

## **ESG Disclosure Strategies of KSE-100 Firms: Does Green-Hushing Enhance Tobin's q?**

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### **Abstract**

*This paper discusses the impact of the green-hushing effect on the market value of the listed firms in the KSE-100 index of Pakistan. Green-hushing is the garnering of environmental sustainability practices by companies that even seem to under-report various environmental sustainability protocols and practices. As ESG reporting is set to be a global norm, firms in emerging economies and especially those companies in regions where emerging disclosure regulations are imposed are subject to striking a balance between responsibility toward the environment and control in deciding what to disclose. The article applies the signaling and agency theory to study whether selective silence concerning ESG brings any additional value to firms in terms of measurement by Tobin Q. The process utilizes panel data (2018-2022) of 86 companies (N = 430 firm-year observations) that examines ESG performance, voluntary disclosure content, and media exposure. The new index ESG Silence Index (ESI) is presented to grasp the divide between the environmental performance and reporting. Estimates indicate that ESI scores are significantly related to the increased popularity of Tobin Q (0.142,  $p < .01$ ) in those industries with the poor ESG regulation and less publicity of media. This implies that since an institution has a permissive oversight, under-disclosure of matters regarding ESG can be viewed as a strategic approach by investors or efficiency. The research extends the ESG knowledge by measuring the degree of green-hushing and connecting it to market valuation in South Asia, which can be applied by managers that need to balance transparency and discretion trade-off when reporting on ESG.*

**Keywords:** Green-Hushing, and ESG Report, Tobin-Q, KSE-100, Environmental Signals, Emerging Markets, Strategic Accounting Silence

### **Introduction**

At one of the leading engineering companies traded in the KSE-100 index, the sustainability director cautions the board on the dangers of publishing the information on their new energy-efficient retrofitting initiative. She warns that such exposure might attract investor attention and even the undesired attention on the part of NGOs. This is the situation that has presented an increasing dilemma to companies in emerging markets: whether to disclose or actively underreport their actions towards environmental sustainability. Known as green-hushing, this strategic silence is committed when there is under-reporting or non-disclosure of major environmental activities. Conversely, green-hushing is more factual as it is less communicative than greenwashing as is communicative that goes to an extent of lying about the so-called sustainable achievements.

ESG (Environmental, Social, and Governance) transparency has been one of the most significant stakeholder expectations globally in terms of investors, regulators, and consumers among others. This trend is influenced by the fact that ESG-based investments have jumped to over the sum of

more than 35 trillion globally in 2022 (Global Sustainable Investment Alliance, 2021). In the developed economies, ESG reporting is already a norm, which is usually associated with easier access to capital, debt costs reduction, as well as an increase in market appraisals (Grewal et al., 2016).

But in other developing economies such as Pakistan, the disclosure environment is a bit different. When the enforcement of the regulations is looser, the different measurements of ESG are not uniform, and the media or the civic society take little interest in them, corporations have an obligation not only to include their performance in ESG but also do so strategically in view of the effect their disclosures will have (Mahmood et al., 2018). Such markets have traditionally had political sensitivities on good environmental practices that have the potential when publicized to bring adverse reactions by the local media outlets, the environmental lobby groups, and even the government (Ahmed & Saleem, 2021).

The role of the disclosures of ESG is duly reported in the literature of finance and management. On the one side, transparent reporting of ESG can increase a company value as it indicates the quality of management, risk awareness, and sustainability correctness. According to Flammer (2021), green bond issuances and reporting on environmental, social, and governance (ESG) issues result in both the appreciation of stock prices and the profitability at long-term. On the other hand, any poor quality or excessive disclosure can also lead to costs associated with litigation actions, regulatory costs, and reputational instability costs (Ioannou & Serafeim, 2017).

Although a significant amount of research proceeded on the consequences of ESG disclosure, there exist a gap in the knowledge on the consequences of non-disclosure or partial disclosure. Most of companies practice sustainability but never report itself. Raising the most important question, does green-hushing, or strategic under-reporting to volatility increase the value of our market?

In order to investigate the same, we refer to two most important theories Signaling Theory and Agency Theory. Signaling Theory (Spence, 1973) states that in information asymmetric markets, the firms use signals to differentiate between themselves. In situations where there is low standardization of the ESG measurements, companies will be ready to keep quiet compared to reporting at a huge cost. According to Agency Theory (Jensen & Meckling, 1976), what managers might want to avoid is disclosure to defend themselves against the scrutiny, or averted expectations.

It is because, despite this omission being referred to as green-hushing and sometimes being regarded as certain acts of omission, this paper argues that it is not synonymous with omission; rather, it is a strategic decision aimed at enhancing firm value in emerging markets. Our hypothesis is that in this case, by green-hushing, it is possible to increase the market valuation of the firm, especially when it performs well compared to others in the area of environmental performance and, in addition, does not report the same broadly. Another aspect that we anticipate is that green-hushing will be more pronounced when the ESG regulation in an industry is weak and less when the media awareness is high.

This study contributes to the literature in three ways, the first theoretical contribution constitutes the definition and operationalization of green-hushing in emerging economies, the second theoretical contribution challenges the assumption that non-disclosure is necessarily harmful to

firm value, demonstrating that the virtue of silence is value-enhancing in circumstances; and the third, and practical contribution, the study provides recommendations to guide managers, investors, and policymakers to reconcile the ESG reporting complexities in South Asia.

The findings will add to the existing body of literature on ESG communication, sustainability, and firm-performance since it will place special emphasis on emerging markets and their specific issues related to ESG disclosure.

### **Literature Review**

This paper examines the connection between green-hushing, which is the selective under-reporting of environment sustainability activities, and the value of a firm in the market. Green-hushing is a deliberate understating of verified environmental sustainability initiatives in the case that considerable environmental measures have taken place by companies. Whereas greenwashing entails exaggerated environmental activity on the part of the firms, green-hushing is a situation whereby a company is doing more than it is claiming. Such planning of silence is very prevalent in emerging economies in which the political, regulatory, or social risks of environmental disclosures are high. In such circumstances organizations can conceal information so as to prevent avoid attention or devise false expectations. Green-hushing thus is a strategic choice to say less what is done, in regards to sustainability practices (Delmas & Burbano, 2011).

Tobin Q refers to the amount of market price of the firm compared to the cost of the values acquired in response to replacing the assets of the firm, (a common factor in financial management). It is used as a reflection of the market valuation, which shows the outcomes expected by investors concerning the future profitability compared to the existing asset value (Lindenberg & Ross, 1981). A new metric used in this study named the ESG Silence Index (ESI) was designed in an attempt to operationalise green-hushing. It measures the discrepancy between the real level of environmental performance and voluntary disclosure of the firm. An increased ESI score signifies a company that scores well in matters of environmental approaches yet reports less of what would be expected. Such index is based on the difference between the action and communication, which determines the level of strategic silence.

Three main boundary conditions characterize the model of the given research: (1) environmental actions of the firm have to be observable, and not only the promises have to be made; (2) ESG performance is to be measurable using standardized third-party ratings (e.g., Refinitiv, Sustainalytics); and (3) the voluntary character of disclosure, i.e. the firms are not bound to report under the legal requirements. Such situations will ensure that green-hushing is a choice and not an imposed measure by the regulators.

Underlying Signaling Theory and Agency Theory, this study attempts to describe how green-hushing can be used strategically, and what effect it has on valuation of the firm. The Signaling Theory (Spence, 1973) assumes that the company in information-asymmetric market uses signals as information to portray the quality of the company to investors. As a part of ESG, the companies are able to communicate their sustainability behavior to demonstrate their higher-level risk management and adherence to ethics. Nevertheless, sending signals is not always cheap and in circumstances where the expectations of the ESG standards are not clear, a firm might decide to stay silent to avoid such expenditure. The green-hushing in this sense, turns into strategic non signalling. It enables the business to avoid being shot at and at the same time demonstrating that they are capable of doing so, particularly when its audience (e.g., investors) are yet to evolve in understanding ESG disclosures (Connelly et al., 2011).

Agency Theory (Jensen and Meckling, 1976) is a theory, which is interested in the behavior of the principals (shareholders) and the agents (managers). When they inline their own self-interest, the managers are likely to choose lower disclosure especially before the disclosure can result to increased liability or unrealistic hopes among stakeholders. Where there exist low levels of regulatory oversight, operators are freer in making choices of what to disclose, and green-hushing is used in order to evade the eyes of outside observers, but at the same time keep options open. Such a strategic silence gives the managers control over the reputation of the firm and future disclosures.

Green-hushing has not been well researched whereas the reason is that it has been surrounded by literature on greenwashing. The majority of studies assume that non-disclosure is the same as low ESG performance, when there is in fact no relationship between the two. The recent developments indicate that muted transparency is a systematic policy which may be used to be in control of relationships between stakeholders (Boiral, 2016). Nevertheless, such an idea is usually discoursed about qualitatively, and not many empirical studies study the practical issues of green-hushing. This gap is fulfilled by this paper by gauging green-hushing using ESG Silence Index (ESI) and demonstrating the relationship with market valuation, through creating a panel of KSE-100 firms. The particular political and regulatory landscape in Pakistan where the ESG regulation is not consolidated, and the stakeholder activism is not fully established provides a perfect background in which to explore when and why strategic silence can be positive.

In order to make sure that the identified correlation between green-hushing and firm valuation is not spurious, the online paper involves a number of control factors: the size of the firm (the log total assets), the norms of leading ESG practices in the industry, institutional ownership (the percentage of the shares that institutional investors own), the number of news stories devoted to the ESG issues, and the independence of the board of directors (the amount of the independent directors of the firm). Big companies tend to spend more of their corporate resources to conduct ESG activities and attract greater attention of investors and media. Other areas of requirements and ESG performance regulations are the energy industry and chemicals industries among others. Greater institutional ownership could diminish the risk of green-hushing because in certain cases institutional investors pressurize towards a more transparent treatment. The more media exposure there is the more difficult it becomes to keep quiet because a firm that is more visible in the media is made a subject of scrutiny and people are more likely to wait to see what happens. More independent board has the chance to exert more transparency or even strategic silence basing on the objectives of the corporation and the regulatory conditions. These controls will enable the study to tease out the impact of green-hushing on Firm valuation, excluding other known factors that determine ESG Practices.

Green-hushing brings a new line of thought on the communication strategies on ESG, especially in emerging markets. This study has added to an increasing volume of literature around ESG practices and corporate communication, by measuring this strategic silence and its effect on the market valuation. It would also give beneficial ideas to companies operating in politically and socially sensitive societies where transparency could be a very risky affair.

#### **Methodology**

This paper examines the effect of green-hushing on the values of firms within the context of the Pakistan Stock Exchange (PSX) KSE-100 index which consists of the most successful firms with

shares in the KSE-100 index. The selected population consists of non-financial companies only, and the financial enterprises do not have the same requirements of ESG reporting and specifics of accounts, which would cause a gap in between the methods. The temporal framework will be between 2018 and 2022, which is a changing era where the discourse around ESG has increased in South Asia owing to the local pressures as well as the global movement, which is focused on sustainable finance. Although ESG standards remain as a voluntary and non-standardized in Pakistan so far, joint venture partners who have multinational resources and international investors have put increasing pressure on the observation of international sustainability standards (as those of the GRI Global Reporting Initiative or the UN Global Compact).

The emerging market conditions in Pakistan, involving voluntary and non-binding reporting on the ESG, offers a perfect trading environment to explore the impacts of vender green hushing on its market value. Institutional environment in the country is characterized by regulatory complexity, low ESG standards enforcement, moderate level of media reporting and emergent but weak form of ESG investor advocacy. These developments have provided the best background through which to research ESG communication as a discretionary management action but not as a practice founded on compliance.

This research employs four key datasets to compile a complete dataset: ESG performance, the data on ESG performance obtained through the Refinitiv ESG Scores and Sustainalytics Risk Ratings which evaluate the performance of firms on the firm-level environmental performance, such as carbon emissions, energy consumption, waste management, and water usage; disclosure data, manually extracted data of annual reports, sustainability reports, and standalone CSR reports, with a standardized ESG keyword framework drawing on GRI and SDG indicators, creating a comparable disclosure score; financial data, from Bloomberg Terminals

Their final complete sample will include 86 non-financial firms in KSE-100 hence offering panel data of 430 firm-years observations over a period of five years. The sample size is sufficient to make reliable statistical inference with a significance level of 0.05, power of 0.90 and effect of 0.15 as confirmed by power analysis done with G-Power 3.1. Firms with missing ESG or financial-data were dropped and attrition tests showed that the excluded firms did not systematically differ in the other most important characteristics.

The main independent variables in the analysis will be Tobin Q, a market based valuation ratio which will be calculated as the resulting ratio between market capitalization and the market value of assets and liabilities; ESG Silence Index (ESI) which will be generated by regressing environmental performance scores on environmental disclosure score and using standardized residuals where positive residuals present a green-hushing; media visibility, which will be measured as the number of references to the environmental news per firm in Factiva; and the board independence, the number of independent directors on the board that will act as proxy of governance quality

Real-world firm characteristics and macro-economic shocks of specific years were the time-invariant characteristics used to define the main estimation method which is fixed-effects panel regression. Two-Stage Least Squares (2SLS) was used, with lagged CSR investment and corporate governance scores used as instruments, Propensity Score Matching (PSM) was also utilized to remove treatment effect of green-hushing and Bootstrap analysis employed to test the



stability of estimates. Return on Assets and Price-to-Book Ratio were also other valuation indicators that were ensured that they were consistent.

From endogeneity and validity robustness tests, they tried lagged instruments and placebo tests done using non-environmental CSR activities as well as Variance Inflation Factor (VIF) to test the multicollinearity. The technique of the missing at random (MAR) assumption will be applied to deal with the missing data and listwise deletion will be employed. Academic standards of transparency, integrity, and reproducibility of the project were addressed and no human subject was used in the study and no confidential data were manipulated. There were adhered to ethical principles, and research within the institution and these were done according to the research standards of the institution.

### **Results**

The article examines how green-hushing affects the valuation of firms and has used the data of KSE-100 companies. The mean and standard deviation values of Tobin Q were 1.24 and 0.33, respectively, indicating that, averagely, firms are trading at above their asset-replacement costs, which is attributed to investor expecting higher returns as compared to the cost of capital. The ESG Silence Index (ESI) means 0.00 and the standard deviation 1.00 because it is a standardized residual to the regression of environmental disclosure on environmental performance. Remarkably, ESI is positively and significantly transacted with Tobinis Q ( $r = 0.26$ ,  $p < 0.001$ ), which affirms the idea that green-hushing has a favourable correlation with firm valuation. This argues that any firm that under-reports their environmental performance could get valuation premiums, perhaps because the choice could be interpreted as resulting after ambiguity that can be interpreted as a sign of efficiency or discretion.

The other variables, such as the media visibility, board independence, and firm size also meet the expectation. Media presence is inversely proportional to ESI ( $r = -0.18$ ,  $p < 0.05$ ), and this implies that the higher the media exposure, the less likely the occurrence of green-hushing. Similarly, the level of independence reported by the directors is only slightly negatively correlated with ESI ( $r = -0.12$ ,  $p < 0.10$ ), implying that firms with so-called stronger governance existences are less prone to exercising strategic silence.

The results of the panel regression indicate that green-hushing has a positive effect on the valuation of a firm. The coefficient of the ESI variable is significant and greater than zero ( $\beta = 0.142$ ,  $p < 0.01$ ), which means that better environmental performance and less disclosure translate into market valuation of firms. With the introduction of media visibility, valuation ( $\beta = -.260$ ,  $p < 0.01$ ) is adversely affected, indicating that the higher the level of media visibility, the less impact the green-hushing effect has on valuation, possibly because the greater the media exposure the more a company has to risk the reputation penalties or scrutiny by any stakeholder in a case where the firm has concealed the information about its green-hushing practice.

The relationship between ESI and industry regulation (H2) indicates that they are positively related with a significance of  $p < 0.01$  ( $\beta = 0.121$ ). This implies that green-hushing is more likely to affect the valuation positively in the industry where industry regulatory pressure weakly exists. All these reinforce the premise that in less-regulated sectors, companies are able to withhold an ESG information with impunity, i.e., they are not penalized and there is no requirement to disclose.

In the same way, media visibility impairs the connection that exists between ESI and the Tobin's Q. The favorable correlation between green-hushing and firm valuation diminishes with the amplification of media exposure ( $\beta = -0.091$ ,  $p < 0.05$ ), which proves that reputational publicity can depreciate the efficiency of silence.

This is accomplished through making robustness checks in order to have reliability with the findings. Its inclusion in the estimation of ESI (overall estimation as well as 2SLS estimation using lagged CSR investments and corporate governance as instruments) leaves the relation between the value of the Tobin and ESI to be significant ( $\beta = 0.133$ ,  $p < 0.05$ ). The concurring result can also be proved in the match sample of PSM ( $\beta = 0.128$ ,  $p < 0.01$ ). Placebo tests with non-environmental CSR activities (e.g. community donations) do not produce any significant result with Tobin Q, confirming that the relationship concerns only environmental disclosure. This is also confirmed by the bootstrapping analysis with a high confidence interval value (95% CI = 0.063, 0.23).

On the whole, the outcomes support the hypothesis of the theoretical model, thus observing that green-hushing or tactical underreporting of environmental performance is positively correlated with firm market value. The conditional nature of green-hushing as a signaling process in the world of new markets is dictated by the regulation and visibility of the industry on the media. These results hold up against a variety of robustness checks, which indicates that the silence in the capital markets is not a neutral practice and instead can be used to differentiate, in markets where there is loose external monitoring.

### **Discussion**

The paper will enhance ESG (Environmental, Social, and Governance) disclosure science, and utility by conducting an analysis of the strategic intent and valuation implications associated with strategic green-hushing, the intentional under-recording of environmental actions. Although most of the existing body of literature implies that communication regarding the ESG is always more desirable and preferable in cases of higher transparency, our findings complicate the matter. We demonstrate that, at least in some situations, openness is not always compensated and sometimes it is better to remain silent. The discussion on practice implications to managers and future research as well as contributions to theory are presented below.

It is the first paper, which empirically measures green-hushing in terms of the ESG Silence Index (ESI), which is the standardized residuals of a regression of environmental performance on environmental disclosure. Now, by making such a firm-level measure that quantifies the distance between performance and disclosure, we no longer need to resort to the anecdotal talk and instead possess a repeatable and data-based method of assessing the ESG silence. This paves the way to future studies on the practice of green-hushing beyond industries, or locations, or even parts of ESG (social or governance).

The historical supposition of the Signaling Theory involves that businesses that possess superior qualities would prove their excellence through high-cost activity, such as ESG reporting. However, a different context seems to reveal that silence can be a very effective notice of other equally suitable occasions. A situation where a firm does everything spectacularly in environmental matters but decides to keep it a secret can have several implications; it can be an indication of confidence, funding of resources, or even strategic insight. This paper will build

upon the Signaling Theory by taking partial signaling into account as one of the strategies, which can be used when the receiver or the perception of a signal is unsure.

Although past literature has majorly touched on the reputation value and stakeholder-related benefits on ESG disclosures, this paper presents a valuation-oriented mechanism by connecting the concept of green-hushing to the concept of the rhino of the organization, i.e., Tobin Q. Traversing through the various outcomes revealed by our analysis, we demonstrate that there are instances when markets fail to respond positively towards full disclosure especially when the disclosures are deemed as too much or are disingenuous. This fact presupposes that selective disclosure is more viable as well as sensible in some given situations.

There are some important lessons that managers can learn in the emerging markets or where the ESG regulations are less robust based on this research. Green-hushing is not an action to be labeled as fabrication. Companies that have good environmental results can contribute to strategic maturity, discretion, or efficiency, and selective disclosure enhancing the same can be of benefit to the company. It applies well especially in those industries wherever claims of ESG occur, and where there is a suspicion of exaggerated self-marketing. When the regulating environment is weak, in a country such as Pakistan and when there is less trust between stakeholders, an over-disclosure on ESG information may cause cynicism or may be interpreted as greenwashing. The managers have to find a balance between the disclosure cost, transparency, and believability.

We have also identified the fact that the media visibility and the pressure of the regulators are the moderators of the green-hushing effects. Firms operating within strong publicity or regulated industries should provide a more open disclosure whereas firms engaged in low-visibility businesses can use a selective disclosure approach or the gradual release. Moreover, green-hushing had greater positive valuation in the lesser regulated firms like textiles and manufacturing. Green-hushing can be viewed poorly in companies where the regulations regarding the environment are more stringent (e.g., oil and gas, cement). Depending on the regulatory environment, managers ought to change their ESG strategy.

Although this is a good study, there are a number of limitations and further research opportunities too. The study will be based on the non-financial KSE-100 companies in Pakistan where benchmarks of the ESG are voluntary and enforcement is ineffective. The findings cannot be said to be applicable in the developed markets where ESG reporting is being widely implemented or auditing passively taken by third parties has become a norm. Hypothetically, a future researcher might be curious to compare the slant of green-hushing in markets with dissimilar ESG implementation.

### **Conclusion**

This research is on environmental green-hushing and given that there are other types of selective disclosure silencing like social or governance policed silence, further investigation can be undertaken on the same. Such as, the companies involved in male dominated industries might understate succeeds in gender equity, or the companies might not include the data on executive pay equality in information. It can be also intriguing to transpose the concept of green-hushing onto the other dimensions of ESG to comprehend the concept of strategic non-disclosure better.

The experiment may be used to provide direct measure of the effect of green-hushing on the valuations in the markets as this study relied on measurement of the effect of green-hushing on



the market valuation through the calculation of Tobin Q. Experiment measurements may also use additional methods like surveys to identify the manner in which ESG silence is perceived by the investors. This would bring out a better picture on whether investors are rewarders of silence or they are not informed about performance deficiency.

However, green-hushing or strategic ESG silence, is one of the factors that can have a positive impact on the firm valuation at least under some circumstances related to the weak legal framework of the regulation, in particular, the emerging markets. These results stick to the prominent knowledge that always full disclosure can be the most efficient strategy and demonstrate under-disclosure to be an effective signal of confidence and future-mindedness. The outcomes also indicate that, the green-hushing effectiveness depends on the industry regulation and the media coverage. Companies in less regulated industries have the advantage of having more flexibility in their ESG reporting, whereas others perceived at higher profiles should use more open communication to avoid a leakage of negative impressions. The research has created new opportunities towards the role of selective ESG disclosure, and further researches to look into other types of non-disclosure and its effect on the perceptions among the market are necessary.

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