EXPLORING DETERMINANTS OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE SCORES FOR LISTED FIRMS: AN ORGANIZATIONAL CONTEXT

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Abstract

The environmental, social, and governance (ESG) performance has become increasingly important in the investment decision-making process in recent years. However, assessing ESG performance is difficult because it involves considering a wide range of metrics. To address this complexity, ESG scores provided by third-party agencies are commonly used as proxies for ESG performance. Nonetheless, ESG scores have been criticized for their inadequacy in capturing precise and holistic ESG performance. This article aims to construct a comprehensive framework that examines the factors influencing the ESG scores of listed firms in mainland China. The scoping review methodology is employed to identify key determinants of ESG scores in the theoretical framework based on existing theories. The goal is to unveil the actual ESG performance metrics captured by ESG scores by integrating stakeholder theory, legitimacy theory, and institutional theory, thereby deconstructing the factors influencing ESG scores. The findings show that third-party agency ESG scores may not precisely represent ESG performance because these scores can be influenced by non-ESG-related issues and may fail to capture some crucial ESG matters. This study contributes to the limited literature investigating determinants of ESG scores, such as Crespi and Migliavacca (2020) and Rajesh and Rajendran (2020), to further enhance understanding in this area.

Keywords: ESG Scores, Stakeholder Theory, Legitimacy Theory, Institutional Theory, Mainland China

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1. INTRODUCTION

The environmental, social, and governance (ESG) represents an evaluation framework that focuses on the non-financial performance of business or other investment targets ranging from common stocks, fixed-income securities, private equity, real estate investment trusts, etc. Since its initiation in 2004, ESG has experienced significant growth from a niche to a global mainstream as a strategic management tool and investment decision framework (Li et al., 2021). Under most ESG regulatory standards worldwide, ESG encompasses a multitude of factors, posing a challenge for investors, creditors, regulators, and others to evaluate the overall ESG performance of investment targets (Jonsdottir et al., 2022).

In practice, ESG scores or ratings provided by third-party agencies serve as simplified, summative, and quantitative measurements for the complex array of metrics that constitute overall ESG performance (Clément et al., 2023). While much previous literature utilizes third-party agency ESG scores to represent the overall ESG performance (Friede et al., 2015), some papers argue that these scores are inherently flawed, lacking consistency and convergent validity, and may not accurately measure actual ESG performance (Gyönyörová et al., 2023). This raises the questions of what ESG scores measure and what the main determinants of these scores are, especially considering that most ESG score providers claim their scores are derived from a massive number of metrics, sometimes over hundreds (as discussed later in subsection 2.1), an amount that surpasses the comprehension of most natural human beings.

The two largest asset classes in ESG investment are common stocks and bonds (Inderst & Stewart, 2018). However, the challenge of ESG score validity is more pronounced in the context of common stock investments compared to bonds. Whether a bond qualifies as an ESG bond relies primarily on its primary project objectives, in addition to the assessment of the comprehensive ESG performance of the firm (the bond issuer). Moreover, the impact of ESG integration in bond investing has been notably evident, as numerous empirical studies report a negative relationship between ESG scores and ESG bond returns because higher ESG scores consistently indicate lower risk and, therefore, lower returns (Rahman et al., 2021; Gerard, 2019). In contrast, the relationship between ESG scores and stock returns is inconsistent since empirical papers find positive, negative, or neutral relationships with different samples and timeframes (Feng et al., 2022; Berg et al., 2022). This underscores the need to focus on exploring the determinants of ESG scores for listed firms to enhance investment decisions in common stocks. As a result, this article chooses to study the determinants of ESG scores on listed firms rather than on bonds.

In an attempt to address the validity issues of ESG scores, some papers have started to investigate their determinants. However, they often focus on examining the influence of individual factors, including firm size (Gregory, 2024; Akgun et al., 2021; Drempetic et al., 2020) and overall economic and social development (Mooneeapen et al., 2022). Despite this, these studies lack a thorough discussion of the underlying theory to support the assertion that these factors are determinants of ESG scores. Moreover, to the best of my knowledge, there is no comprehensive study that systematically explores a series of potential determinants of ESG scores. This article addresses a gap in the existing literature by establishing a comprehensive theoretical framework to explore potential determinants of ESG scores, including factors related to ESG performance, which are expected to influence ESG scores and factors unrelated to ESG performance, which should not influence ESG scores but may impact ESG scores due to how they may be interpreted by ESG score providers. This work contributes both theoretically by providing a comprehensive framework for understanding the factors influencing third-party rating agency ESG scores, and practically, it aids in unraveling the “black box” of ESG scores to facilitate understanding and assessment of the precision of ESG scores as representatives of actual ESG performance.

The remainder of this article is structured as follows. Section 2 provides the literature review and comprises two parts: subsection 2.1 aims to understand the factors claimed by leading ESG score providers in mainland China as determinants of ESG scores by examining their rating process, and subsection 2.2 provides a literature review on three relevant theories that could help identify potential determinants of ESG scores. Section 3 discusses the research methodology of the systematic literature review used in this article, focusing on how relevant literature discussing potential determinants of ESG scores is acquired and gathered. Section 4 contains the results of literature findings and constructs a comprehensive framework for ESG score determinants building upon existing literature and theories reviewed in previous sections. Section 5 discusses the findings. Section 6 concludes the article.

2. LITERATURE REVIEW

Section 2 consists of two parts. In the first part (subsection 2.1), the ESG scoring process of major third-party rating agencies is discussed to provide an understanding of the factors asserted by those providers that determine ESG scores. In the second part (subsection 2.2), we discuss the literature on the determinants of ESG scores. This includes studies that provide evidence suggesting that ESG scores are not solely determined by factors claimed by rating agencies, as well as those that examine possible determinants of ESG scores to identify gaps in the research area.

2.1. ESG factors included in the rating process of major providers

The ESG performance is composed of performance in three pillars, namely, environmental, social, and governance. The CFA Institute provides the latest list of ESG issues under each pillar (see Table 1), providing clear definitions of each ESG pillar and a detailed list of what each pillar includes. Similarly, other regulatory bodies and non-profit organizations, such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), issue frameworks that outline specific ESG issues to be emphasized. By using these frameworks and further breaking down the ESG issues into more detailed facets, third-party providers assess a firm’s performance in ESG criteria by calculating ESG scores through the evaluation of various indicators.

Table 1. List of ESG pillars and issues by CFA Institute

Pillar	*Description*	*Issues*
Environmental	Conservation of the natural world	• Climate change and carbon emissions; • Air and water pollution; • Biodiversity; • Deforestation; • Energy efficiency; • Waste management; • Water scarcity.
Social	Consideration of people and relationships	• Customer satisfaction; • Data protection and privacy; • Gender and diversity; • Employee engagement; • Community relations; • Human rights; • Labor standards.
Governance	Standards for running a company	• Board composition; • Audit committee structure; • Bribery and corruption; • Executive compensation; • Lobbying; • Political contributions; • Whistleblower schemes.

Source: CFA Institute (n.d.).

ESG rating was introduced relatively late in China and ESG rating agencies began to emerge in 2015 (Shen et al., 2023). There are four prominent local ESG score providers: SynTao Green Finance, China Alliance of Social Value Investment (CASVI), Sino Securities Index Information Service (Shanghai) Co. Ltd. (SSI), and Wind Financial Terminal. Additionally, three foreign rating agencies — MSCI, FTSE Russell, and Sustainalytics — also provide ESG scores for Chinese listed firms. Many of these providers employ a broad range of indicators and intricate methodologies to derive ESG scores, making it challenging to interpret the specific aspects measured by the scores. To gain a clearer understanding, the rating methodologies of these major providers are discussed below.

China's local ESG score providers:

- SynTao Green Finance. According to the ESG rating methodology of SynTao Green Finance, this agency implements an ESG rating framework comprising 14 key issues and assessing nearly 200 ESG indicators. The provider also develops 51 industry models, each with industry-specific ESG indicators and corresponding weights. Subsequently, the ESG score (ranging from 0 to 100) and ESG rating (A+ to D, using ten grades) for each company are derived from these industry models. Nevertheless, the details of the weighting methodology and industry models are not disclosed, incurring difficulties in interpreting which factors actually influence ESG scores.
- CASVI. The ESG rating framework developed by the CASVI consists of two parts: the "screening submodel" and the "scoring submodel", implementing a mechanism of "rating after screening". The screening submodel serves as a negative list for social value assessment, evaluating the target based on five aspects (industry issues, financial issues, environment and incidents, legal violations, and special treatments) and 17 indicators, making binary judgments of "yes or no". The scoring submodel comprises 3 primary indicators, 9 secondary indicators, 27 tertiary indicators, and 55 quaternary indicators. However, the lack of disclosure regarding the calculation process, detailed standards, and weighting methodology poses challenges in understanding the factors that truly influence ESG scores.
- SSI. The SSI ESG rating methodology is designed with a top-down approach, including 3 primary indicators, 16 secondary indicators, 44 tertiary indicators, 80 quaternary indicators, and over 300 bottom-level indicators. SSI claims to leverage big data technology and intelligent algorithms, such as semantic analysis and natural language processing, to determine the final ESG scores. However, the specific algorithm details are not disclosed, presenting challenges to interpreting what the ESG scores measure.
- Wind Financial Terminal. The Wind ESG rating index system distinguishes three ESG pillars: environment, society, and governance. It further subdivides these pillars into 27 issues and assesses more than 300 specific indicators. Wind claims that it has further subdivided those ESG issues for 62 industries based on thorough research, while considering the distinct characteristics of each industry, and has assigned varying weights to each issue accordingly. While the weightings for each firm are displayed in the database, the methodologies used to determine these weightings are not publicly disclosed, making it challenging to understand the primary factors influencing ESG scores.

International ESG score providers:

- MSCI. According to the ESG rating methodology disclosed by MSCI ESG Research LLC (2024), the ESG scores of each company are evaluated on a selection of 2 to 7 indicators in the environmental and social pillar out of 33 total key issues and 6 indicators in the governance pillars. Weights for the environmental and social pillar are calculated by summing the weights of all key issues under each respective pillar, while the governance pillar has a minimum floor weight of 33%. According to MSCI ESG Research LLC (2024), the ESG scores are calculated from a massive data source, incorporating over 1,000 data points on ESG policies, programs, and performance, information on 100,000 individual directors, and more than 20 years of shareholder meeting results. The large volume of data makes it challenging for individuals to understand the specific factors that influence ESG scores.
- FTSE Russell. According to the ESG ratings and data model introduction published by FTSE Russell (2023), the ESG scores are calculated using

ESG pillars and themes built on over 300 individual indicator assessments applied to each company's unique circumstances. The extensive number of indicators exceeds the practical understanding of the average person, and the detailed weighting methodology for these 300 indicators in calculating the ESG scores is not disclosed.

- Sustainalytics. Unlike other providers that utilize ESG scores for a comprehensive assessment of overall ESG performance, Sustainalytics, a subsidiary of Morningstar, employs ESG risk ratings to specifically measure ESG risk exposure. This is achieved through the evaluation of 20 material ESG issues. The final risk score, ranging from 0 to 100, is structured so that higher scores indicate a higher level of ESG risk. Given that Sustainalytics focuses on measuring how negative ESG performance is, as opposed to how good it is like other providers, this article specifically addresses interpreting ESG scores that measure positive ESG performance and does not primarily target the approach used by Sustainalytics.

To sum up, most ESG score providers for listed firms in mainland China, such as SynTao Green Finance, CASVI, SSI, Wind Financial Terminal, MSCI, and FTSE Russell, utilize ESG scores to represent positive ESG performance, with higher scores indicating better overall ESG performance. In contrast, Sustainalytics is an exception, as it employs ESG scores to represent ESG risk exposure faced by firms. This article primarily aims to explain the determinants of ESG scores within the context of most providers who use ESG scores to represent positive ESG performance. As discussed earlier, these third-party rating agencies either utilize a large volume of data or do not disclose detailed score calculation methodologies, or both. This situation poses a challenge for individuals attempting to understand the specific factors influencing ESG scores. Consequently, unveiling the factors that influence these ESG scores becomes a practical problem.

2.2. Literature about determinants of ESG scores

According to the disclosed ESG rating methodologies of providers discussed in subsection 2.1, their ESG scores are intended to be influenced solely by ESG-related performance, adhering to ESG regulation frameworks that exclusively address ESG-related issues. However, some studies find evidence indicating that ESG scores are influenced by non-ESG-related factors, such as firm size (Gregory, 2024; Akgun et al., 2021; Drempetic et al., 2020) and raters' ownership (Tang et al., 2022), without evidence of a mediating effect of ESG performance between those non-ESG-related factors and ESG scores. This suggests that ESG scores may inappropriately reflect non-ESG-related issues, introducing bias into its measurement as an indicator of ESG performance.

Some academic papers discuss the determinants of ESG performance and ESG scores, but they tend to be fragmented, employing different theories that alternatively propose firm, country, industry, and temporal factors as determinants of a firm's ESG (Crespi & Migliavacca, 2020). Furthermore, ESG scores serve as a proxy for ESG performance in many existing studies. For example, when examining the determinants of ESG scores, researchers often assume they are exploring the determinants of ESG performance (Crace & Gehman, 2023). However, these studies typically do not address the possibility that ESG scores may not precisely measure ESG performance, as asserted by third-party agencies. In contrast, Rajesh and Rajendran (2020) explore the relationship between Bloomberg ESG scores and firm ESG performances but do not discuss the determination of ESG scores by non-ESG-related issues.

Building upon previous studies, this article aims to investigate both the ESG-related factors influencing ESG performance, mirrored in ESG scores, and the non-ESG-related factors exclusively influencing ESG scores without affecting ESG performance. To address the current gap in the literature on determinants of ESG scores, this article comprehensively explores and integrates different strands of theories related to the potential determinants of ESG scores. This approach aims to offer a comprehensive understanding of what ESG scores truly reflect and measure.

Given the significant variation in firms' ESG performance across regulatory zones (Mooneeapen et al., 2022), the focus of this article is specifically on examining the stock market in mainland China, where government intervention plays a substantial role (Chen et al., 2011). Moreover, mainland China exhibits specific features distinguishing it from other markets, as ESG integration is primarily driven from the top down by the government, in contrast to the United States, the European Union, and Australia, where it is primarily driven from the bottom up by the demands of firms and investors (CFA Institute, 2019). However, it is worth noting that findings from this study may also have applicability in markets beyond mainland China.

3. RESEARCH METHODOLOGY

The scoping review methodology is applied to map the body of literature on relevant theories that could help identify potential determinants of ESG scores. A scoping review is a widely used methodology in previous studies for assessing progress made in a research domain. This article follows the five steps outlined by Daudt et al. (2013): 1) defining the research question; 2) identifying relevant studies; 3) selecting from those relevant studies; 4) charting the data; 5) collating, summarizing, and reporting the results.

A broad research question is constructed to avoid highly focused research questions, as suggested by Daudt et al. (2013), to ensure the comprehensiveness of relevant literature. The research question is defined as follows:

RQ: What influences ESG performance and ESG scores?

The most relevant papers regarding *RQ* are collected from the academic database of Google Scholar. Furthermore, to ensure the completeness and reliability of the data, it is essential to incorporate all widely recognized keywords relevant to the study area in the literature search. Table 2 presents the search keywords used to achieve precision and specificity. Without imposing any restrictions on the date range, the search was conducted on the study's title, abstract, and keywords sections to find as many pertinent published research as feasible. The study is limited to academic articles. Finally, 27 studies are identified

with keywords combination of 3 and 1 and 28 studies are identified with keywords combination of 3 and 2 as shown in Table 2, summing up to 55 articles. It's worth noting that the number of studies that are currently available may expand after the literature searches were last updated on April 20, 2024.

Table 2. Literature search keywords

No.	*Keywords*
1	"ESG scores" *or* "ESG ratings" *or* "environmental, social, and governance scores" *or* "environmental, social, and governance ratings" *or* "environmental, social, and governance assessment"
2	"ESG performance" *or* "environmental performance" *or* "sustainability performance" *or* "social responsibility performance" *or* "sustainable business practices" *or* "CSR" *or* "Corporate social responsibility"
3	"determinants" *or* "influencing factors" *or* "determine" *or* "influence" *or* "contributing factors" *or* "determining factors" "driving forces" *or* "components"
5	Combination of 3 and 1
6	Combination of 3 and 2

Source: Authors' elaboration.

The articles are further filtered by reading the abstracts to ensure that only those directly contributing to the research question are included. The articles that exclusively discuss sustainability technology, without relevance to finance and investment, are excluded. Moreover, articles published before the year 2020 are excluded to ensure that the finally included articles are sufficiently recent. Finally, 18 articles that are directly relevant to *RQ* and were published between 2020 and 2024 are selected.

The 18 articles are carefully reviewed to examine the determinants of ESG scores or ESG performance they study, as well as the underlying theories they utilize. The results are displayed and discussed in Section 4.

4. RESEARCH RESULTS

It is found that numerous papers have explored topics related to ESG, mainly with a focus on corporate ESG disclosure, performance, and ESG investing. As far as we know, there is no literature that thoroughly examines the determinants of ESG scores, either theoretically or empirically. This gap is not confined to mainland China alone but extends globally. Despite an abundance of literature relative to ESG worldwide, there is an absence of comprehensive studies exploring the determinants of ESG scores.

Nevertheless, there exists a body of research that explores numerous individual factors influencing ESG scores. The existing literature suggests that certain factors may determine ESG scores, primarily supported by stakeholder theory, legitimacy theory, and institutional theory. Therefore, in this article, these factors are categorized into stakeholder, legitimacy, and institutional factors if they are supported by stakeholder theory, legitimacy theory, or institutional theory, respectively. Table 3 presents literature selected in Section 3 pertaining to the determinants of ESG scores, classified into three types of factors based on their corresponding underpinning theory.

Table 3. Determinants of ESG scores in existing literature

Types of factors	*Determinants*	*Author and year*
Stakeholder factors	Environmental performance	Senadheera et al. (2021), Muller (2021)
	Social performance to the external group: gender diversity	Bhatia and Marwaha (2022)
	Social performance to the internal group: employees	Lee et al. (2023), Piao et al. (2022)
	Governance performance: gender diversity: board factors	Bhatia and Marwaha (2022)
Legitimacy factors	Government ownership	Zhang et al. (2023)
	ESG disclosure	Arvidsson and Dumay (2022)
	Industry ESG sensitivity	Qureshi et al. (2020)
Institutional factors	Firm size	Gregory (2024), Akgun et al. (2021), Drempetic et al. (2020)
	Institutional ownership	Doshi et al. (2024), Wang et al. (2023), Qasem et al. (2022), Martínez-Ferrero and Lozano (2021)
	Ownership concentration	Jung (2023)
	Overall economic and social development	Mooneeapen et al. (2022)

Source: Authors' elaboration.

5. DISCUSSION

In this section, stakeholder theory, legitimacy theory, and institutional theory, which suggest potential determinants of ESG scores in existing literature, are discussed in detail to provide a comprehensive review of theories underpinning this topic. At the end of this section, a comprehensive framework of determinants is built by integrating insights from these theories. This article also integrates insights from existing literature on individual determinants of ESG scores. This combined approach helps create a clear and inclusive framework that considers various perspectives and findings.

5.1. Determinants of ESG scores under stakeholder theory

The stakeholder theory is a particularly relevant lens for understanding determinants of ESG scores, given that firm stakeholders inherently involve the pillars of ESG issues and are considered ESG-related factors. Stakeholder theory provides a framework to explore how the interests and concerns of these diverse stakeholders may influence and shape a company's ESG performance and subsequent ESG scores (Taghian et al., 2015). Stakeholder theory advocates for the involvement of a diverse array of entities, encompassing customers, employees,

suppliers, policymakers, action groups, and environmental organizations, while also incorporating stakeholders such as society, media, financial institutions, and various government groups in the comprehensive evaluation of a firm's overall performance (Taghian et al., 2015).

The model developed by Fassin (2009), in which he classifies stakeholders into different categories based on their varying relationships with firms and different degrees of influence, can be considered as a framework linking stakeholder theory with ESG. Fassin (2009) creates three new terms to distinguish three distinct categories of stakeholders, namely real stakeholders, stakewatchers, and stakekeepers. The first category of real stakeholders contains those who have real positive expectations in the company and those who hold actual stakes in the company, such as stockholders and creditors. The second category of stakewatchers includes those who do not have a real stake in the company but can influence it in an indirect way. The stakewatchers are also referred to as the pressure group and are further divided into internal pressure groups (such as employees) and external pressure groups (such as non-governmental organizations and communities). The third category of stakekeepers is those who cast a constraint on firms. The government is the major stakekeeper for most firms.

According to the model developed by Fassin (2009), different types of stakeholders should have different weights of influence on firms' practices. Numerous empirical studies have been dedicated to examining the impact of specific types of stakeholders on firms' operations, thereby providing support for Fassin's (2008) perspective. For example, Haigh and Griffiths (2009) consider the environment as a stakeholder to examine its impact on firms' operations. Lasker and Weiss (2003) treat the community as a stakeholder to explore its impact on firms' operations. Alt et al. (2015) argue that employees are important stakeholders and explore their impact on firms' environmental performance. As far as we know, there is still a large research gap few articles study the impact of different types of stakeholders simultaneously on firms' ESG performance and ESG scores.

Building upon previous studies discussed above, this article posits a correspondence between the three pillars of ESG and the three types of stakeholders in Fassin's (2009) stakeholder model, each ESG pillar is seen as representing one specific type of stakeholder. To be more specific, the environment pillar is considered as stakekeepers. The corporate governance pillar corresponds to the real stakeholders. The social pillar is further divided into the social responsibility pillar and employee pillar because they correspond to external stakewatchers and internal stakewatchers as defined by Fassin (2009). Since different types of stakeholders have different impacts on firms' operations, different ESG pillars should also have different levels of impact on ESG performance and ESG scores. This theoretical reasoning could provide valuable insights into how each ESG pillar influences ESG scores, given that the weighting methodology employed by ESG score providers is usually not disclosed.

As outlined below, this article explores academic evidence to support the pairwise connections between ESG pillars and diverse categories of stakeholders. The objective is to demonstrate that, theoretically, performance concerning different types of stakeholders can influence ESG practices and ultimately impact ESG scores.

5.1.1. Environment pillar as stakekeepers (regulators)

Government regulation is the main driver of environmental protection and ESG integration in mainland China (CFA Institute, 2019). Since the Chinese government updated the Environmental Protection Law in 2015, accompanied by strict penalties and thorough inspections, the concept of ESG also began in the same year and has developed under strong government regulation and legal supervision (Cai & Ye, 2020). Therefore, in the context of mainland China, the firms' ESG practices in the environmental pillar are most appropriately considered as an attempt to comply with the requirements of regulators.

5.1.2. Social responsibility in social pillar as an external pressure group

The social pillar, when discussed in the context of sustainable development, includes activities to fulfill social responsibility and to enhance the well-being of the general society which do not possess direct stakes in the firms but can have an indirect impact on firms. Thus, the social responsibility in the social pillar of ESG corresponds to the definition of external pressure group as defined in the stakeholder model of Fassin (2009). Therefore, the firm's practices in social responsibility as a component of the social pillar can be most appropriately considered as an attempt to comply with the requirements of the external pressure group.

5.1.3. Employees in social pillar as an internal pressure group

The employee is also included in the social pillar of ESG score determinants. Employee engagement and well-being are strongly related to firms' financial and non-financial performance. The firms' practices in the responsibility toward employees as a component of the social pillar can be most appropriately considered as an attempt to comply with the requirements of the internal pressure group. The employee responsibility practices include employee training, employee health care and safety, protection of minority employee groups, etc.

5.1.4. Corporate governance pillar as real stakeholders

Firms' practices in corporate governance are designed to protect the benefits of firms' investors, mainly shareholders and creditors. Investors are those who have real stakes in firms. Therefore, the firm's practices in the corporate governance pillar can be most appropriately considered as an attempt to comply with the requirements of real stakeholders.

To sum up, according to Fassin's (2009) model, the ESG pillar issue can be seen as different types of stakeholders for firms, each with different impacts on ESG scores. This aids investors in understanding

the actual influence of ESG pillar performance on ESG scores. This is particularly important in practice, as ESG rating methodologies, including the weighting of each pillar issue, are typically not disclosed by third-party agencies.

5.2. Determinants of ESG scores under legitimacy theory

Legitimacy theory is frequently explored in understanding voluntary social and environmental disclosures. According to legitimacy theory, firms strive to establish, sustain, or recover legitimacy through their reporting on social and environmental aspects (Deegan, 2002). According to legitimacy theory, firms can apply a symbolic approach instead of a substantive approach to achieve legitimacy, which means that firms simply portray their ESG practices to create an image of good ESG performance rather than conduct any real and material activities. Empirical evidence provided by Arvidsson and Dumay (2022) supports this notion by concluding that the quantity and quality of ESG disclosure by firms are rising while corporate ESG performance has remained unchanged. Furthermore, as China currently lacks mandatory ESG reporting legislation, the content and length of ESG disclosures are not compelled or standardized. According to legitimacy theory, an increase in ESG disclosure may not necessarily be a driver of ESG performance. Consequently, if ESG scores are precise measurements of actual ESG performance, they should not significantly reflect the quantity of ESG disclosure.

Moreover, consistent with legitimacy theory, firms with greater government ownership might be more incentivized to enhance or maintain their legitimacy by boosting their ESG scores. However, if ESG scores are expected to be impartial and uniform across firms with varying degrees of government ownership, there should not be a correlation between government ownership and ESG scores. Zhang et al. (2023) argue that in mainland China, firms with low or no government ownership are motivated to engage in more ESG practices to attract greater government attention and trust. In contrast, however, Wang et al. (2018) find that government-owned firms have a higher emphasis on ESG compared to non-government-owned firms and on average, have a higher ESG performance than less politically embedded firms. According to existing empirical evidence, even though ESG score providers do not include government ownership in their rating methodology, such scores are observed to be influenced by this non-ESG-related factor. Therefore, when empirically analyzing the determinants of ESG scores, it is crucial to investigate whether government ownership significantly influences ESG scores.

Likewise, according to legitimacy theory, industry sensitivity to ESG issues can also influence ESG scores as firms strive to align with societal norms to maintain legitimacy. Some empirical works support the view that higher industry ESG sensitivity may be a determinant of higher ESG performance and therefore a determinant of ESG scores. For example, according to Qureshi et al. (2020), companies in ESG-sensitive industries perform better in terms of ESG.

To sum up, consistent with the notion of legitimacy theory, the practices of ESG disclosure, government ownership, and the firm's industry ESG sensitivity, which are not actually the firm's ESG performance metrics included by most ESG rating agencies, are potential determinants of third-party agency ESG scores. In this sense, ESG scores could be a combination of a partial real measurement of firms' actual ESG performance and the perceived ESG performance derived from a firm's ESG disclosures as interpreted by third-party agencies. Therefore, an analysis of the determinants of ESG scores should encompass factors such as the quantity of ESG disclosure, government ownership, and industry ESG sensitivity. In this article, the term "legitimacy factors" is used to refer to firms' performance that are geared towards maintaining their legitimacy image but may not necessarily be connected to ESG performance.

5.3. Determinants of ESG scores under institutional theory

Institutional theory (Meyer & Rowan, 1977) is a well-known viewpoint that aims to explain how resources, social norms, and values affect firms' behavior and change. The theory suggests that firms are not independent actors but are instead embedded in a broader institutional environment that shapes their behavior and responses to change.

The institutional theory has evolved through several crucial stages, each introducing new theoretical perspectives contributing to the understanding that certain factors can potentially influence ESG scores. In the work of Meyer and Rowan (1977), the authors proposed the concept of institutional isomorphism, which suggests that organizations within a given field tend to become more similar to each other over time due to the pressures of institutional norms and values. This work was foundational in establishing the idea that firms are not isolated entities, but are instead deeply influenced by their environment. In this sense, the overall economic and social development in which firms operate has the potential to influence both ESG performance and ESG scores. For example, Mooneeapen et al. (2022) argue that the popularization of the ESG concept is largely influenced by the overall economic and social development, which is the underlying driver of the structural transformation of social norms and perceptions. It can be argued that the influence of overall economic and social development on ESG performance and ESG scores depends on the extent of social consensus on the ESG concept. Therefore, it is essential to consider overall economic and social development when examining potential determinants of ESG scores.

Later in the work of DiMaggio and Powell (1983), the authors built on the work of Meyer and Rowan (1977) by arguing that institutions are not homogeneous but are instead comprised of competing logics, or sets of beliefs, values, and practices. According to DiMaggio and Powell (1983), institutional pressures can lead to the emergence of different practices in different organizational forms. Based on this, it can be reasoned that institutional ownership and ownership concentration may contribute to different ESG practices and, consequently, influence ESG scores. This notion is supported by many empirical papers.

Regarding institutional ownership, some papers examine the relationship between institutional ownership and firms' ESG performance but come out with mixed findings. For example, Wang et al. (2023)

find significantly positive relationship between institutional ownership and firms' ESG performance. However, other studies find that such a positive relationship does not exist in general but rather only under certain conditions. For example, Qasem et al. (2022) and Doshi et al. (2024) find that only institutional ownership held by governmental organizations has a significant relationship with ESG practices, while institutional ownership held by private organizations has no significant association with ESG practices. Martínez-Ferrero and Lozano (2021) find that there is a U-shaped relationship between ESG performance and institutional ownership, indicating that firms in emerging countries experience lower ESG performance when institutional ownership is low, but this effect diminishes when ownership reaches a critical mass. Since empirical evidence is mixed regarding the relationship between institutional ownership and ESG performance, it is necessary to include institutional ownership when examining determinants of ESG scores.

Regarding ownership concentration, institutional theory suggests that high ownership concentration might help owners monitor and influence the firm's managers, thereby having a positive influence on ESG performance and ESG scores. However, existing empirical literature usually involves ownership concentration either as a mediating or moderating variable without discussing its direct influence on ESG scores. For instance, Yan et al. (2024) find that ownership concentration plays an internal moderating role in the connection between female executives and ESG performance; Yiheng et al. (2024) use ownership concentration as a control variable in their examination of ESG performance and financial outcomes; and Jung (2023) demonstrates that ownership concentration significantly moderates the relationship between ESG performance and corporate value, particularly in the environmental and social dimensions, with no statistically significant impact on governance. Since empirical evidence is limited regarding the relationship between ownership concentration and ESG scores, it is necessary to include ownership concentration when examining determinants of ESG scores.

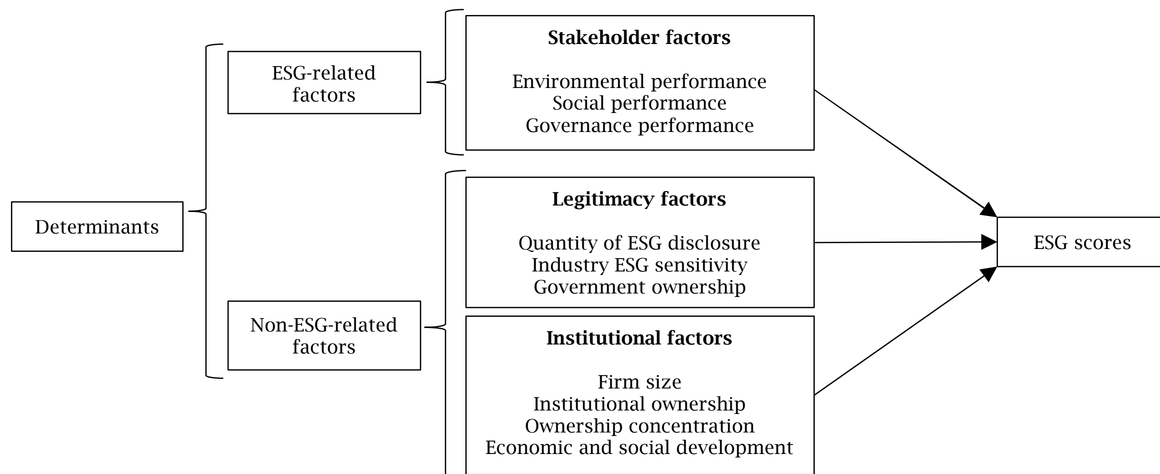
Moreover, according to institutional theory, firms are less likely to conduct ESG practices when they have less resources. Since business success is largely built on internal resources, which are categorized as a company's assets or other capabilities, therefore, if institutional theory holds, multiple indicators representing the firm's size, such as total assets, total number of employees, total market value, etc., may affect the firm's ESG performance, thereby affecting ESG scores (Gregory, 2024; Akgun et al., 2021; Drempetic et al., 2020).

To sum up, the institutional theory suggests that various factors are potential determinants of ESG scores worth exploring including overall economic and social development, institutional ownership, ownership concentration, and firm size. In this article, those determinants are collectively referred to as "institutional determinants".

5.4. Proposed framework for ESG score determinants

Building upon stakeholder theory, legitimacy theory, institutional theory, and existing literature, this article presents a comprehensive framework of determinants for ESG scores in Figure 1. This framework illustrates that determinants of ESG scores can be categorized into two groups. Firstly, ESG-related factors align with the ESG pillars, disclosed in the ESG score calculation methodologies of various third-party rating agencies. These factors fall under the definition of stakeholder factors outlined in subsection 5.1, and their influence on ESG scores is expected to accurately reflect their impact on ESG performance. Secondly, there are non-ESG-related factors that don't align with any of the three ESG pillars. Although these factors should not directly influence ESG scores according to the score calculation methodologies, theories suggest they might inaccurately influence ESG scores through various mechanisms. One such mechanism involves potential biases in the interpretation of these factors by third-party agencies, stemming from ESG disclosure signaling without real ESG practices, as discussed in subsection 5.2. Another such mechanism is that institutional characteristics, such as ownership concentration, and the overall economic and social environment in which the institution operates, will influence ESG scores, as discussed in subsection 5.3. This creates the possibility that ESG scores could be influenced by non-ESG-related factors, contrary to the intended methodology.

Figure 1. Proposed comprehensive framework for ESG score determinants



6. CONCLUSION

This article aims to promote a careful examination and understanding of third-party ESG scores as a measure of ESG performance. While existing studies discuss individual factors influencing ESG performance or scores, they lack a thorough examination of all potential determinants or lack discussion of the supporting theories. To address this gap, the article integrates stakeholder theory, legitimacy theory, and institutional theory to establish a comprehensive framework for understanding all possible determinants of ESG scores for listed firms.

In this framework, guided by stakeholder theory, the ESG practices of firms striving to meet the interests of various stakeholders are categorized as ESG-related factors influencing ESG scores. The E pillar, S pillar, and G pillar are treated as distinct categories of stakeholders, each exerting varying levels of influence on ESG performance and consequently influencing ESG scores differently. In mainland China, for example, with stringent environmental regulations and a highly government-regulated stock market, the E pillar is anticipated to have a more substantial influence on ESG scores compared to the S and G pillars. Moreover, since the ESG practices of Chinese listed firms operate within a regulatory environment primarily shaped by the policies and priorities of the Chinese government rather than by market-oriented principles, the strict regulation of external pressure groups, such as non-governmental organizations, means that their activities are largely dependent on the Chinese government. Consequently, the ESG scores of Chinese listed firms may not be significantly influenced by their performance on external groups within the social pillar. Likewise, in mainland China, employees have limited collective influencing power on firms' practices and organized labor movements are rare because the government grants individual rights to workers while restricting their collective rights (Chen, 2016). Consequently, ESG performance in Chinese listed firms may not be significantly influenced by the opinions and activities of employees, who constitute a primary component of internal social groups. The conclusion that ESG pillar issues should have varying levels of influence on ESG scores also holds significance for other countries and regions, as the influence of each pillar issue should vary depending on country characteristics such as economic development, regulatory frameworks, cultural norms, and social expectations.

The article also claims that, in line with legitimacy theory, certain legitimacy factors, including the quantity of ESG disclosure, industry ESG sensitivity, and government ownership, may influence ESG scores. Moreover, according to institutional theory, institutional factors such as firm size, institutional ownership, ownership concentration, and economic and social development also influence ESG scores. These legitimacy and institutional factors, while not incorporated into the calculation methodology of ESG score providers as part of ESG pillar performance, contribute to shaping ESG scores. As they are not explicitly acknowledged in the calculation methodology of ESG scores, they are termed non-ESG-related factors in the framework.

This framework makes two significant contributions to the existing literature. First, it underscores that ESG scores are shaped not only by factors explicitly disclosed in the calculation methodology by score providers but also by non-ESG-related factors that are not part of the claimed calculation methodology.

Second, the framework establishes a theoretical foundation for understanding that the contribution of different pillar performances to ESG scores may vary in degree. This variation is attributed to the fact that each pillar represents the interests of different stakeholders, and those stakeholders with closer proximity and greater influence on firms' practices exert a more substantial impact on ESG scores.

The article practically contributes by emphasizing that various factors can impact the precision of ESG scores, potentially distorting their accuracy. This distortion may lead to ESG scores inaccurately reflecting major ESG-related issues, influenced by non-ESG-related matters, and diminishing their reference value as a quantitative measure of ESG performance. Caution is advised when interpreting and incorporating ESG scores into the investment decision-making process.

Future research might involve empirical analysis to identify specific factors within a particular sample and timeframe that influence ESG scores. The framework developed in this article is important for future research as it provides a comprehensive list of variables that could be incorporated into empirical analysis influencing ESG scores.

The major limitations of this article include that the inclusion criteria and database used for studies in a scoping review may introduce bias and incompleteness in the inclusion of ESG score determinants. Additionally, the framework does not specify the positive or negative influence of determinants on ESG scores, and whether the relationship may vary across different samples and time frames. Empirical evidence is needed to support the validity of this framework.

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