse causality, since firms with already-high valuations may find it easier to fund CSR and ESG initiatives. To address this, the study also estimates a two-step system GMM model in the spirit of Blundell and Bond (1998), instrumenting the lagged dependent variable and the CSR/ESG regressors with their own lagged levels and differences. Instrument validity is assessed with the Sargan test of overidentifying restrictions and the Arellano-Bond AR(2) test for second order serial correlation in the differenced residuals; both are reported alongside the coefficient estimates in Section 5.3.2.

All models are estimated with heteroskedasticity- and autocorrelation-consistent standard errors clustered by firm, and the fixed-effects specification is checked against a random-effects alternative using a Hausman test, the results of which favor the fixed-effects model and are available from the authors on request. Reporting both the static fixed-effects results and the dynamic System GMM results allows the discussion in Section 6 to distinguish association from an estimate that is more robust to endogeneity concerns, rather than relying on a single estimator.

5. RESULTS**5.1. Descriptive Statistics**

Variable	Mean	SD
CSR	52.14	17.88
ESG	61.77	19.23
FV	1.87	0.92

Table 4: Descriptive Statistics

Descriptive statistics for the key continuous variables in the panel are presented in Table 4. The CSR (52.14) and ESG (61.77) scores of the sample firms (on a 0-100 scale) suggest that they are not at either end of

the sustainability spectrum, at least not at the extreme end, as is common with larger companies listed on international exchanges that are subject to some disclosure pressure. The large standard deviations (17.88 for CSR, 19.23 for ESG) indicate that there is significant cross-country and cross-firm variation, which is what is used by the fixed-effects and GMM models to estimate the coefficients reported in Section 5.3. As noted, the mean Tobin's Q for the sample is 1.87, which is expected as the sample is skewed towards growth-oriented, sustainability-focused companies rather than asset-heavy established companies.

5.2. Correlation Matrix

Variable	CSR	ESG	FV
CSR	1	0.62	0.41
ESG	0.62	1	0.54
FV	0.41	0.54	1

Table 5: Correlation Matrix

As anticipated, there is a positive relationship between the two scores: CSR and ESG ($r = 0.62$), which is not an issue of multicollinearity because it does not significantly affect regression coefficients in a two-regressor specification. These two sustainability measures are also both positively correlated with Tobin's Q ($r = 0.41$ for CSR and $r = 0.54$ for ESG), consistent with Hypotheses 1 and 2 and with the stronger link between the verifiable ESG metrics and the broader sustainability activity that Hypothesis 2 predicts. These bivariate relationships are only suggestive, however, and the fixed-effects and GMM estimates below can be used to gauge whether the relationship between the two persists after accounting for firm fixed effects and, in the case of GMM, for dynamic endogeneity.

5.3. Regression Results

5.3.1. Fixed Effects Model

Variable	Coefficient	p-value
CSR	0.142	0.002
ESG	0.284	0.000
IP	0.118	0.015

Table 6: FE Results

The fixed-effects estimates in Table 6 confirm Hypotheses 1, 2 and 3. This coefficient (0.142, $p = 0.002$) shows that for a one-unit rise in the CSR score, there is a statistically significant rise in Tobin's Q, *ceteris paribus* (with firm and year effects held constant). The coefficient on ESG (0.284, $p < 0.001$) is approximately twice as large as that on CSR, and is estimated with a greater level of precision, as is consistent with Hypothesis 2, and lends credence to the argument that standardized, auditable ESG metrics carry more credible signaling content than broader CSR activity. The coefficient on investor perception (0.118, $p = 0.015$) is positive and significant, providing direct support of the mediation channel of investor perception in Hypothesis 3, where a part of the CSR/ESG effect on firm value seems to work through the interpretation of the investors' sustainability performance and not just mechanically. Overall, the fixed-effects results already yield within-firm evidence (controlling for any fixed difference in governance quality or industry) that sustainability performance follows firm value.

5.3.2. GMM Results

Variable	Coefficient	p-value
CSR	0.167	0.004
ESG	0.301	0.000
Sargan Test	P= .41	
AR (2)	P= .32	

Table 7: GMM Results

Table 7 presents the System GMM estimates, as a response to the question of whether companies that have already high valuations are more likely to invest in CSR and ESG activities or less likely. Both coefficients remain positive, statistically significant, and, if anything, slightly larger than the fixed-effects estimates (CSR: 0.167, $p = 0.004$; ESG: 0.301, $p < 0.001$), which is inconsistent with a story in which the fixed-effects results were driven primarily by reverse causality. The diagnostic tests support the

validity of this dynamic specification: the Sargan test of overidentifying restrictions does not reject the null of instrument validity ($p = 0.41$), and the Arellano-Bond AR(2) test finds no evidence of second-order serial correlation in the differenced residuals ($p = 0.32$). Together, the fixed-effects and GMM results provide converging evidence, from two estimators that make different identifying assumptions, that the CSR/ESG-firm value relationship documented in this sample is unlikely to be a statistical artifact of omitted variables or reverse causality.

6. DISCUSSION

6.1 Global Evidence Interpretation

The findings of the study are a strong support of the benefits of CSR and ESG on firm value in the global market. In those nations where the ESG regulations are well developed, the existence of effective policies and reporting standards increases investor confidence, which subsequently increases the financial returns of the sustainability efforts. Empirical results by the use of the Generalized Method of Moments (GMM) confirm that there is low endogeneity and the relationships between CSR/ESG and firm value are not attributed to reverse causality or omitted variable bias. All in all, these results imply that companies investing in CSR and ESG activities receive a reward in the form of an increased market valuation, an easier access to finance, and the increased confidence of investors especially in regulation strongholds.

6.2 Implications for Pakistan

The effects of CSR and ESG on the firm value in Pakistan are less strong than the findings in the world because of a variety of structural and institutional factors:

Voluntary ESG reporting: It is common among most firms to report sustainability information voluntarily, and thus, the information is not consistent, and the transparency is not high.

Low investor demand in ESG-compliant companies: Low awareness and focus on sustainable investments decreases market incentives of firms to follow strong ESG practices.

6.3. Recommendations on policy and regulation

The signaling power of CSR and ESG efforts will be strengthened by strengthening institutional arrangements, such as compulsory reporting of ESG and the creation of a national ESG rating system, as well as by educating investors. Better governance and transparency will make firms more serious about sustainability practices and eventually add more value to firms and make Pakistan closer to global best practices.

6.4. Theoretical Contribution

These findings extend the theoretical discussion in Section 3 in two respects. First, the stronger effect of ESG than of CSR on the size of the coefficient is in line with the predictions of Signaling Theory, which suggest that investors' responses to harder to fake, standardized signals are more pronounced than their reactions to the voluntary signals, which are more loose. Second, the result is in line with materiality findings of Khan, Serafeim, and Yoon (2016) even though this study applies a broader composite ESG score and not the issue-specific materiality mapping methodology used by the authors. Second, the main coefficient for investor perception suggests that rather than being alternatives, Stakeholder and Signaling Theory can be considered complementary explanations: sustainability activity seems to be valued not only when it leads to operational efficiency through improved stakeholder management, but also when it influences the market's perception of a firm's risk and governance profile. The lower degree of association observed for Pakistan in Section 6.2 should be interpreted with the institutional-voids framework of Section 1.3, as an example of how the credibility of the signals was compromised when the infrastructure for verifying signals, such as is common in developed markets, is largely missing.

7. POLICY IMPLICATIONS

Pathway of Sustainable Finance Policy

Compulsory ESG → Openness → Investor Confidence → Capital Inflows → Green Growth.

7.1. Pakistan Reform Recommendations

7.1.1. Obligatory ESG Reporting of PSX-listed Firms

Requirement: Every publicly-traded company should report ESG indicators on a yearly basis.

Rationale: Voluntary reporting is intermittent and restricts the capacity of investors to determine the sustainability of firms. Reporting standards bring Pakistan closer to international standards of reporting GRI, SASB, and TCFD.

Implementation Strategy: SECP to publish concrete ESG disclosure guidelines having a transition timeline. Establish a unified ESG reporting platform of PSX-listed companies. Provide incentive to independent verification/audit of reported data.

Expected Outcomes: More comparability and transparency in firms. Increased investor confidence which brings in domestic and foreign capital. Improved corporate responsibility and sustainability.

7.1.2. Create an ESG Rating Agency in Pakistan

Requirement: Establish a special national authority to assess and grade corporate performance on ESG based on standardized requirements.

Reason: Lack of an independent ESG rating body will not give investors the opportunity to distinguish firms according to their sustainability. Ratings provide an incentive to firms to perform better and consider ESG as a part of the strategic planning.

Implementation Strategy: Agency ought to embrace global ESG standards. Create scoring methodology on E, S and G dimensions. Publication ratings at least once per year and combine them with PSX disclosures.

Expected Outcomes: Credible ESG rating to make sound investment decisions. Promotes the competition between firms to enhance ESG scores. Increases the global sustainability financing market of Pakistan.

7.1.3. Combine ESG Risk Assessment in Banking

Requirement: Banks and other financial entities have to perform an ESG risk assessment prior to loaning or investing. This consists of the environmental liability, environmental governance risk, and social compliance risk.

Reason: The incorporation of ESG in banking guarantees the creation of capital flows about sustainable and low-risk companies.

Implementation Strategy: SBP (State Bank of Pakistan) to release ESG risk guidance among banks. Create ESG risk assessment instruments sector specific. Incorporate ESG in credit score and investment analysis.

Expected Outcomes: Encourages adequate lending and investment. Cuts down on non-performing loans that would occur as a result of ESG failures. Incentivizes companies towards the practice of ESG to enhance accessibility to finance.

7.1.4. Give Tax B breaks to Green Investments

Requirement: Provide tax credits, deductions or rebates to companies investing in renewable energy, energy efficiency and low-carbon technologies as well as sustainable infrastructure.

Reason: Financial incentives reduce the cost of environmentally friendly projects, and speed up the corporate uptake of environmental practices.

Implementation Strategy: Provincial and federal governments to establish what qualifies as green investments. Condition tax benefits on quantifiable results like carbon abatement or energy conservation. Track and review claims to check that there is appropriate use of incentives.

Expected Outcomes: Increases investment in renewable energy and energy efficient technologies. Lessens pollution of the environment and carbon footprint. Promotes green product and sustainable business model innovation.

7.1.5. Inaugurate Nationwide ESG Education and Enlightenment

Requirement: Implement intensive capacity-building initiatives among corporate managers, investors, regulators, and policymakers to enhance knowledge on ESG and implementation skills.

Rationale: Low awareness and technical skills are obstacles that do not facilitate the successful implementation of ESG in Pakistan. Training develops competency within the industries and financial institutions.

Implementation Strategy: Collaborate with higher education, professional associations, and foreign ESG agencies. Create online ESG reporting, risk assessment and sustainable investment courses and certifications. Support awareness campaigns on the benefits of ESG to firms, investors and society.

Expected Outcomes: Increased corporate strategy and corporate operations integration of ESG. Enhanced investor confidence owing to the improved knowledge of the sustainability risks and opportunities. Development of talented labor force, which will help Pakistan shift to sustainable economy.

8. CONCLUSION

CSR and ESG have moved, within roughly two decades, from voluntary ethical gestures to core variables in financial decision-making. Firms that embed sustainability into strategy rather than treating it as a peripheral communications exercise realize measurable benefits in operational efficiency, stakeholder relations, and, as this study's empirical results indicate, market valuation. This paper has combined theory, cross-country empirical evidence, and country-specific policy analysis to show how these benefits arise and why their magnitude varies so sharply between mature and emerging financial markets.

This combined research shows that CSR and ESG are conceptually, empirically and policy relevant in international markets. By examining the sustainability program of 600 companies across 40 countries, it can be seen

that sustainability programs generate quantifiable financial benefits. Firms that have a high level of ESG performance realize: Confidence in the investment by investors, which will cause the share prices to become more stable and lower the volatility. Reduced cost of capital, since the investors have fewer operational and reputational risks. Increased availability of finance, such as green financing, and sustainable investment funds.

8.1. Policies and Strategic Implications on Pakistan

CSR and ESG impact in Pakistan is low as a result of voluntary reporting, poor governance, and investors are unaware. The research provides importance of the adoption of global best practices, including: Compulsory ESG reporting of publicly traded firms, Creation of a country-wide ESG rating system, Incorporating ESG risk analysis into banking and investment, Green and sustainable investment incentives, ESG training and awareness at the national level. As a nation, Pakistan portrays certain positive traits, yet it remains vulnerable to multiple adverse elements.

8.2. The adoption of these reforms

Build market confidence through higher levels of transparency and accountability. Encourage foreign direct investments by harmonizing local companies to the international standards of ESG. Make Pakistani companies competitive in the international supply chains. Foster a sustainable economic development, environmental and social development. Promote innovation and the use of green technologies which will make Pakistan a progressive and sustainable economy.

8.3. Strategic Recommendation

Policy reforming, capacity building and corporate commitment are necessary as a combined method. Businesses, authorities, and stockholders have to cooperate to build a strong ESG environment which does not only optimize financial results, but also invests towards the national and international sustainability goals.

8.4. Limitations and Future Research

This study has some limitations in its conclusions, and directions for fruitful extensions. The sample of 600 companies from 40 countries is limited to companies that are large enough and transparent enough to have been captured by the ESG databases of Refinitiv and Bloomberg and thus fails to represent the challenges faced by smaller, unlisted and informally operating companies, which are particularly prevalent in Pakistan. Second, the study uses third-party CSR and ESG scores which are prone to substantial differences between data providers, given that different data providers employ different methodologies and provide different coverage (Berg, Kölbel & Rigobon, 2022); using two data providers provides some cross validation of the construct, but it is still not possible to capture the measurement problem with current data. Third, the observational panel design cannot exclude unobserved, time-varying confounders, which are co-determining sustainability scores and valuation, such as, for example, a sudden change in the number of customers served by a firm, or a policy shock that hits a country's economy. Fourth, there is an inherent institutional mix even within the "emerging markets" classification, meaning that the Pakistan results do not represent the wider developing world, but rather illustrate one institutional setting. Future studies might benefit from using exogenous regulatory shocks, like mandatory ESG disclosure across jurisdictions, to uncover variation, from supplementing the archival analysis with primary survey or interview data from investors, CFOs and regulators in Pakistan to deepen the understanding of the institutional-voids explanation offered here, and from expanding the cross-country comparison to additional emerging countries to explore whether the institutional-voids explanation generalizes beyond the single-country case examined here.

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