


# Impact of TBL-Based CSR Disclosure on Financial Performance in Halal Food Companies: A System GMM Analysis

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## Abstract

The goal of this study is to evaluate the relationship between corporate social responsibility disclosure and financial performance (Return on Equity and Tobin's Q) in Halal food companies. The sample consists of 75 listed Halal food companies on the Bursa Malaysia Stock Exchange for the period between 2012 and 2021. Based on the empirical results using a generalized moment of method (GMM), the dimensions of triple bottom line-based corporate social responsibility—economic, environmental, and social—have a significant effect on return on assets. Furthermore, findings indicate that economic factors have an insignificant effect on Tobin's Q in static models; however, it is significant in the dynamic model of the system GMM. Whereas environmental factor has a highly significant impact on Tobin's Q in the static model and it has also significant impact in the GMM's dynamic model. Nonetheless, social factors have a significant effect on Tobin's Q in both static and dynamic models. The outcome of the study suggests that policymakers must comprehend the significance of corporate social responsibility disclosure, and it is imperative to determine whether Halal food companies must engage in corporate social responsibility disclosure a priori for short and long-term growth.

## Plain language summary

### How CSR Disclosure Affects Financial Performance in Halal Food Companies: A Study Using Advanced Statistical Methods

The current study aims to evaluate the relationship between corporate social responsibility disclosure and financial performance (Return on Equity and Tobin's Q) in Halal food companies. The sample consists of 75 listed Halal food companies on the Bursa Malaysia Stock Exchange for the period between 2012 and 2021. Based on the empirical results using a generalized moment of method (GMM), the dimensions of triple bottom line-based corporate social responsibility—economic, environmental, and social—have a significant effect on return on assets. Furthermore, findings indicate that economic factors have an insignificant effect on Tobin's Q in static models; however, it is significant in the dynamic model of the system GMM. Whereas environmental factor has a highly significant impact on Tobin's Q in the static model and it has also significant impact in the GMM's dynamic model. Nonetheless, social factors have a significant effect on Tobin's Q in both static and dynamic models.

## Keywords

halal food industry, corporate social responsibility disclosure (CSR), financial performance (FP), generalized moment of method (GMM)

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Research on the relationship between CSR disclosure (CSR/D) and business performance has generated conflicting results, potential relationships remain indefinable and speculative (Margolis & Walsh, 2003). Hence, many corporations engage in socially responsible initiatives to achieve sustainability beyond competitive advantage. Disregard for contingency variables, measurement errors, improperly specified models, insufficient sampling across multiple industries, single CSR dimensions, and indefinably broad operationalizations of CSR and financial performance (FP) aspects have all contributed to the contradictory findings of numerous studies (Margolis & Walsh, 2003; Wu, 2006). These factors have a significant impact on the relationships between various activities. Nevertheless, researchers have begun to question the continuity of CSR/D investigations (Wood & Logsdon, 2008). One important question remains: How can corporate social responsibility measures have a major impact on the firm's financial performance? In order to deal with this issue, this paper examines the rising importance of the Triple Bottom Line (TBL)-based CSR theory as a core area of study.

Through fostering environmentally responsible growth, the Halal business hopes to make a positive impact on the progress of the nation's economy as well as the nation's society. Triple bottom line (TBL) is considered a corporate social responsibility (CSR) structure that encompasses three factors of performance: (i) economic; (ii) environmental; and (iii) social. These three dimensions are related to sustainable results, which is the main concept of this model.

Business strategies and regulations are progressively requiring businesses to advance their societal and environmental performance (Meier, 2018), and CSR disclosure is widely used to assess that performance. While there are numerous instances of positive CSR initiatives, there are also instances where business objectives conflict with these initiatives and practices. Several factors motivate research into the effects of CSR/D on financial performance (FP), with the realization that investing in CSR alone is insufficient for improving performance and that a more holistic approach is required. According to the literature, engagement in sustainability projects demonstrates a company's wealth (Eccles et al., 2012) and strengthens their associations with investors through increased honesty and mutuality, enriching FP as a consequence (Barnett & Salomon, 2006). Nonetheless, Barnett and Salomon (2006) stated that engaging in CSR initiatives requires expenditures that may place an organization at a competitive shortcoming relative to participants who do not, especially in the global economy that we are currently experiencing.

In the Halal food industry, CSR disclosure holds immense significance, aligning with the values of

consumers who prioritize transparency and ethical practices. Consumers in this industry place a premium on knowing the origins and ethical considerations of their food, making CSR disclosure a powerful tool in building consumer trust (Ahmad et al., 2024; A. Ali et al., 2021; Giyanti & Indriastiningsih, 2019). Beyond consumer trust, CSR disclosure aids in market differentiation, global reputation building, and risk mitigation. However, despite the Malaysian government's commitment to promoting Malaysia as a global leader in Halal commerce, there is limited research on CSR/D practices in Malaysian Halal food companies. The absence of such studies may lead to issues such as a lack of transparency, erosion of trust, and reputational risks. While CSR disclosure plays a significant role in financial markets, the moderating effect of CSR/D on the link between CSR and financial performance remains uncertain (Ahmad et al., 2024; Harjoto & Jo, 2011).

Therefore, the main objective of this research is to examine the impact of TBL-based CSR disclosure on financial performance measured by return on equity (ROE) and Tobin's Q (TBQ) of Malaysian Halal Food Companies, addressing the gap in the existing literature. The study aims to expand on existing research by focusing on the Halal industry specifically, providing insight into how CSR practises and initiatives impact financial performance in this unique context (Ahmad et al., 2024).

This study extends existing research on the relationship between CSR and financial performance, building upon studies across various industries (Chen & Bouvain, 2009; Islam & Deegan, 2010; Orlitzky et al., 2003). Focusing on the unique context of the Halal industry, it offers insights into how CSR practises influence financial performance. Beyond academic contributions, the study provides practical implications for industry practitioners, highlighting specific CSR dimensions that significantly impact financial performance (Ahmad et al., 2024). Additionally, it explores the role of Halal certification and compliance in this relationship, acknowledging their importance for consumer trust and loyalty (A. Ali & Zhou, 2019; Razak et al., 2018). Furthermore, by examining the intersection of CSR practises with stakeholder theory, the study contributes to understanding how businesses prioritize stakeholder needs to enhance financial performance (Freeman, 1984; Waddock & Graves, 1997).

Finally, the study is expected to present empirical evidence regarding the correlation between CSR disclosure and financial performance (ROE and TBQ) in public listed Malaysian Halal food companies. The study adjusts for the endogeneity of CSR disclosure, as higher-quality companies tend to participate in more CSR activities regardless (Ahmad et al., 2024; Harjoto & Jo, 2011). The study uses a dynamic generalized method of

moments (GMM) model, providing a novel approach to examining the association between CSR disclosure and the financial performance of Halal food companies in Malaysia. The implications of the study are expected to extend to policymakers, managers, and academics in emerging nations.

This study is organized as follows: the “theoretical framework” section addresses the study’s hypotheses and covers the major administrative models and concepts. Then, we provide CSRD, FP, and TBL as the three key analytical components of our conceptual framework. The section under “Proposed Framework and Hypothesis Formulations” seeks to validate the hypotheses. The methodology is described in detail in the fourth section, while the results and discussions are presented in the fifth. The recommendations, conclusion of the study, and limitations are presented, respectively.

## Literature Review and Theory Development

### *Corporate Social Responsibility Disclosure (CSRD)*

The objective of CSR disclosure is to provide relevant stakeholders with information about a company’s environmental and social policy initiatives, practices, and outcomes. To reduce the impact of mounting criticism, businesses employ CSRD as a legitimizing strategy in their stakeholder communications. Moreover, social media criticism increases the visibility of business actions, which in turn increases the need for CSR engagement and transparency (Zhang & Yang, 2021). Companies have adopted several forms of CSR in many parts of the world, with varying degrees of success. It has been decades since CSR was implemented on different continents. In the development of CSRD practice, while philanthropic activities have been taking place in some regions long before the concept of CSR was introduced, in other regions the concept has only recently gained traction, having emerged and developed primarily as a result of the efforts of multinational corporations operating in the region.

In the current business world, CSRD has increased in popularity. According to a previous study, interest in CSRD research has consistently increased since Sekhon and Kathuria (2019), and a growing number of stakeholder groups are requesting that financial institutions publish information on societal and environmental matters. Rather than depending just on economic elements, businesses must justify their entire operation to a wider public by boosting their communications (Daub, 2007). Numerous scholars have described various CSRD viewpoints previously (Huang & Watson, 2015). By utilizing the appropriate communication channel, CSRD can serve as the information that a firm releases about its

environmental effects and interactions with its shareholders (Gamerschlag et al., 2011). CSRD gives financial and non-financial information about an organization’s connection with its physical and social surroundings (Hackston & Milne, 1996). Furthermore, according to the study, CSRD is a vital tool for industries to include essential information in their financial statements and other forms of disclosure, such as company websites, in meeting stakeholders’ needs and expectations in the form of information about CSR (Zhang & Yang, 2021).

In the study by Platonova et al. (2018), it was revealed that CSR in the food processing industry as a whole is relatively low for the companies listed on Bursa Malaysia. Halal-certified food production firms adhere to the same sourcing and social disclosure standards as non-Halal-certified food production enterprises. However, the Wan et al. (2014) finding shows that some Malaysian public listed food and beverage companies disclosed Halal-related information in their annual reports. Though firms have a negligible presence in the food industry, the level of transparency by businesses that give Halal-related information is comparatively low in comparison to other CSR metrics such as the environment, society as a whole, and employee engagement. Nevertheless, disclosure areas designated for Halal-related information demonstrate that corporations take Halal problems seriously and incorporate them into their business operations.

In developing countries, CSRD studies have primarily concentrated on a handful of emerging economies, including Malaysia and other nations such as South Africa, Indonesia, and China, which is also consistent with the similar findings in the studies available in the literature (W. Ali et al., 2017). Moreover, according to Ismail et al. (2018), Kamel and Awadallah (2017), and Hamid et al. (2020), there are only a few CSRD studies conducted in the developing context. As a result, greater examination of CSRD studies in emerging nations, particularly Malaysia, is necessary.

The CSRD expansion has a bright future in Malaysia, and CSR and transparency are emerging (Hizam et al., 2019). Prior research has indicated an increasing prevalence of CSRDs in Malaysia (Amran et al., 2017; Hizam et al., 2019). As per Azid and Tahir (2019) and Zahid et al. (2019), over time, as a result of several factors, the level of CSRD has increased, including increased legislative enforcement, increased demand from pressure groups and ethical investors, the establishment of awards for companies that engage in good CSR, boomed economic-related activities, societal awareness, and politics.

Two prominent theoretical frameworks guiding CSR practises are legitimacy theory and stakeholder theory (Ahmad et al., 2024; Jamali, 2008). Legitimacy Theory

posits that firms actively participate in CSR endeavors as a strategic response aimed at upholding social legitimacy and cultivating a favorable reputation within the broader societal context (Ahmad et al., 2024; Ashrafi et al., 2020). This perspective suggests that companies are motivated to align their actions with societal expectations to fortify their standing. In parallel, stakeholder theory underscores the imperative of addressing the diverse interests of various stakeholders through CSR initiatives. This theoretical framework posits that organizations must actively consider and incorporate the concerns and expectations of multiple stakeholder groups into their CSR practises (Ahmad et al., 2024; O’Riordan & Fairbrass, 2014).

Matten and Moon (2008) conducted a seminal study exploring the motivations driving CSR disclosure and its impact on corporate reputation. Their work contributes to understanding the complex dynamics governing the relationship between CSR practises and organizational standing. Furthermore, Gray et al. (1995) and Ahmad et al. (2024) focused on the empirical analysis of the relationship between CSR disclosure and financial performance, emphasizing the pivotal role of social and environmental disclosures. In terms of financial performance, theoretical frameworks such as agency theory and the resource-based view (RBV) offer illuminating perspectives on the complex relationship between CSR disclosure and financial performance (Frynas & Yamahaki, 2016). Agency Theory examines the dynamics between managers and shareholders, exploring how CSR influences agency costs and overall financial performance (Li, 2016). Simultaneously, the RBV posits CSR as a strategic resource that can bolster a firm’s competitive advantage, emphasizing the role of CSR in contributing to sustained economic viability (Ahmad et al., 2024; Khan et al., 2019).

Therefore, proper CSRD has taken a place in the corporate world, where the absence of proper publication would definitely have a negative impact on the management side, where the aforementioned benefits are crucial to maintaining businesses in the long run.

### **CSRD–FP**

Previous studies made use of a variety of research approaches and factors, all of which pointed to the importance of measuring the financial performance of corporations. Accounting-based indicators (accounting return), perceptual measures (survey), and market-based measures (investor return) are a few examples of the many ways a company’s financial success may be evaluated (Tanggamani et al., 2022). A market-based measure of a company’s financial performance uses price per share, stock performance, and the market value to book

value ratio, while an accounting-based measure of a company’s financial performance pertains to profitability and the utilization of its assets (Kaur & Saini, 2014; Tanggamani et al., 2022). Perceptual assessments, on the other hand, are entirely reliant on speculative assumptions that are derived from surveys in order to demonstrate the robustness of a company’s financial status (Jitaree, 2015). Return on assets (ROA), return on equity (ROE), return on sales (ROS), and net profit margin (NPM) are the standard four measurements that are employed in accounting-based assessments (Ben-Amar et al., 2021; Kaur & Saini, 2014). ROE is widely regarded as the most reliable indication because of its capacity to explain how businesses are able to boost their profits through the utilization of total assets over a specified period of time (Jitaree, 2015). Thus, ROE has been frequently employed in previous research as a genuine indication of CSR’s impact on the financial success of corporations (Tanggamani et al., 2022).

Numerous empirical studies on the effects of CSRD on CFP have been conducted globally, as indicated by the existing literature. The findings of these investigations, however, have been inconsistent and ambiguous. While some of this research revealed positive connections or outcomes, others discovered adverse outcomes or none at all. Theoretically and statistically, CSRD is critical for a company’s image and reputation, as well as its ability to gain investor legitimacy. To achieve a good CFP, a corporation will make every effort to broaden the scope of CSRD in order to gain the trust of the surrounding society and investors (Dewi, 2015; Mohammed et al., 2016). Therefore, it is important for the Halal industrial context to analyze the relationship between CSRD practise and CFP; otherwise, the Halal food companies may suffer reputational damage with negative effects on their low returns and financial performance.

A meta-analysis by Oikonomou et al. (2012) found a significant positive correlation between CSR disclosure and financial performance. Similarly, a study by Cheng et al. (2014) conducted in China demonstrated a positive relationship between CSR disclosure and firm value. Furthermore, research by Flammer (2015b) using data from U.S. firms revealed that companies with higher CSR performance experienced lower stock price crash risk, indicating enhanced financial stability. The findings of Hasan et al. (2022) indicate that CSR disclosure has varying effects on CFP metrics. For industries—consumer goods, consumer services, and heavy engineering—CSRD is positively associated with CFP, while for healthcare, energy, and utility firms, the relationship between CSRD and CFP is negative. However, Zhao and Murrell (2016) results suggest that the positive association between prior CSR and subsequent CFP argued by Waddock and Graves (1997) is not generalizable to a

different sample that includes more firms over a longer time period, whereas the positive association between prior CFP and subsequent CSR reported by his study could be generalizable.

In addition to this, a study by Bauer et al. (2005) found a negative association between CSR engagement and financial performance among European firms. Similarly, a meta-analysis by Margolis et al. (2009) reported that the relationship between CSR activities and financial performance is negative for some firms, particularly those with weak corporate governance structures. Additionally, research by Luo and Bhattacharya (2006) demonstrated that excessive CSR spending can lead to diminished financial performance, particularly in highly competitive industries. Further, the findings of Buallay et al. (2020), deduced from the empirical results, indicated that CSR disclosure negatively affects operational and market performance but does not affect financial performance.

### TBL Theory

CSR is founded on the notion of the Triple Bottom Line (TBL), which emerged from the idea of sustainable development and is focused on achieving balance in three dimensions: economic, social, and environmental (Jennifer et al., 2007; Žak, 2015). This concept is sometimes referred to in the literature as the 3Ps (people, profit, and planet), as its objective is for commercial firms' environmental and social responsibilities to be considered similarly to financial results. This desire is predicated on the premise that we are only concerned with what we are responsible for and what we need to settle. The term "bottom line" relates to a company's net earnings, more precisely to economics. Additionally, the triple bottom line encompasses social and environmental concerns (Žak, 2015).

**Economic.** The term "economic line" is used in the TBL framework to describe the impact that a company's operations have on the global economy (Elkington & Rowlands, 1999). It's about how well the economy can keep going and improve so that it can continue to provide for people both now and in the future (Spangenberg, 2005). A key component of sustainability is the economy. The organization's ability to promote economic expansion is indicated by the slope of a line connecting the two. This strategy emphasizes the organization's positive financial impact on the environment, with the goal of boosting the preservation of the natural world for future generations.

**Environmental.** As part of TBL's "environmental line," we emphasize actions that leave the planet's natural

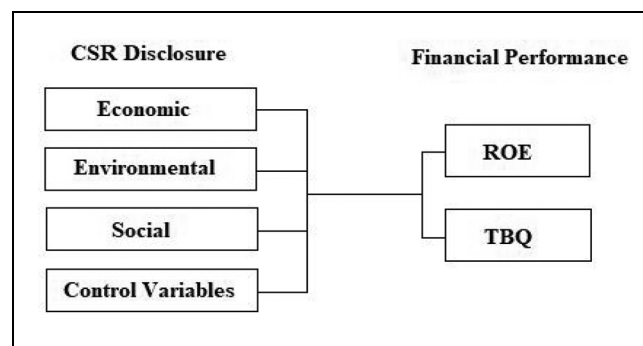


Figure 1. Research framework.

resources intact for future generations. Using energy efficiently, producing less carbon dioxide, leaving as little of an imprint on the planet as possible, etc. are all part of this (Goel, 2010). Environmental activities affect the long-term viability of businesses in a way that is similar to the social side of TBL. The effect of environmental actions on business performance was investigated in a study conducted by Kearney (2009) on 99 sustainability-oriented businesses from 18 different sectors. The investigation included a wide range of sectors, from the technological and automotive to the chemical and even the food, entertainment, retail, and travel and leisure industries.

**Social.** The social line of TBL is defined as "acting in a way that is advantageous to workers, human capital, and the community" (Elkington & Rowlands, 1999). The concept is that these actions benefit the general welfare and "give back" to the gated community. Some examples of such practises include offering medical insurance and fair compensation. Neglecting social responsibility has consequences for a company's performance and longevity, in addition to the moral imperative of doing "good" to society. Several industry instances have shown that there are financial implications associated with ignoring social responsibility. In the Bay Area of California, for instance, voters rejected a Home Depot in the 2002 municipal elections because of concerns about the store's potential negative impact on the area's residential neighborhoods (Dhiman, 2008). Social performance evaluates how well a business interacts with its surrounding community and how well it treats its employees and provides them with a fair salary and other benefits (Goel, 2010).

### Hypothesis Development

The study set out to examine the influence of TBL-based CSR disclosure on financial performance with the proxy of ROE and Tobin's Q. Based on the research framework (Figure 1), the following hypotheses were formulated:

Theoretically, our study framework is founded on TBL theory formulations. The TBL theory (McGuire et al., 1988) first sketched out the link between financial performance (FP) and corporate social responsibility (CSR). It said that interest groups keep a company's resources alive, which means that the company has an implicit duty to behave in a certain way, like being fair to workers and caring about the economic, environmental, and social issues. When a firm fails to demonstrate social responsibility, the consequent expenses could be substantial and denote a financial burden that will likely reduce earnings, resulting in a less socially conscious entity. Conversely, if businesses aggressively execute socially responsible initiatives, this will result in an increase in profit, and businesses will be incentivized to make socially responsible investments, hence increasing investments in CSR activities (Pava, 2008).

However, the TBL hypothesis posits that investors tend to favor companies with superior social behavior, assuming that all other criteria remain constant and that information on social responsibility is independently accessible. It was emphasized that the major objective of an organization is to satisfy the competing demands of numerous institutions. Moreover, the theory asserts that the level of effort that corporations devote to the various dimensions of CSR fluctuates based on the relative relevance of each interest group. The TBL theory is a crucial theoretical foundation for CSR research. It goes beyond the usual notion of maximizing equity in order to provide a new perspective for analyzing CSR (Li, 2016). To analyze the impact that CSR has on company performance, we employ the TBL framework.

The reputational risks and opportunities connected with CSR disclosure are becoming increasingly apparent to businesses. This is because CSR performance is a crucial aspect in determining whether to give resources to a company (Du & Vieira, 2012). Thus, organizations that align their business activity with the expectations of their stakeholders prioritize CSR disengagement (Qi et al., 2013). Vaiman et al. (2018) suggested that the significance of a company's CSR operations has increased. According to Grimmer and Bingham (2013), clients are more receptive to purchasing services and products from companies with a higher level of CSR engagement. Mohr and Webb (2005) have stressed that customers are willing to pay a premium price for the services and products of these companies. According to Becker-Olsen et al. (2006), customers are more trustworthy and more likely to spread positive word of mouth when they perceive a company to have superior CSR performance. Investors are more likely to provide investment opportunities to corporations viewed as good corporate citizens (Arouri & Pijourlet, 2017) because they are viewed as more sustainable and stable in providing more policy support and subsidies to

good corporate citizens. Additionally, creditors (particularly banks) are more likely to lease companies with a higher degree of financial stability (Flammer, 2015a). On the other side, according to Lyon and Maxwell (2011), a company that disregards CSR will undoubtedly become the target of environmentalists and regulators, which would be detrimental to its reputation and brand value.

CSR disclosure improves a company's reputation and stakeholder support, which contributes directly to the company's worth and shareholders' wealth (Koh et al., 2014). In previous research, it was hypothesized that CSR disclosure boosts a company's socially responsible public image, which tends to foster beneficial investor connections. As a result, this leads to better investor support when worker loyalty goes up (Greening & Turban, 2016), strong consumer support when worker loyalty goes up (Lev et al., 2010; Sen & Bhattacharya, 2001), more sustainable business in communities (Fombrun et al., 2000), and a stronger and deeper relationship with the government (Wang & Qian, 2011). Moreover, CSR disclosure may offer firms insurance value since greater ethical capital derived from CSR can mitigate the risk of investor value losses (Becchetti et al., 2015; Koh et al., 2014; Schnietz & Epstein, 2005) if enterprises face unpleasant occurrences. Hence, businesses will reach a high level of societal performance, which will bring an increase in financial performance (Adhikari, 2016). On the basis of the preceding TBL arguments, the following relationship is hypothesized:

*Hypothesis 1:* There is a significant relationship between TBL-based CSR disclosure and financial performance (ROE) of listed Malaysian Halal food companies.

*Hypothesis 2:* There is a significant relationship between TBL-based CSR disclosure and financial performance (TBQ) of listed Malaysian Halal food companies.

### *Extension of Previous Study*

This study enhances and expands upon the fundamental research regarding the impact of CSR disclosure on profitability and corporate performance within Malaysia's Halal food sector. The prior research identified significant correlations between CSR practices and financial indicators, including Return on Assets (ROA) and Tobin's Q (TBQ), emphasizing the influence of economic, environmental, and social CSR dimensions on the financial viability and sustainability of publicly listed Halal food enterprises in Malaysia (Ahmad et al., 2024). By highlighting the importance of CSR engagement in advancing consumer trust and positioning firms for

long-term viability, the previous research provided a critical base for understanding CSR's strategic value in the Halal sector.

The current study extends this foundation by incorporating Return on Equity (ROE) as an additional financial performance measure, offering a broader assessment of CSR's impact on shareholder returns, beyond profitability and market valuation alone. This approach aligns with the growing need to consider shareholder value creation as a core outcome of CSR activities, particularly for stakeholders in emerging markets who are increasingly influenced by corporate responsibility and transparency. Methodologically, this study refines the previously used Generalized Method of Moments (GMM) model to enhance the analysis of the relationship between CSR disclosure and financial performance in Malaysia's Halal food sector. The prior research employed a dynamic GMM model to address endogeneity and identify significant links between CSR practices and financial indicators like ROA and Tobin's Q (TBQ). However, the current study improves upon this by incorporating additional diagnostic checks and adjustments to better account for potential biases and model complexities inherent in CSR-related data. Specifically, the refined GMM framework integrates advanced lag selection criteria, robust instrument validation, and enhanced control variable specifications to ensure more accurate and reliable estimates. This allows for more precise insights into the causal relationships between CSR dimensions and financial outcomes, reinforcing the credibility and reliability of the conclusions drawn. Additionally, the findings offer practical implications not only for firm managers but also for policymakers in the Halal sector, shedding light on CSR practices that align with consumer expectations and support market positioning strategies

## Methodology

### Sample Data

In the dynamic landscape of Malaysia's corporate sector, 8,000 companies hold Halal certification, illustrating the country's commitment to the Halal industry. Of these, 1,800 serve as exporters, and 1,300 are recognized as small and medium enterprises (SMEs; Sahari, 2020). Within Bursa Malaysia, the nation's primary stock exchange, there are 995 listed companies. Among them, 107 are identified as food companies, a subset of which are involved in the Halal food sector (Bursa Malaysia, 2022). The focus of this study is narrowed to Halal food companies due to their significant role in both the domestic and global markets. The methodology for selecting an appropriate sample from the broader category of food companies in Bursa Malaysia was carefully designed (Ahmad et al., 2024). The study concentrated

on identifying Halal food companies from the 107 listed food companies, prioritizing those with accessible and comprehensive financial and CSR disclosures. This selection was based on rigorous criteria, including the consistency and completeness of financial reporting and CSR activities over an extended period. As a result, 75 Halal food companies were chosen for a detailed analysis over a decade, spanning from 2012 to 2021.

The rationale behind the specific choice of these 75 companies as the sample size stems from several factors. Firstly, they constitute a substantial portion of the Halal segment within the broader food industry in Bursa Malaysia, ensuring that the sample is representative of the sector. Secondly, these companies consistently provided detailed financial and CSR reports during the selected timeframe, which was crucial for a thorough longitudinal study (Ahmad et al., 2024). The CSR data was extracted from the annual reports published on the Bursa Malaysia website, while financial indicators like return on equity (ROE) and Tobin's Q (TBQ) were sourced from the Thomson Reuters DataStream database. This database was chosen for its unparalleled financial market data, extensive economic coverage, and historical consistency. Employing a methodological framework similar to that of Costa and Fonseca (2022) and Ahmad et al. (2024), the study aims to carefully investigate the correlation between CSR and financial performance in the Halal food sector. The careful and strategic selection of the sample underpins the study's rigor, ensuring that the findings are robust, reliable, and reflective of the industry's trends.

### Variables

**Dependent Variables.** In empirical studies evaluating the relationships between financial efficiency and CSR, many financial performance indicators have frequently been employed. Griffin and Mahon (1997) developed around 80 measures of business success. This was later modified into a collection of 51 papers. There are many different ways to measure a company's profitability. Some of the most common are return on assets (ROA), return on equity (ROE), and net profit. Other popular ones are earnings per share, Tobin's Q, market returns, and market to book values (Ahmad et al., 2024; Freedman & Jaggi, 1988). In general, accounting-based measurements are seen as indicative of short-term or historical financial performance. In contrast, market-based metrics represent the future (long-term effectiveness; Gentry & Shen, 2010). Many factors unrelated to corporate activities, according to the proponents of these financial measurements, can influence market-based indicators. However, these opponents dispute the objectivity of accounting-based measures. Consequently, they emphasize the significance of value-based metrics associated with investor

and shareholder interests (Adner & Kapoor, 2010). Griffin and Mahon (1997) highlighted the importance of applying traditional accounting-based metrics of performance, suggesting that modern, value-based indicators may be reflective of more than just economic performance alone. Despite the limits of these economic measurements, they are often regarded as the most accurate indicators of the financial aspects of a company's performance (Simpson & Kohers, 2002). In addition, prior study results support the contention that CSR tends to demonstrate larger connections with accounting-based returns than investor-related returns (Peloza, 2009). This study uses return on equity (ROE) and Tobin's Q (TBQ) as proxies for financial effectiveness, considering these arguments. This measurement has been utilized in numerous studies (Aras et al., 2010; Lee et al., 2009; Ordóñez-Castaño et al., 2021).

**Independent Variables.** The majority of CSR theories acknowledge that the Brundtland Commission proposed the Triple Bottom Line (TBL) idea in 1987, and John Elkington formally named it in 1994 (Atanda & Öztürk, 2020; Epstein, 2018). It says that a business's accountability should be based on three factors: economic, environmental, and social responsibility. Thus, the TBL concept, which stems from the food industry, examines its CSR practices, which involve not only economic considerations but also the social and environmental consequences of business activity. The three dimensions of TBL, as stated by John Elkington, will create long-term outcomes. The fundamental objective of the idea is to promote sustainable living. Therefore, it is required for Halal food companies to adopt TBL in order to generate consistent profits and sustainably advance social and environmental initiatives over the long term. As a result, the current study uses economic, environmental, and social factors as independent variables to assess CSR disclosure.

**Control Variables.** Several studies have suggested that the relationship between a company's financial performance and its CSR disclosure is impacted by a variety of aspects, including the size of the business (in terms of value), its age, and the company to which it belongs (Braam et al., 2016; Waddock & Graves, 1997). Previous research has found a link between CSR and the size, industry, and age of an organization (Ahmad et al., 2024). Kimbro and Melendy (2010), Peters and Mullen (2009), and Michelon (2011) recently claimed that CSR is proportional to the size of a corporation. This is because stakeholders expect major corporations to engage in and undertake social activities in the same way that they want small businesses to. According to Dowell et al. (2000), the scale of a corporation appears to be associated with environmental norms. The current study

has used the firm's size and age as a control variable that may affect the association between CSR disclosure and financial performance (Ahmad et al., 2024).

### Model

To effectively analyze the potential impact of CSR disclosure on profitability and firm performance (ROA, TBQ), a two-step method was employed. In the initial stage, content analyses were conducted to gather CSR disclosure information based on economic, environmental, and social dimensions from companies' annual reports (Liao et al., 2017). In the second step, the dynamic Generalized Method of Moments (GMM) method was used to figure out how the different parts of CSR disclosure scores affected the company's performance and ability to make money (Ahmad et al., 2024; Ta & Bui, 2018). The choice of the dynamic GMM-based approach was motivated by its ability to address endogeneity issues, a common challenge in econometric analyses (Ahmad et al., 2024; Siddiqui & Ahmed, 2013). This method is particularly effective in handling panel data, utilizing both cross-sectional and time-series dimensions (Ullah et al., 2018). The dynamic GMM-based approach is useful for econometric analyses, even though it depends on the model specification, the size of the sample, and assumptions about measurement error. This is especially true when dealing with endogeneity and changing datasets (Ahmad et al., 2024; Kruiniger, 2009). To evaluate the relationship, the fixed effects model was employed in conjunction with the GMM approach, taking advantage of its automatic generation of instruments. Heterogeneity and endogeneity were taken into account in the GMM estimation (Ullah et al., 2018). We used lag values to control endogenous variables. It also dealt with the problems of autocorrelation and heteroskedasticity that come with panel data (Ahmad et al., 2024; Arellano, 2002; Arellano & Bond, 1991; Blundell & Bond, 1998; Roodman, 2009). The study employed the GMM estimation method to navigate endogenous difficulties and address autocorrelation and heteroskedasticity challenges in panel data.

$$\begin{aligned} ROE_{it} = & \alpha + \beta_1 ROE_{it-1} + \beta_2 ECO_{it} + \beta_3 ENV_{it} \\ & + \beta_4 SOC_{it} + \beta_5 LSIZE_{it} + \beta_6 AGE_{it} + \mu_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} TBQ_{it} = & \alpha + \beta_1 TBQ_{it-1} + \beta_2 ECO_{it} + \beta_3 ENV_{it} \\ & + \beta_4 SOC_{it} + \beta_5 LSIZE_{it} + \beta_6 AGE_{it} + \mu_{it} \end{aligned} \quad (2)$$

Where:

**Table 1.** Descriptive Statistics  $N = 75$  Listed Halal Food Companies.  $T = 2012\text{--}2021$  (Ahmad et al., 2024).

Variable	Obs.	Mean	SD	Min.	Max.
COMPANY	750	38	21.663	1	75
YEAR	750	2,016.5	2.874	2,012	2,021
ROE	750	8.253	26.961	-125.97	431.17
TBQ	750	1.289	1.415	0.19	12.98
ECO	750	67.477	20.569	13	155
ENV	750	51.585	16.454	9	107
SOC	750	43.384	10.984	11	72
SIZE	750	2,108,762	4,688,698	8,233	29,763,879
AGE	750	19.7	9.103	1	38

Note. All statistics are based on original data values.

$i$  represents the firm,  $t$  stands for the time, ROE signifies return on equity, TBQ represents Tobin's Q, ECO signifies economic, ENV represents environmental, SOC represents social, LSIZE represents log size, and  $\mu$  represents firm-specific fixed effects that persisted unobserved. Multiple types of endogeneity can show up during estimation. These are simultaneity (when the independent variables' values depend on or predict the dependent variables), unobservable heterogeneity (when the unobservable factors are affected by both the dependent and explanatory variables), and current CSR values that are based on past FP (an endogeneity source that is often overlooked). The system GMM, or the dynamic panel Generalized Method of Moments (GMM) estimator, was used to eliminate endogeneity (Blundell & Bond, 1998). This was supported by Li (2016), who hypothesized that GMM has the highest coefficient correction impact. In addition, Li (2016) noted that, under reasonable conditions, the dynamic GMM may correct an upward bias in OLS estimation of a dynamic model. If time  $T$  is short, it also corrects a downward bias in the mean difference estimation of a dynamic model.

## Results and Discussion

This section presents the results, noting that the statistical values in Tables 1, 2, and 4 overlap with those of a previous study. This overlap occurs because the sample size, dataset, variables, and analytical methods including descriptive statistics, multicollinearity tests, and Tobin's Q (TBQ) analysis are consistent across both studies. Table 1 below contains the descriptive statistics on variables. The mean value of return on equity for the companies in the sample is 8.253. The mean value of Tobin's Q in the sample is 1.289. However, the mean values of ECO, ENV, and SOC are 67.477, 51.585, and 43.384, respectively. Size has a mean value of 2,108,762. Finally, the mean age of the firms in the sample is approximately 20.

**Table 2.** Multicollinearity Test (Ahmad et al., 2024).

Variables	VIF	(ECO)	(ENV)	(SOC)	(AGE)	(LSIZE)
ECO	1.42	1.000				
ENV	1.36	0.219	1.000			
SOC	1.11	0.163	0.507	1.000		
AGE	1.08	0.094	-0.060	-0.052	1.000	
LSIZE	1.03	0.165	-0.147	-0.097	0.152	1.000

The correlations between the variables are shown in Table 2 below. As evidenced by the fact that none of the correlations are above 0.5, multicollinearity is not an issue. Checking the variance inflation factor (VIF) readings, which are all less than 10, confirms this as well. Observations revealed a mean VIF value of 1.03 and a maximum VIF value of 1.42.

Table 3 shows the static and dynamic models of OLS, fixed effects, and system GMM. Return on equity estimates using composite dimensions based on Halal industrial CSR were used for assessing the effect of supervising ECO, ENV, and SOC on financial performance heterogeneity and relationships based on the study of Ahmad et al. (2024). The misspecification test was authenticated using a second-order serial correlation AR (2) test. Authentication enabled confirmation of the system's GMM model specification's suitability. The lagged dependent variable's positive and substantial coefficient shows that the financial performance is persistent, and it depends a lot on what it did in the past in pooled OLS, fixed effect, and GMM approaches. This conclusion is comparable to the work of Blundell et al. (2001) and Boubakri et al. (2012), who developed an impartial and efficient GMM system. This led researchers to employ the two-step GMM estimator approach (Bond et al., 2001).

The study used the two-step GMM estimation method on dynamic panel data to estimate the model of CSR disclosure and financial performance. By

**Table 3.** Effects of TBL-Based CSR Disclosure and Financial Performance (ROE) ( $N = 75$  Listed Halal Food Companies;  $T = 10$ ; Sample Period = 2012–2021).

Variables	Static		Dynamic		
	Pooled OLS ROE	Fixed effect ROE	Pooled OLS ROE	Fixed effect ROE	System GMM ROE
ROE <sub>t-1</sub>			0.372*** (0.0340)	0.0514 (0.0367)	-0.0298*** (0.00199)
ECO	0.0414 (0.0496)	0.0694 (0.0636)	0.0317 (0.0462)	0.0593 (0.0644)	-0.0369*** (0.0103)
ENV	-0.266*** (0.0701)	-0.136 (0.108)	-0.177*** (0.0656)	-0.134 (0.108)	-0.305*** (0.0130)
SOC	-0.0169 (0.103)	0.0709 (0.128)	0.0130 (0.0955)	0.0760 (0.128)	-0.0772*** (0.0105)
LSIZE	1.265* (0.686)	0.160 (2.949)	0.755 (0.639)	-0.247 (2.960)	1.178*** (0.167)
AGE	0.103 (0.108)	-1.023*** (0.334)	0.0813 (0.101)	-0.957*** (0.337)	-0.169** (0.0746)
Constant	0.924 (10.37)	25.54 (37.31)	-0.167 (9.647)	29.61 (37.37)	
Observations	750	750	749	749	675
R <sup>2</sup>	.038	.017	.171	.020	
Number of company		75		75	75
AR 1					-1.6829 (0.0924)
AR 2					-0.56158 (0.5744)
Number of instrument					50

Note. Estimation of the system GMM model is performed with the help of Blundell and Bond (1998) dynamic panel system GMM estimations and Roodman (2009) Stata xtabond2 function.

AR1, AR2 are the standard errors, while the  $p$ -values of \*\*\*, \*\*, and \* show significance at the 1%, 5%, and 10% levels, respectively.

calculating the first difference for each independent variable, this method can strip out firm-specific effects that are not directly observable over time. This method effectively controls how regressors relate to residuals. Lagged levels and fluctuations in the levels are instrumented with the lags of the first differences of the variables, allowing us to remove the possibility of endogeneity in differenced equations. The study finds that ECO, ENV, and SOC have significant effects on ROE. Furthermore, it was discovered that LSIZE (total assets) has a strongly positive impact on ROE, and the AGE of the company also exerts a significant effect on ROE. This outcome supports our assumption that CSR increases company performance and is consistent with the findings of many other studies (Beck et al., 2018; Hang et al., 2019; Maqbool & Zameer, 2018). Furthermore, it confirms theoretically positive theories that assert that economic, environmental, and social discrepancies enhance stakeholder satisfaction and lead to improved financial performance. Indeed, theoretical literature believes that companies can enhance their brand perception, reputation, and image by disclosing economic, environmental, and social responsibility (Adapa, 2018; Kotler & Lee, 2008). It also advances brand image and company reputation, promotes revenue, strengthens staff dedication and trustworthiness, boosts efficiency, improves quality, and gives additional value (Mousiolis et al., 2015).

The result also suggests that ECO has an insignificant effect on ROE in static models; however, it is significant in the dynamic model of system GMM. ENV has a highly significant impact on ROE in both static and

dynamic models. SOC has an insignificant effect on ROE in static models; however, it is significant in the dynamic model of system GMM. LSIZE has a significant impact on ROE in both static and dynamic models. However, AGE has a significant impact on ROE in both static and dynamic models.

On the basis of the TBL theory, it may be hypothesized that companies that actively engage in CSR outperform their competitors in terms of specific financial performance measures. The TBL theory provides the basis for examining the complex relationships between society and the organization. Based on the results, it is determined that hypothesis 1 is accepted because the finding shows that there is a significant relationship between TBL-based CSR disclosure and the financial performance (ROE) of listed Malaysian Halal food companies. Similar result is also stated in the studies of Makni et al. (2009) and Lin et al. (2019), which implies that CSR disclosure has an influence on financial performance.

Table 4 presents the static and dynamic models of OLS, fixed effects, and system GMM. TBQ estimates using composite dimensions based on CSR were employed for assessing the influence of supervising ECO, ENV, and SOC on financial performance heterogeneity and relationships. Authentication was performed for the misspecification test by the second-order serial correlation AR (2) test. Authentication made it possible to confirm the suitability of the system GMM model specification.

The findings indicate that ECO has a significant effect on TBQ in the dynamic model of the GMM system.

**Table 4.** Effects of TBL-Based CSR Disclosure and Financial Performance (TBQ) (N = 75 Listed Halal Food Companies; T = 10; Sample Period = 2012–2021 (Ahmad et al., 2024).

Variables	Static			Dynamic	
	Pooled OLS TBQ	Fixed effect TBQ	Pooled OLS TBQ	Fixed effect TBQ	System GMM TBQ
TBQ <sub>t-1</sub>			0.859*** (0.0187)	0.255*** (0.0223)	0.809*** (0.00362)
ECO	0.00150 (0.00260)	-0.00157 (0.00143)	-0.00131 (0.00133)	-0.00181 (0.00133)	-0.00306*** (0.000479)
ENV	-0.0118*** (0.00367)	-0.00305 (0.00244)	-0.00131 (0.00189)	-0.00218 (0.00224)	0.00133* (0.000785)
SOC	-0.0603 (0.00538)	0.00563* (0.00288)	0.00139 (0.00275)	0.00604** (0.00263)	0.00278*** (0.000728)
LSIZE	0.0801** (0.0359)	-0.235*** (0.0665)	0.0131 (0.0184)	-0.215*** (0.0609)	0.00155 (0.00522)
AGE	0.0158*** (0.00566)	0.00443 (0.00753)	0.00445 (0.00291)	0.00369 (0.00689)	0.0133*** (0.00107)
Constant	0.411 (0.543)	4.365*** (0.841)	0.0109 (0.278)	3.731*** (0.772)	
Observations	750	750	749	749	675
R <sup>2</sup>	.044	.028	.751	.186	
Number of company		75		75	
AR 1					-3.2688 (0.0011)
AR 2					-1.0256 (0.3051)
Number of instrument					50

Note. Estimation of the system GMM model is performed with the help of Blundell and Bond (1998) dynamic panel system GMM estimations and Roodman (2009) Stata xtabond2 function.

AR1, AR2 are the standard errors, while the p-values of \*\*\*, \*\*, and \* show significance at the 1%, 5%, and 10% levels, respectively.

ENV also has a significant impact on TBQ in the static and dynamic models of the GMM. SOC has a significant effect on TBQ in both static and dynamic models. LSIZE has a significant impact on TBQ in the static model, and it shows no effect in the system GMM. However, AGE has a highly significant impact on TBQ in both static and dynamic models. Based on the findings, it is concluded that hypothesis 2 is accepted in terms of the ECO, ENV, and SOC factors of CSR disclosure and the financial performance (TBQ) of listed Malaysian Halal food companies. The result of this study is similar to Platonova et al. (2018), which suggests a significant effect of CSR disclosures on TBQ with all the factors of CSR.

## Recommendations

Based on the findings of this study, recommendations are made for research, practice, and policy. Future research on CSR disclosure and financial performance in the Halal food industry can explore longitudinal analyses, which can provide insights into the long-term effects of CSR disclosure on financial performance trends. Secondly, cross-industry comparisons can shed light on industry-specific factors influencing the relationship between CSR disclosure and financial outcomes. Thirdly, investigating the impact of CSR disclosure on non-financial performance metrics, such as employee engagement and customer satisfaction, can offer a more holistic understanding of its organizational benefits.

Moreover, assessing the effectiveness of regulatory frameworks and exploring expanded performance measures beyond ROE and TBQ can further enrich our understanding of this complex relationship. Practitioners are urged to prioritize CSR disclosure initiatives, recognizing their potential to enhance financial performance and stakeholder trust. Specific guidance should be provided to managers regarding the importance of CSR disclosure for sustained growth and accountability. Additionally, policy efforts should focus on implementing stricter monitoring structures to ensure transparency and compliance within the industry, while also advocating for regulatory frameworks that incentivize responsible business practices. Exploring the relationship between CSR disclosure and non-financial metrics and conducting comparative studies across OIC nations can further enrich our understanding of CSR's broader impact. To establish a more comprehensive knowledge of the financial impact of corporate social responsibility disclosure, it is necessary to examine the degree and consistency of a company's participation in such acts (i.e., the extent of corporate social responsibility disclosure). Managers of Halal food companies that have extensively invested in CSR disclosure initiatives can be provided with specific recommendations. Managers need to comprehend the necessity of CSR disclosure. Given the budget constraints for CSR disclosure, it is incumbent upon managers to determine if enterprises require CSR disclosure in advance for short- and long-term growth.

## Conclusion

The study attempted to explore the complicated relationship between CSR disclosure and financial performance (ROE and TBQ), with size and age serving as the control variables. It applied data from the listed Halal food companies between 2012 and 2021. Moreover, the analyses suggest that ECO, ENV, and SOC have significant effects on ROE. Furthermore, it was discovered that LSIZE (total assets) has a positive impact on ROE and that the company's AGE has a significant impact on ROE. However, there is a substantial relationship between the CSR disclosure factors of ECO, ENV, SOC, and TBQ. Since the findings of this study revealed a significant relationship between CSR disclosure and financial performance (ROE and TBQ), it is an indication that engagement in CSR disclosure is vital and capable of producing any kind of economic advantage in the long run. The significant impact of CSR disclosure on ROE and TBQ is shown in the listed Halal food companies' accounting performance, which may also impact their non-financial performance. CSR disclosure could be a way to encourage employees to work harder and improve their relationship with customers. Using an estimation method (System GMM to control for the potential endogeneity problem) had no discernible effect on the reliability of the research findings. Our findings indicate that it is prudent to advocate for the implementation and disclosure of CSR because doing so would lead to transparency, which in turn would greatly enhance business outcomes. For the first time, this study uses empirical data to confirm the hypothesis that CSR disclosure is correlated with better financial performance in Halal food companies listed on the Malaysian stock exchange. Our theoretical contribution is grounded in the integration of Triple Bottom Line (TBL) theory throughout the entire study framework.

## Limitations

Overall, the outcomes of this research were proficient in enhancing our perception of CSR disclosure in listed Halal food companies and their impact on ROE and TBQ. However, the study has the following limitations: First, the analysis utilizes data from a single developing country, Malaysia, to explore the relationship between CSR disclosure and financial performance (ROE and TBQ). Thus, the results might not be generalizable to other developing countries. Moreover, the study has utilized the data for short periods of time, from 2012 to 2021. Furthermore, since the study only includes listed Halal food companies, the results could be distinct if private companies were also incorporated into the sample.


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## Data Availability Statement

The datasets used or produced in this study can be obtained from the corresponding author upon reasonable request.

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