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From values to value: exploring the dual impact of national spirit on corporate ESG performance

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Abstract

Purpose – National spirit, as a powerful legitimacy trait, shapes the consistency of a firm's financial decisions, employee engagement and sustainability strategies. Combining this with resource-based view (RBV) theory, the study empirically examines the dual impact of national spirit on corporate environmental, social and governance (ESG) performance.

Design/methodology/approach – This paper utilizes data from Chinese A-share listed companies from 2009 to 2022 and employs machine learning methods to construct enterprise-level indicators of national spirit. In addition, the paper scrapes nearly 3 million ESG-related online news articles from the Baidu news website and uses machine learning methods to measure media ESG attention and sentiment.

Findings – The findings reveal that national spirit significantly enhances corporate ESG performance, operating through both internal and external channels: promoting social financing and boosting employee morale. Further analysis indicates that the positive influence of national spirit on corporate ESG performance is more pronounced in private enterprises, companies facing higher levels of credit constraints and firms in polluting industries. Additionally, managerial shortsightedness weakens the sustainable value of national spirit, while external media ESG attention and regional ESG governance efforts further strengthen this effect. Furthermore, different dimensions of national spirit exhibit varying impacts on corporate ESG performance.

Practical implications – This study provides new insights for promoting sustainable development systems in emerging economies and understanding the role of national spirit in corporate social responsibility investments.

CRediT authorship contribution statement: Weijie Tan: Methodology, Writing – Original Draft, Writing – Review and Editing, Validation, Visualization, Formal analysis, Investigation, Data Curation, Project administration and Software. *Yiqian Liu:* Methodology, Conceptualization, Formal analysis, Investigation, Software and Funding acquisition. *Qi Dong:* Writing – Original Draft, Conceptualization, Formal analysis, Investigation. *Xihui Haviour Chen:* Conceptualization, Validation, Visualization, Supervision, Resources and Writing – Review and Editing.

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Originality/value – This paper shifts the study of national spirit from macro-level cultural analyses to a micro-level perspective. It bridges gaps in the literature by providing empirical evidence on the role of national spirit as a soft resource that influences corporate financial behavior and employee morale. This study provides new insights into promoting sustainable development systems in emerging economies and understanding the role of national spirit in corporate social responsibility investments.

Keywords Corporate national spirit, ESG, Resource-based view, Social financing, Employee morale

Paper type Research paper

1. Introduction

In recent years, social issues related to sustainable development, such as climate change, income inequality, and public health crises, have attracted widespread attention from the international community. Environmental, social and governance (ESG) has emerged as a new standard for evaluating sustainable development and is continuously reshaping development concepts in various countries [1]. Against this backdrop, increasing amounts of capital have been flowing into ESG-related areas, marking a long-term trend that puts pressure on companies to enhance their ESG efforts. While neoclassical theory argues that ESG does not directly improve corporate performance and may, in fact, hinder the achievement of the firm's value-maximizing goal due to its strong externalities (Bénabou and Tirole, 2010). Much research suggests that good ESG performance can help companies achieve higher valuations in capital markets, reduce investor risks (Houston and Shan, 2022; Avramov *et al*., 2022), and lower corporate financing costs (Bai and Jiarui, 2024). Furthermore, ESG is directly linked to a company's social reputation and brand image, which, in turn, fosters market trust and social support (Fafaliou *et al*., 2022; Chasiotis *et al*., 2024). From a regulatory perspective, many countries and regions have introduced regulations and policies regarding ESG information disclosure, encouraging companies to strengthen their ESG initiatives. It is thus evident that incorporating ESG factors into corporate investment decisions has become an integral part of modern business management and global capital markets. Therefore, investigating the factors that drive corporate ESG performance is an important area of research.

Although the integration of ESG factors into various business operations is receiving increasing attention, many companies still face numerous challenges in advancing ESG development, both internally and externally. On the one hand, companies lack sufficient external sustainability financing to implement their ESG strategies. According to KPMG's *The Move to Mandatory Reporting*: *Survey of Sustainability Reporting (2024)*, 44% of AQ: 6 companies cite the lack of social resource support as a major challenge to ESG projects, and this issue is even more prominent in emerging economies with imperfect market systems [2]. Social finance, as the result of the social roots f business activities, profoundly influences corporate ecosystems, strategies, processes, and practices (Bruna and Nicolò, 2020). Therefore, effectively guiding the allocation of social sustainability financing is a key factor in promoting corporate ESG development. On the other hand, companies often suffer from inadequate internal sustainability capabilities, reflected in low employee participation, sustainability awareness, and satisfaction in ESG efforts. According to McKinsey's *2023 ESG Report*: *Accelerating Sustainable and Inclusive Growth for All*, many companies' ESG strategies remain confined to management-level decisions and fail to be implemented in operational areas such as production and sales. Furthermore, in the absence of employee participation and support, the implementation of ESG strategies struggles to achieve substantial progress [3]. To address these challenges, the two main breakthroughs for companies in achieving a sustainable ESG strategy are how to leverage and secure external sustainability resources while improving employee satisfaction to enhance internal sustainability capabilities.

However, in the face of these internal and external challenges, how companies can overcome the dual constraints of resources and capabilities and find a path that integrates both external resource mobilization and internal management drivers has become a key issue in enhancing ESG performance. In this context, national spirit, with its unique cultural connotations and social functions, provides important theoretical and practical support for addressing these challenges. On the one hand, national spirit emphasizes the cultivation of moral principles, national culture, and values, which helps shape the consistency between a company's financial decisions and sustainability strategies, thereby promoting the effective allocation of social financial resources. Social finance, which balances stakeholder-centric and policy-driven resource redistribution, has a broader impact on corporate governance (Bruna and Nicolò, 2020). By considering the interests of different stakeholders, companies strengthen their strategic decision-making process by integrating responsible and ESG sustainable practices (Cumming *et al*., 2016; Bruna and Nicolò, 2020). Additionally, cultural consistency is crucial for enhancing corporate internal sustainability capabilities (Luo *et al*., 2024), and national spirit serves as a powerful catalyst in this process. Social identity theory also suggests that employees are more likely to actively engage in the implementation of corporate strategies once they identify with the company's culture (Oakes *et al*., 1991). When it comes to executing ESG strategies, national spirit not only helps employees better understand the company's sustainability goals but also encourages their proactive involvement in specific operational areas such as production, sales, and services, thereby enhancing the company's overall sustainability capacity.

Based on this, this paper focuses on how national spirit drives the improvement of corporate ESG performance through two main paths: social finance and employee participation. The core research question is: under the dual constraints of resource scarcity and insufficient internal participation, how does national spirit help companies achieve their ESG strategic goals? However, existing studies primarily explore the impact of nationalism on corporate economic performance from singular perspectives, such as regional historical culture or national ethics (Aggarwal *et al*., 2016; He *et al*., 2019; Chen *et al*., 2021). Therefore, we aim to reveal the mechanism by which national spirit influences corporate sustainable development, fill the gaps in current research, and provide actionable theoretical foundations for corporate practice.

In the theoretical framework of how national spirit drives corporate ESG performance through both internal and external paths, selecting Chinese companies as the research sample has significant theoretical and practical implications. First, as the world's largest emerging economy, China's ESG practices carry dual significance: they encompass both local characteristics and global spillover effects. China's important position in the global industrial chain means that its ESG development is not only critical to its own economic transformation but also has external effects on global supply chains and environmental governance (Kumar *et al*., 2024). Emerging economies generally face challenges such as insufficient ESG resources and underdeveloped policy systems, while China's unique approach reflects common issues in emerging economies and offers lessons for developed countries (Shan and Tang, 2023).

Second, the policy initiatives from the Chinese government and the market response provide an ideal experimental setting for studying ESG development. In April 2024, under the unified guidance of the China Securities Regulatory Commission, the three major stock exchanges in Shanghai, Shenzhen, and Beijing officially issued guidelines for listed companies on sustainability reporting. At the same time, ESG investments in China continue to rise [4]. According to Wind data, by 2023, there were 828 ESG investment funds in China's secondary market, with a total size of approximately 539.5 billion RMB (equivalent to around 75.53 billion USD) [5]. This "policy guidance and market response" model offers important insights for the international community in exploring the synergistic effects between policy interventions and social sustainable finance.

Third, the integration of Chinese cultural connotations and national spirit provides a unique perspective for understanding the internal drivers of ESG activities. In China, national spirit is regarded as "the most powerful form of legitimacy" (Bajoria, 2008; Yue *et al*., 2024), and it emphasizes group identity and shared goals in employee management, which aligns closely with employee participation and morale improvement in ESG initiatives (Hofstede, 1984).

This helps companies integrate national cultural values into their business strategies, while simultaneously offer theoretical insights for ESG development in different cultural contexts.

Therefore, this paper uses a sample of 26,240 firm-year observations from A-share listed companies in China from 2009 to 2022. It employs machine learning and text analysis methods to calculate the national spirit index at the corporate level. By integrating the Resource-Based View, this study conducts an in-depth examination of the dual impact of the national spirit on corporate ESG performance. The findings indicate that national spirit significantly improves corporate ESG performance. Mechanism analysis reveals that national spirit enhances ESG performance by promoting social financing and improving employee morale. Heterogeneity analysis shows that the positive impact of national spirit on ESG performance is more pronounced in private enterprises, firms with less managerial myopia, those with higher credit constraints, firms with greater media ESG attention, industries with higher pollution, and firms in cities with stronger ESG governance efforts. Furthermore, the impact of different dimensions of national spirit on ESG performance varies.

The marginal contributions of this paper are threefold: First, in terms of research perspective, while many studies have explored the relationship between national culture, values, or religion and corporate financial performance (see Aggarwal *et al.*, 2016; Cumming *et al.*, 2016; Wei *et al.*, 2023; Li *et al.*, 2024) or ESG performance (Shin *et al.*, 2023; Luo *et al.*, 2024; Zhao *et al.*, 2024), some studies tend to focus on macro-level nationalistic features (Click and Weiner, 2010; Ertug *et al.*, 2024), lacking clarity in distinguishing the economic consequences of national spirit from those of corporate culture, or neglecting to fully explore their impact. This paper analyzes the penetration of national spirit in Chinese enterprises from a micro-level perspective and explores the relationship between national spirit and corporate ESG performance in depth using resource-based theory. Compared to existing studies, this paper provides new empirical evidence from the interactive perspective of corporate national traits and social responsibility, offering a potential mechanism for motivating enterprises to adopt sustainable development principles.

Second, existing research typically adopts a single-dimensional approach to national cultural characteristics, such as regional culture (Aggarwal *et al.*, 2016; Chen *et al.*, 2021; Luo *et al.*, 2024), moral constraints (Kong *et al.*, 2021), or religious doctrines (He *et al.*, 2019), or relies on survey data from individual companies (Neo and Xiang, 2022) and case studies (Tian *et al.*, 2021). These approaches often fail to fully capture how companies perceive national spirit in large sample settings and how it manifests in actual operations. This paper innovatively constructs a micro-level national spirit indicator for enterprises based on media news and corporate annual reports using machine learning and text analysis methods. This approach provides a more in-depth and targeted perspective on corporate traits than traditional regional cultural indicators (Yue *et al.*, 2024), capturing the specific impact of national spirit on business operations that conventional methods cannot measure. By employing this method, the paper fills a gap in the current literature while providing a reliable micro-level foundation for future comparative studies of national spirit across regions and industries. This contribution shifts the research on national spirit from abstract macro-cultural analyses to concrete cases and quantitative analyses at the operational level, significantly broadening and deepening the scope of the study.

Finally, this paper reveals a new mechanism by which national spirit influences corporate sustainable development behavior, from the perspectives of social financing and employee morale, highlighting the heterogeneity of its effects. It provides a new theoretical framework, suggesting that national spirit, as a soft resource, plays a crucial role in influencing corporate financial choices (Cumming *et al.*, 2016; Yue *et al.*, 2024) and employee participation (Rizaie *et al.*, 2023). This offers a theoretical foundation for enterprises to develop more personalized and differentiated corporate culture and ESG strategies. It further enriches the literature on social finance and modern corporate governance. Additionally, the study underscores the heterogeneity of corporate responses to national spirit, providing valuable insights for future practical applications and policy recommendations, particularly in optimizing corporate culture and enhancing sustainable development capabilities.

The remaining structure of this paper is organized as follows: Section 2 reviews the relevant literature. Section 3 presents the theoretical analysis and hypothesis development. Section 4 summarizes the main data used in this paper and outlines the identification strategies employed. Section 5 primarily presents the benchmark regression results and robustness analysis. In Section 6, we discuss the mechanisms through which national spirit influences corporate ESG performance and examine the heterogeneity of the results. The final section provides a summary of the conclusions and key insights of the entire paper.

2. Literature review

2.1 Connotation and related studies of national spirit

National spirit is a collective ethos or essential characteristic that reflects a nation's cultural heritage, core values, and shared attitudes (Click and Weiner, 2010; Ertug *et al*., 2024). While existing research often focuses on nationalism, which shares certain similarities with national spirit, there are significant differences in emphasis and origins between the two concepts in the global context and within China's unique environment. Nationalism is primarily political and external (Bajoria, 2008; Subin, 2021; Yue *et al*., 2024), whereas national spirit is cultural and internal. Specifically, nationalism originates from and emphasizes the political and ideological dimensions of national identity (Smith, 2009), often involving a "downward" comparison to other nations to strengthen the superiority of one's own nation (Fisman *et al*., 2014; Subin, 2021). In contrast, national spirit focuses on revealing and shaping the national cultural character and moral norms—unique values, ethical standards, and behavioral codes embedded in a nation's culture (Tian *et al*., 2021). At the corporate level, which this paper focuses on, national spirit refers primarily to the rhetoric and commitments that companies express in public communication, daily operations, and strategic planning. These align their actions with national interests (Yue *et al*., 2024) and embody the spirit of the nation within the organization to achieve these goals.

With the new paradigm of globalization and the intensification of geopolitical tensions, national spirit has been infused with new meanings (Luo *et al*., 2024), offering fresh perspectives and insights for modern corporate governance theory and practice. The academic community has already acknowledged this shift (e.g. Waldmeir, 2012; Click and Weiner, 2010; Subin, 2021; Ertug *et al*., 2024). For instance, within the Chinese cultural context, national spirit is deeply rooted in Confucianism and Daoism, and it is closely tied to the goal of national rejuvenation (Kong *et al*., 2021). This deep cultural foundation has permeated the thinking patterns of Chinese entrepreneurs, profoundly influencing the business behavior and decision-making of Chinese companies (Ouyang and Ouyang, 2017) [6]. Compared to the regional-level national spirit that much of the existing research focuses on (Click and Weiner, 2010; Ertug *et al*., 2024), national spirit at the corporate level differs in that the regional spirit is typically seen as an external informal institutional environment that companies passively accept and are constrained by (Tian *et al*., 2021; Ertug *et al*., 2024). It is mainly used to analyze the institutional advantages or disadvantages of firms in different regions and their subsequent strategic choices after being embedded in such environments. Strategic legitimacy theory suggests that firms are not merely passive recipients of external environmental pressures (Bajoria, 2008). On the contrary, firms actively engage in legitimacy actions to build differentiated organizational identities and strategic resources that are beneficial to their development (Granados and Rosli, 2020). Therefore, whether national spirit becomes a behavioral code actively chosen by firms and influences their performance requires further exploration of how firms perceive and communicate national spirit in practice. Yue *et al*. (2024) deconstruct China's national spirit at the corporate level into four aspects: xenophobic sentiments, national pride, awareness of national rejuvenation, and the company's role identity—dimensions that are often difficult to represent at the regional level. Notably, there is significant heterogeneity in the national spirit across different firms within the same country, and this variation may explain differences in the sustainability performance among firms.

In academic research, national spirit and corporate culture are often discussed together, but their meanings and applications differ. RBV theory suggests that when firms develop unique traits that distinguish them from external competitors, these traits become valuable strategic resources that provide sustained competitive advantages for the firm (Barney, 1991). Transaction cost theory points out that positive corporate cultural traits can reduce external transaction costs and improve the firm's external financing environment (Jiang *et al*., 2019). Social contract theory emphasizes that firms, as entities bound by various contracts, have responsibility toward various social actors. A firm's active response to social responsibility under the influence of its culture helps it gain sustained trust and support from society (Zhao *et al*., 2024).

It is important to note the distinction between corporate national spirit and corporate culture. Whether it derives from Daoist philosophy (Xing and Starik, 2017), Confucian thought (Li *et al*., 2023), or the culture of integrity (Bao *et al*., 2024), these elements are all components of Chinese national spirit. While existing research has confirmed their positive impact on corporate financial performance and sustainability (Wu and Wan, 2023; Luo *et al*., 2024; Wu *et al*., 2024), the research perspective has often been too narrow. National spirit, as a broader, more comprehensive cultural psychology and social sentiment, possesses stronger integrative, inclusive, and contemporary characteristics, enabling it to shape a firm's long-term sense of responsibility (Neo and Xiang, 2022). Although national spirit is closely related to corporate culture, it represents a strategic resource that can mobilize collective consciousness and action while stimulating a sense of responsibility. This makes it not just a cultural symbol or emotional representation, but something that can be translated into concrete actions (Yue *et al*., 2024). Therefore, national spirit should not be simplified as merely corporate culture or organizational identity.

Furthermore, while national spirit promotes national historical identity, it also exhibits strong contemporary features, advocating that modern societal actors have obligations and responsibilities to achieve long-term national welfare and national rejuvenation (Hamada *et al*., 2021; Yue *et al*., 2024). Compared to corporate cultures that focus on history or morality, this long-term commitment is more pragmatic and likely to guide companies toward long-term development and improved performance. Existing literature has shown that corporate national spirit positively impacts resource acquisition (see Click and Weiner, 2010; Wang *et al*., 2019; Bhagwat *et al*., 2020), performance improvement (Mohr and Schumacher, 2019), and managerial capability (Subin, 2021; Godinho and Simões, 2023). These findings highlight the importance and multifunctionality of national spirit in corporate management, laying the foundation for this paper's investigation into the impact of corporate national spirit on ESG performance. This also addresses the limitations of a single corporate culture perspective in explaining the differences in ESG performance across firms.

2.2 Research on corporate ESG performance

ESG performance provides a comprehensive assessment of a company's performance in environmental (*E*), social (*S*), and corporate governance (*G*), highlighting the company's contributions to economic sustainability (Houston and Shan, 2022; Avramov *et al*., 2022; Li *et al*., 2024). *E* refers to the evaluation of a company's environmental management, including the management and use of natural resources, environmental pollution and waste treatment, ecological design, and innovation. *S* focuses on the assessment of a company's fulfillment of social responsibilities, encompassing stakeholder management aspects such as employee health and safety, consumer and product quality, community relations, and donations. *G* pertains to the evaluation of corporate governance, including shareholder rights protection and board composition (Fan *et al*., 2024; Wang *et al*., 2024). With the growing popularity of green sustainable development concepts, an increasing number of companies are voluntarily disclosing ESG reports and related information. Concurrently, some third-party rating agencies conduct ESG ratings based on ESG reports, publicly available financial disclosures, corporate sustainability initiatives, regulatory filings, and stakeholder surveys (Del Gesso and Lodhi, 2024). The academic community has extensively researched these rating datasets to gain further insights.

Research on the factors influencing corporate ESG performance can be divided into external environment, stakeholders, and internal factors. From an external environment perspective, corporate ESG performance is influenced by various factors. For example, Wang and Gao (2024) demonstrated that the implementation of green credit policies can improve a company's ESG performance by promoting green technological innovation. This financial support policy not only provides funding for companies but also guides them toward more environmentally friendly and sustainable development paths. Additionally, Ren *et al.* (2023) revealed the positive impact of digital inclusive finance on corporate ESG performance. Apart from the external environment, stakeholders and internal factors also significantly influence corporate ESG performance. At the stakeholder level, research by Amel-Zadeh and Serafeim (2018) suggests that investors' expectations and preferences are increasingly focusing on a company's ESG performance. This market orientation compels companies to enhance their ESG performance to attract and retain investors. Furthermore, there is a noteworthy shift in the attitudes of financial institutions in risk assessment. Avramov *et al.* (2022) indicated that financial institutions are increasingly incorporating a company's ESG performance into their loan or investment risk assessments, providing companies with additional incentive to improve their ESG performance. Internal management and operations of companies also have a profound impact on ESG performance. Several studies suggest that digital transformation can enhance ESG performance by strengthening internal controls and promoting green innovation (Del Gesso and Lodhi, 2024; Lu *et al.*, 2024). Additionally, a company's international activities are considered a significant factor in improving ESG performance (Tian *et al.*, 2021). However, there may also be internal obstacles within companies that hinder the improvement of ESG performance, such as managerial short-sighted behavior (Fan *et al.*, 2024). Moreover, as academic exploration of corporate ESG performance deepens, attention is shifting towards the positive role of corporate culture in driving ESG performance. Shin *et al.* (2023) find that corporate culture primarily promotes green innovation and enhances information transparency, thereby improving corporate ESG performance.

2.3 Research gap

Through a review of the existing literature, we identify three areas that warrant further discussion. First, in current research, national spirit is often conflated with national culture or corporate values, resulting in unclear conceptual definitions. National spirit is not merely an extension of corporate culture; as a form of cultural psychology and collective emotion, it is uniquely capable of stimulating responsibility and action. This enables it to transcend the scope of traditional culture or organizational identity (Click and Weiner, 2010; Ertug *et al.*, 2024), positioning it as a strategic resource for corporate sustainable development – therefore, a clear definition of national spirit and its economic effects. Second, existing studies predominantly focus on the influence of regional cultural characteristics or national power on corporate behavior (He *et al.*, 2019; Kong *et al.*, 2021; Luo *et al.*, 2024). However, regional national spirit indicators fail to capture the heterogeneity of how different firms in the same region perceive and implement national spirit. This heterogeneity is a critical factor influencing corporate development (Yue *et al.*, 2024). Examining national spirit at the corporate level allows for a more precise understanding of how firms internally interpret and translate national spirit into strategic actions and performance. Third, while prior research has investigated the impact of local culture and national characteristics on firms' short-term economic performance (Subin, 2021; Yue *et al.*, 2024), the question of how national spirit shapes firms' long-term strategic direction and ESG performance remains underexplored. In the context of growing importance of global sustainability, this paper seeks to bridge this gap by closely linking national spirit with corporate sustainability performance. It examines its long-term effects on critical aspects such as social resource acquisition and employee morale, addressing a significant gap in the existing literature.

3. Theoretical analysis and research hypotheses

3.1 Theoretical foundation

Resource-based view (RBV) theory profoundly explains the significant impact of resource characteristics on a firm's ability to build a sustainable competitive advantage (Barney, 1991). RBV asserts that resources capable of creating value, being scarce, and difficult to imitate or substitute are the key foundations for a firm to gain and sustain a long-term competitive advantage. According to this theory, firms can establish sustained competitive advantages by implementing unique and hard-to-replicate strategies (Peteraf, 1993). Corporate national spirit aligns well with the four attributes of resources defined in this theory. Therefore, treating national spirit as an important intangible resource in corporate strategy helps enhance a firm's ESG performance and provides a long-term advantage in the fierce market competition.

First, corporate national spirit holds high value as it embeds the firm within the national and societal cultural identity system, establishing it as a trusted "in-group" in the eyes of the public. This, in turn, allows the firm to gain high levels of trust and social capital both internally and externally (Wang *et al.*, 2019; Bhagwat *et al.*, 2020; Yiu *et al.*, 2021). This valuable characteristic enables the firm to build strong social networks, helping it gain positive support in areas such as social responsibility and environmental protection, thereby enhancing its ESG performance. Second, the formation of national spirit is often accompanied by long periods of cultural accumulation and historical inheritance, giving it a high degree of scarcity (Bajoria, 2008). Each firm's national spirit has its own unique cultural background and historical legacy, making it a resource that is difficult for other firms to quickly replicate or imitate (Chao *et al.*, 2023). This scarcity provides firms with a differentiated advantage in the market and society, enabling them to stand out through unique cultural meanings and a sense of social responsibility. Moreover, national spirit embodies irreplaceability. It not only carries the inheritance of traditional culture but also incorporates a sense of responsibility for the modern nation's revival (Yue *et al.*, 2024). This cross-era and cross-cultural combination makes it difficult to find a comparable or substitutable element in other corporate cultures. As a strategic resource for a firm, national spirit helps the firm achieve sustainable competitive advantages, particularly in its ESG performance, based on a solid foundation of social responsibility and corporate culture (Zhao *et al.*, 2024). Figure 1 shows the theoretical frame F1
diagram of this paper.

3.2 National spirit and corporate ESG performance

The profound sense of responsibility and core values embodied in corporate national spirit (Yue *et al.*, 2024) serve as the intrinsic driving force that guides firms to actively engage in environmental protection and sustainable development. Specifically, the collectivism, sense of responsibility, and respect for society inherent in national spirit motivate firms to not only focus on their own economic interests but also to actively take on social responsibilities and environmental protection duties (Li *et al.*, 2023). Under the influence of this spirit, firms are more likely to promote green production methods, reduce pollutant emissions, and improve environmental governance by actively participating in environmental protection projects (Chao *et al.*, 2023). These initiatives significantly enhance a firm's performance in environmental governance, shaping its public image regarding environmental protection and demonstrating a firm's firm commitment to social responsibility. Based on this intrinsic sense of responsibility, firms can generate a direct positive effect on the environmental aspect of their ESG performance through proactive environmental protection measures.

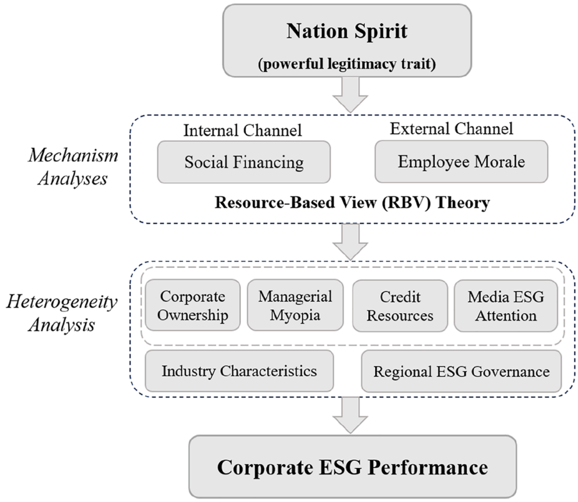

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Figure 1. The theoretical frame diagram of this paper

In addition, corporate national spirit emphasizes the firm's contributions and responsibilities to society (Yue *et al.*, 2024). Guided by this cultural concept, firms are often more proactive in fulfilling their social responsibilities, ranging from improving employee welfare and promoting public welfare, to advancing educational equity and community development. These actions reflect a deep awareness of corporate social responsibility. For example, firms optimize employee welfare and improve work environments to ensure fair treatment of employees; they actively participate in social welfare activities, give back to society, and promote social justice, further strengthening their sense of social responsibility and effectively improving their social ESG performance (Li *et al.*, 2023). This positive social influence undoubtedly manifests in the firm's ESG performance, particularly in the social and governance dimensions. Firms can enhance their performance in governance by strengthening their sense of responsibility and transparency [7], thereby gaining broad public trust and improving their governance performance.

At the same time, national spirit also emphasizes core values of corporate governance such as integrity, fairness, and transparency (Wu, 2023). This value system encourages firms to consistently adhere to an ethical business philosophy of integrity and fairness in corporate governance and commercial activities. It leads to the establishment of efficient governance systems and improved transparency and accuracy in information disclosure (Wu and Wan, 2023). This commitment to integrity not only helps maintain a firm's reputation and brand value but also attracts more investors and customers, thereby achieving more stable operations and better risk management. Through this approach, the values of national spirit are effectively implemented in corporate governance and management practices, further enhancing corporate ESG performance, particularly in governance. Based on the above analysis, this paper proposes the following hypothesis:

H1a. National spirit contributes to enhancing corporate ESG performance.

However, when firms promote national spirit, they may also use it as a marketing strategy rather than a reflection of their core values. By emphasizing national spirit, firms can enhance brand identification and increase consumer loyalty, particularly in domestic markets where nationalist sentiments often serve as a powerful market driver, becoming a tool for branding.

For example, Castelló and Mihelj (2018) argue that firms use nationalist symbols and language to strengthen emotional ties with their local market, aiming to stimulate consumer purchasing intentions rather than engaging in social responsibility through tangible actions. Especially in the face of intense competition in domestic markets, firms may leverage national spirit to differentiate themselves from competitors, even using it to enhance the cultural attributes of their products and improve market competitiveness (Gehlen *et al.*, 2020). Therefore, if national spirit is merely used as a branding tool, it fails to fundamentally alter a firm's operational model and social responsibility practices, and the firm's ESG performance is unlikely to see substantial improvement.

Furthermore, while national spirit has the potential to stimulate a firm's sense of responsibility, some of its values may conflict with the firm's ESG principles. When national spirit emphasizes national and ethnic interests, it may give rise to values such as power centralization and exclusionism, which contradict the inclusiveness, fairness, and diversity principles of ESG goals. Ringov (2017) points out that in some cases, national spirit may reinforce the absolute leadership of top management and even neglect the needs of stakeholders, potentially suppressing employee participation and diversifying governance structures, thus affecting a firm's governance performance (Lee and Rhee, 2020), which in turn weakens its ESG performance. Meanwhile, the exclusionary sentiment in national spirit may lead to a firm's slow response to external market changes, especially in the context of globalization, where firms need to adapt to global markets and diverse cultures. If firms overly emphasize nationalism while ignoring external changes and global cooperation, they may fall behind in innovation and adaptability (Gallego-Álvarez and Ortas, 2017), thereby limiting their ability to improve ESG performance. Based on the above analysis, this paper proposes the following hypothesis:

H1b. National spirit does not enhance corporate ESG performance.

3.3 National spirit, social financing and corporate ESG performance

National spirit helps firms secure social financing, thereby advancing ESG development. ESG investments have high positive externalities (Avramov *et al.*, 2022; Bai and Jiarui, 2024). In the short term, they occupy limited internal development resources, but their economic benefits are likely to materialize only after long-term accumulation of social reputation. This significantly weakens firms' motivation to improve ESG performance. Therefore, to enhance ESG performance, firms actively seek diverse sources of social financing, including equity financing, government grants, and debt financing (Tan *et al.*, 2024). These external financing supports not only provide firms with stable and necessary operating funds but also offer the needed surplus resources, preventing ESG investments from crowding out resources for core business development. This has a significant positive effect on improving ESG performance (Wang and Gao, 2024). However, due to the uneven distribution of credit resources and relatively high financing costs, firms often face severe financing constraints (Tan *et al.*, 2024), which undoubtedly pose substantial obstacles to improving ESG performance.

Corporate national spirit plays a key role in helping firms secure social financing. Transaction cost theory suggests that a strong corporate culture can reduce external transaction costs and information asymmetry, improving a firm's external financing environment (Jiang *et al.*, 2019). When firms demonstrate their commitment to safeguarding national and societal long-term interests by embodying national spirit (Mohr and Schumacher, 2019), social actors are more likely to view the firm as trustworthy and cooperative (Yiu *et al.*, 2021), thereby helping the firm access the external resources needed to enhance ESG performance. In acquiring equity financing, firms can attract equity investors by presenting a unique corporate culture that showcases stable operations, reliable reputation, and development potential (Wang *et al.*, 2019; Bhagwat *et al.*, 2020). Simultaneously, the firm's spirit of perseverance, ambition, and innovation highlights its long-term growth potential and broad prospects, instilling confidence in investors. Furthermore, core values such as integrity, responsibility, and social commitment enhance the firm's market reputation and influence, allowing it to gain favorable financing terms and reasonable valuations during negotiations (Mohr and Schumacher, 2019). In seeking government funding, a firm's values of integrity, responsibility, and commitment improve its public image and reputation, demonstrating social responsibility, which helps establish a strong social benchmark and increases its bargaining power for government support. Moreover, the emphasis on social contributions and value showcases the firm's social influence (Casadesus-Masanell *et al.*, 2009) and actively responds to the government's core initiatives, thereby improving government recognition and facilitating access to government subsidies, tax incentives, and other forms of funding (Yue *et al.*, 2024). In debt financing, a firm's integrity and sense of responsibility enhance its credibility and reduce creditors' risks, giving it an advantage in securing funds (Wu and Wan, 2023). Its prudent management philosophy and long-term planning reflect its business strategy, improving debt repayment capacity and conveying stability and growth potential to creditors. Furthermore, the firm's continuous improvement, driven by self-reliance and ambition, guarantees its ability to meet debt obligations. The combined effects of these mechanisms give firms with strong national spirit a significant advantage in the debt financing market, facilitating smooth access to financial support. Based on the analysis above, the following hypothesis is proposed:

H2. National spirit contributes to improving corporate ESG performance by promoting companies to secure social financing.

3.4 National spirit, employee morale and corporate ESG performance

National spirit enhances employee morale within firms, thereby empowering the development of ESG initiatives. The improvement of employee morale directly contributes to corporate ESG performance (Shan and Tang, 2023). From the perspective of RBV, corporate ESG performance is one of the manifestations of a firm's sustainable competitive advantage, and the enhancement of employee morale promotes the integration and optimization of internal resources (Ellul and Pagano, 2019). High-morale employees tend to exhibit greater enthusiasm and creativity (Fudge and Schlacter, 1999), proactively addressing challenges related to the environment, society, and governance, thereby advancing the firm's strategic goals in sustainable development and ESG. Furthermore, boosting employee morale can reduce turnover rates and enhance the firm's stability, helping the firm sustain its efforts in green transformation and social responsibility initiatives in the long term. High employee morale also stimulates innovation and initiative (Edmans, 2011; Li *et al.*, 2021), encouraging employees to propose more innovative solutions to address ESG challenges. For example, the introduction of new energy-saving technologies or the optimization of corporate governance structures can positively impact the firm's ESG performance (Tan *et al.*, 2024). Therefore, from a theoretical standpoint, the enhancement of employee morale is a critical driver for the long-term and sustainable improvement of corporate ESG performance.

As an extension component of corporate culture, national spirit plays a crucial role in improving employee morale. Based on resource-based theory, corporate national spirit can be seen as a unique and inimitable cultural resource (Bai and Jiarui, 2024). This resource gradually accumulates through the firm's long-term evolution and deeply inspires employees' shared values and sense of mission (Edmans, 2011; Shan and Tang, 2023), which in turn strengthens their identification with the firm's goals and vision, enhancing their work enthusiasm and overall morale (Huang *et al.*, 2020). First, the national spirit's emphasis on unity, collaboration, and collective effort further boosts the cohesion and sense of belonging among employees. Firms that value national spirit tend to be more proactive in areas such as employee health protection, social security, professional training, and safety investments, which ultimately results in higher employee satisfaction (Ellul and Pagano, 2019). Second, firms with a strong national spirit not only establish a positive image and brand value in society (Wu and Wan, 2023) but also significantly enhance employee pride and honor, making employees more appreciative of their work and motivated to improve their performance.

Additionally, social identity theory also suggests that employees are more likely to actively engage in the implementation of corporate strategies once they identify with the company's culture (Oakes *et al.*, 1991). Corporate national spirit reflects the firm's commitment to preserving excellent traditional culture and contributing to national rejuvenation, which resonates deeply with employees' emotional attachment to the nation and sense of responsibility (Rizaie *et al.*, 2023). This creates a sense of belonging and recognition for the firm, triggering emotional reciprocity from employees and enhancing their enthusiasm and team morale in ESG-related actions. Based on the analysis above, the following hypothesis is proposed:

H3. National spirit contributes to improving corporate ESG performance by enhancing internal employee morale.

4. Research design

4.1 Construction of research model

This paper constructs the following baseline model (see Equation (1)) for regression analysis to investigate the impact of national spirit on corporate ESG performance:

$$esg_{it} = \alpha_0 + \alpha_1 nation\_spirit_{i,t-1} + \beta \boldsymbol{X_{i,t-1}} + \mu_i + \theta_t + \varepsilon_{it} \tag{1}$$

Where, esg_{it} represents the ESG performance of company i in year t, measured using Sino-Securities' ESG rating. $nation\_spirit_{i,t-1}$ represents the level of national spirit of company i in year t-1, measured by the frequency of words related to national spirit in the company's annual report. $\boldsymbol{X_{i,t-1}}$ represents a set of control variables that may affect corporate ESG performance, μ_i and θ_t represent company and year fixed effects, respectively; ε_{it} is the random error term.

4.2 Variable measurement and description

4.2.1 Corporate ESG performance. In China, although ESG is increasingly recognized by the industry and academia, there is currently no unified ESG evaluation standard established by relevant departments. Existing ESG data mainly come from third-party organizations such as Bloomberg, Sino-Securities, SynTao Green Finance, and Wind. Taking into account the coverage of various ESG data, this paper refers to Wang *et al.* (2024) and uses Sino-Securities' ESG data as a proxy variable for corporate ESG performance. Since 2009, Sino-Securities Index has been assessing the ESG performance of listed firms in China's A-share market and bond issuers. This index has received wide recognition from both the industry and academia (Wang *et al.*, 2024; Tan *et al.*, 2024). Specifically, this paper measures corporate ESG performance using Sino-Securities' ESG score (0–100), and to avoid the influence of dimensions, the indicator is divided by 100. A higher score on this indicator indicates better corporate ESG performance.

4.2.2 Corporate national spirit. The infiltration of national spirit in corporations permeates the entire production and operation process, making it challenging to accurately measure the national spirit at the company level. Some scholars extract valuable information related to future performance, operational uncertainties, managerial characteristics, and corporate culture by analyzing the narrative content in the Management Discussion and Analysis (MD&A) section of corporate annual reports (Loughran and McDonald, 2014; Yue *et al.*, 2024). Therefore, following the research approach of Yue *et al.* (2024), this paper uses the frequency of words related to national spirit in the MD&A section of annual reports as a measure of national spirit.

First, we searched for online news texts containing the keywords "enterprise" and "national spirit" using the Baidu search engine. Second, through text analysis of the first 500 news texts using Python software, and after careful selection by 10 experts (including two industry professionals, three university teachers, and five students), 56 seed words were identified (i.e. experts assessed the relevance of each word and retained only those with agreement rates above 60%). Third, using the MD&A section of annual reports as the corpus, the word2vec model was used to expand the seed words, keeping only the five synonyms with the highest cosine similarity to the seed word, resulting in 320 key words related to national spirit. Fourth, using the LDA model, national spirit was divided into four dimensions: "national pride," "corporate role," "national revival," and "anti-foreign". Finally, following the methods of Loughran and McDonald (2014) and Yue *et al*. (2024), the national spirit index of Chinese listed companies was computed based on the Term Frequency-Inverse Document Frequency (TF-IDF) method. The calculation formula is presented in Equation (2):

$$Spirit = \frac{\sum_{i}^{n} TF_{it} \times IDF_t}{TW} \times 100 \quad (2)$$

Where, *TF* is the frequency of the national spirit keyword *w* appearing in the annual report of listed company *i* in year *t*. *IDF* is the inverse document frequency containing keyword *w*, thus $IDF_t = \ln\left(\frac{N_t}{1+\sum_{i=1}^{N} n_t(w)}\right)$, where N_t represents the total number of annual reports of listed companies obtained in year *t*, and $n_t(w)$ indicates the number of annual reports in year *t* containing keyword w. *TW* is the total number of words in the MD&A section. It should be noted that using the *TF-IDF* method to measure the corporate national spirit index improves the discriminative ability of the national spirit keyword *w* in text analysis and effectively reduces the underestimation of the keyword ***w*** due to excessive common vocabulary in the text (Loughran and McDonald, 2014).

4.2.3 Control variables. Following Li *et al*. (2024) and Wang *et al*. (2024), this study controls for factors that may influence corporate ESG performance: Company size (*Size*); Capital concentration (*Capital*); Company age (*Age*); Company leverage (*Lev*); Return on assets (*ROA*); Company growth (*Fix*); Company cash flow (*Cash*); Company value (*TQ*); Management structure (*Dual*); Board size (*Broad*); Board independence (*Indep*); and
T1 Ownership concentration (*Top1*). The specific variable definitions are shown in Table 1.

Table 1. Variables definitions

Type	Variable	Definition
Explained variable	*ESG*	Sino-Securities' ESG score/100
Explanatory variable	*nation_ spirit*	The reverse textual frequency index of terms related to national spirit in the MD&A section of corporate annual reports
Control variables	*Size*	Natural logarithm of total assets
	Capital	The ratio of total assets to operating income
	Age	Natural logarithm of years of operation since its foundation
	Lev	Total liabilities divided by total assets
	ROA	Operating income divided by total assets
	Fix	The ratio of net fixed assets to total assets
	Cash	Corporate cash ratio
	TQ	Market capitalization plus total liabilities, and divided by total assets
	Dual	If the chairman and the general manager are the same person, the Dual is set to 1; otherwise, it is set to 0
	Broad	The natural logarithm of the number of board members plus one
	Indep	The proportion of independent directors
	Top1	The proportion of the largest shareholder

Source(s): Authors' own work

4.3 Data source and descriptive statistics

This paper examines a sample of listed companies on the A-share market of Shanghai and Shenzhen from 2009 to 2022 in China. The ESG rating data from Sino-Securities were sourced from the Wind database, while the annual reports of listed companies were obtained from the cninfo website (http://www.cninfo.com.cn/). Other fundamental financial data primarily came from the CSMAR and Wind databases. Additionally, we performed the following data processing steps on the sample. First, we winsorized all continuous variables at the 1% level. Second, we excluded companies with significant missing data, less than three years of listing history, and companies in the finance industries from the research sample. Third, we removed listed companies with abnormal operating conditions in the current year (e.g. ST, PT, ST*). Ultimately, we obtained 26,240 sample observations.

The descriptive statistics of the main variables in this study are presented in Table 2. The mean of corporate ESG performance (*ESG*) is 0.7284, with a standard deviation of 0.0547. The minimum and maximum values are 0.3662 and 0.9293, respectively. This indicates that the overall development of ESG performance among Chinese listed companies is relatively balanced, conforms to a normal distribution, meets the research conditions and yet it reveals a significant gap between the minimum and maximum values. It is evident that Chinese listed companies value ESG practices. However, there are substantial developmental differences, suggesting room for improvement. The mean of corporate national spirit (*nation_spirit*) is 0.6033, with a standard deviation of 0.4317. The minimum and maximum values are 0.0008 and 3.4199, indicating significant variations in the emphasis placed on national spirit among listed companies. The notable disparity between the mean and maximum value highlights ample room for enhancement in this aspect. The data characteristics regarding the dispersion and variability of other control variables are generally consistent with existing literature (e.g. Li *et al*., 2024; Wang *et al*., 2024). T2

5. Empirical results analysis

5.1 Benchmark regression results

Table 3 reports the benchmark estimates of the influence of national spirit on corporate ESG performance. Columns (1) and (2) show the stepwise estimates considering only the core explanatory variables and then adding a series of control variables, respectively. The estimated coefficients of national spirit (*nation_spirit*) on ESG performance (*ESG*) are significantly T3

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. dev	Min	Max
ESG	26,240	0.7284	0.0547	0.3662	0.9293
nation_spirit	26,240	0.6033	0.4317	0.0008	3.4199
Size	26,240	22.1748	1.2464	19.8898	26.0699
Capital	26,240	2.3716	1.8629	0.3919	12.2931
Age	26,240	2.8817	0.3334	1.7918	3.4965
Lev	26,240	0.4198	0.2017	0.0539	0.8935
ROA	26,240	0.0417	0.0649	−0.2402	0.2233
Fix	26,240	0.2198	0.1575	0.0037	0.6989
Cash	26,240	0.0484	0.0672	−0.1501	0.2387
TQ	26,240	2.0973	1.3674	0.8604	8.8879
Dual	26,240	0.2813	0.4496	0	1
Broad	26,240	2.1285	0.1991	1.6094	2.7181
Indep	26,240	0.3752	0.0531	0.3333	0.5714
Top1	26,240	0.3405	0.1468	0.0850	0.7366

Note(s): Table 2 presents the descriptive statistics of the variables used in the baseline regression. The sample consists of 26,240 firm-year observations over the study period
Source(s): Authors' own work

Table 3. Benchmark regression results

Variables	(1) ESG	(2) ESG	(3) ESG	(4) ESG
nation_spirit	0.0156***	0.0114***	0.0072***	0.0067***
	(0.0014)	(0.0013)	(0.0011)	(0.0011)
Size		0.0100***		0.0137***
		(0.0006)		(0.0012)
Capital		−0.0026***		−0.0020***
		(0.0003)		(0.0004)
Age		−0.0080***		−0.0208**
		(0.0018)		(0.0083)
Lev		−0.0486***		−0.0508***
		(0.0038)		(0.0041)
ROA		0.1390***		0.0454***
		(0.0091)		(0.0080)
Fix		−0.0053		−0.0004
		(0.0042)		(0.0052)
Cash		−0.0062		−0.0232***
		(0.0071)		(0.0057)
TQ		−0.0029***		0.0002
		(0.0004)		(0.0004)
Dual		−0.0010		−0.0012
		(0.0012)		(0.0012)
Board		0.0095**		0.0036
		(0.0038)		(0.0041)
Indep		0.0894***		0.0628***
		(0.0123)		(0.0121)
TOP1		0.0027		0.0199***
		(0.0045)		(0.0073)
Constant	0.7190***	0.4966***	0.7241***	0.4671***
	(0.0011)	(0.0156)	(0.0007)	(0.0351)
Observations	26,240	26,240	26,240	26,240
Adjusted R^2	0.0151	0.1350	0.5225	0.5438
Year FE	NO	NO	YES	YES
Firm FE	NO	NO	YES	YES

Note(s): This table reports the baseline estimation results of the impact of national spirit on corporate ESG performance. The independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit. The dependent variable (*ESG*) reflects corporate ESG performance. Definitions of other firm-level control variables are provided in Table 1. The values in parentheses are robust standard errors clustered to the enterprise level. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

positive in both cases, indicating that companies that companies emphasizing national spirit tend to achieve higher levels of ESG development. Furthermore, Columns (3) and (4) additionally control for year and firm fixed effects. The regression coefficients remain significantly positive at the 1% level. These results suggest that under certain conditions, the cultivation of national spirit within a company and embedding it into production and operational processes can significantly enhance corporate ESG performance. This finding not only confirms H1a proposed earlier but also extends the conclusions of Li *et al.* (2023) and Zhao *et al.* (2024), who documented the positive impact of Confucian culture on CSR performance and environmental information disclosure, to a broader context of national spirit and ESG performance.

5.2 Robustness tests

5.2.1 Instrumental variable regression. Given the potential issue of endogeneity due to reverse causality between corporate national spirit and ESG performance, where higher ESG scores may indicate more proactive local social responsibility engagement (e.g. rural revitalization and poverty alleviation). This paper employs an instrumental variable (IV)approach to address this concern. First, we use the interaction term of the number of chaste archways from the Ming and Qing dynasties in the city where the enterprise is located as the first instrumental variable (*IV1*). The rationale is that the number of chaste archways reflects traditional Chinese moral thinking, suggesting a higher likelihood of national spirit influencing local enterprises and the public, thus fulfilling the relevance criterion. The weak association between the number of Ming and Qing chaste archways and contemporary corporate ESG performance ensures exogeneity. Second, from the perspective of traditional Chinese culture, we construct the second instrumental variable based on the interaction term of the number of Confucian temples in prefecture-level cities and their time trends (*IV2*). A higher number of Confucian temples in a city indicates a deeper penetration of Confucian culture and other excellent traditional Chinese cultures, such as benevolence, righteousness, propriety, wisdom, and trustworthiness, these values strongly align with national spirit, fulfilling the relevance criterion (Li *et al*., 2023; Zhao *et al*., 2024). Additionally, the number of Confucian temples does not directly affect current corporate ESG performance.

Table 4 reports the estimation results of these two instrumental variables. Columns (1) and (3) present the first-stage estimation results, showing that the regression coefficients of *IV1* and *IV2* are significantly positive at the 1% level. The weak instrument tests confirm that the choice of instrumental variables in this paper is valid. In the second-stage estimation results, shown in Columns (2) and (4), the coefficients of *nation_spirit* slightly increase but remain significantly positive at the 1% level. These findings demonstrate that even after addressing the issue of reverse causality, the core conclusions of this paper are robust and reliable. T4

5.2.2 Placebo test. Despite the inclusion of relevant control variables in Model (1) that may affect corporate ESG performance, and the use of firm fixed effects, the potential issue of

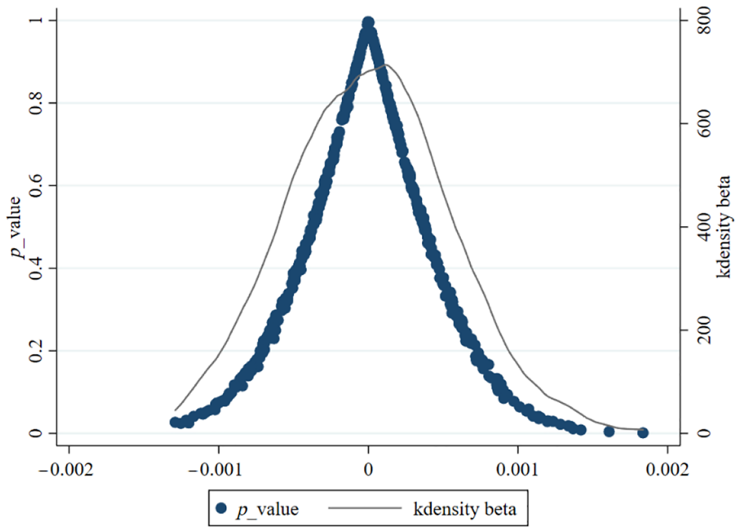
Table 4. Regression results of instrumental variables

Variables	IV1 (1) nation_spirit	(2) ESG	IV2 (3) nation_spirit	(4) ESG
nation_spirit		0.2132^{***} (0.0563)		0.0234^{***} (0.0041)
IV1	0.0289^{***} (0.0067)			
IV2			0.7964^{***} (0.0346)	
K-P rk LM statistic	18.20^{***}		220.00^{***}	
C-D Wald *F* statistic	28.86		1406.83	
K-P Wald rk *F* statistic	18.35		530.90	
Observations	26,184	26,184	26,184	26,184
Controls	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES

Note(s): This table presents the estimation results of the instrumental variable (IV) method. The independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit. The dependent variable (*ESG*) reflects corporate ESG performance. IV1 represents the interaction term between the number of chastity memorial arches (structures erected during the Ming and Qing dynasties) in the city where the firm is located and a time trend. IV2 indicates the interaction term between the number of Confucian temples in the firm's city and a time trend. Definitions of other firm-level control variables are provided in Table 1. The K-P rk LM test, C-D Wald *F* test, and K-P Wald rk *F* test report the validity of the instrumental variables. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

omitted variables, such as unobserved factors, remains. Therefore, this study employs a placebo test to address this concern (Tan *et al.*, 2024). Specifically, the study randomly reallocates the indicator of corporate national spirit (*nation_spirit*) to generate a new corporate national spirit variable (*nation_spirit_new*). Subsequently, a regression of the newly allocated *nation_spirit_new* on corporate ESG performance is conducted, repeating this process 500 times to observe the distribution of estimated coefficients of *nation_spirit_new* (as shown in
F2 Figure 2). The results show that the estimated coefficients of corporate national spirit are distributed around zero (deviating significantly from the baseline regression coefficient), closely resembling a normal distribution. Furthermore, the corresponding *p*-values for the estimated coefficients are predominantly greater than 0.1. These findings strongly demonstrate the robustness and reliability of the previous research findings (e.g. Tan *et al.*, 2024).

5.2.3 Replacement of the dependent variable. To validate the robustness of the findings, this study uses two alternative measurement methods for corporate ESG performance. First, following the approach of Lu *et al.* (2024), corporate ESG performance is measured using Bloomberg's ESG disclosure score (*ESG_BB*) and Wind's ESG rating data (*ESG_Wind*), as
T5 shown in columns (1) and (2) of Table 5. Second, the average sentiment value of ESG news texts for the current year is used to gauge corporate ESG performance (*ESG_senti*), sourced from the Baidu news website. This method leverages over 2 million ESG news texts of listed companies from 2009 to 2022, with annual sentiment means computed using natural language processing (NLP). The sentiment in news texts effectively reflects public recognition of corporate ESG practices in online discourse (Asante-Appiah and Lambert, 2023; Serafeim and Yoon, 2023). The estimates using this measure are presented in column (3) of Table 5. Across all tests, the estimated coefficients of corporate national spirit (*nation_spirit*) on ESG



Note(s): This figure presents the results of the placebo test. The black line illustrates the distribution of the estimated coefficients for the national spirit variable (nation_spirit) across 500 pseudo-regressions, while the blue dots represent the corresponding distribution of *p*-values. The results indicate that the study successfully passes the placebo test
Source(s): Authors' own work

Figure 2. Placebo test

Table 5. Regression results of robustness test

Variables	Replacement of the dependent variable (1) ESG_BB	(2) ESG_ Wind	(3) ESG_ senti	Exclusion of municipality sample (4) ESG	Consideration of industry and regional systemic risks (5) ESG	(6) ESG
nation_spirit	0.4419**	0.0412**	0.8946***	0.0070***	0.0062***	0.0057***
	(0.1935)	(0.0203)	(0.2731)	(0.0012)	(0.0011)	(0.0011)
Constant	−10.4453	2.6445***	5.6074	0.4877***	0.4525***	0.4418***
	(7.1239)	(0.9548)	(9.1270)	(0.0385)	(0.0361)	(0.0360)
Observations	9,257	11,627	26,240	21,342	26,240	26,240
Adjusted R^2	0.8155	0.7558	0.6359	0.5438	0.5593	0.5641
Controls	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Ind × Year FE	NO	NO	NO	NO	YES	YES
Prov × Year FE	NO	NO	NO	NO	NO	YES

Note(s): This table presents the estimation results of the robustness tests. The independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit, while the dependent variable (*ESG*) reflects corporate ESG performance. Definitions of other firm-level control variables are provided in Table 1. Columns (1) to (3) report the results after replacing the explained variable. Specifically, *ESG_BB* represents Bloomberg's ESG scores, *ESG_Wind* refers to Wind's ESG scores, and *ESG_senti* denotes ESG media sentiment. Column (4) shows the results after excluding samples from municipalities directly under the central government. Columns (5) and (6) present results that further account for industry and regional systemic risks. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

performance are consistently positive and highly significant, further confirming the robustness of the research findings.

5.2.4 Exclusion of municipality sample. Given the unique political, economic, and cultural characteristics of municipalities such as Beijing, Shanghai, Tianjin, and Chongqing, the local business environment in these cities may differ significantly from other regions in terms of ESG concepts acceptance. To address this potential source of bias, companies from municipalities are excluded from the sample, and the regression is re-conducted. The results, reported in column (4) of Table 5, show that the impact coefficient of national spirit on corporate ESG performance remains significantly positive at the 1% level, reaffirming the robustness of the previous conclusions.

5.2.5 Consideration of industry and regional systemic risks. Diverse industry requirements and regional developmental environments may influence corporate ESG practices, such as industry cyclicality and macro systemic risks. To account for these factors, this study introduces "Ind × Year" and "Prov × Year" interaction fixed effects into the baseline model, minimizing potential interference from industry differences or regional macro factors. The regression results, presented in columns (5) and (6) of Table 5, show that the estimated coefficients of *nation_spirit* remain significantly positive. This demonstrates that even after accounting for these factors, national spirit continues to play a pivotal role in promoting corporate ESG performance.

5.2.6 Excluding macroeconomic policy influences. To address the potential influence of macroeconomic policies during the sample period on the relationship between national spirit and corporate ESG practices, this study incorporates virtual variables related to the SynTao Green Finance ESG Rating System (*ESG_DID*, Wang *et al.*, 2024), the impact of the COVID-

19 pandemic (excluding samples from 2020 onwards), and pilot policies on Green Finance Reform (*GF*, Wang and Gao, 2024). The retested results, reported in columns (1) to (4) of
T6 Table 6, show that the regression coefficients of corporate national spirit (*nation_spirit*) are consistently positive and significant at the 1% level. These findings underscore that companies emphasizing national spirit demonstrate superior ESG performance, independent of macroeconomic policy influences.

6. Further analysis

6.1 Mechanism of influence examination

6.1.1 Social financing mechanism. Financing constraints hinder corporate ESG activities (Ren *et al*., 2023; Wang and Gao, 2024), while national spirit can facilitate a firm's access to social financing. Specifically, it helps reduce equity and debt financing costs and, by aligning with government policy directions, enables firms to obtain government resources, thereby promoting their ESG development. To analyze this mechanism, this paper examines two perspectives: overall corporate financing constraints and financing costs. Specifically, the SA index is used to measure financing constraints, where a higher value indicates more severe financing constraints for the firm (Tan *et al*., 2024). Further, financing costs are divided into debt financing costs and equity financing costs. Debt financing cost is calculated as the ratio of financial expenses to total liabilities at year-end (*DebtCost*), while equity financing cost is
T7 estimated using the PEG model (*EquityCost*). Panel A of Table 7 presents the regression results of national spirit's effect on corporate financing. The estimated coefficient of *nation_spirit* is negative and highly significant, suggesting that a firm's focus on cultivating national spirit helps alleviate financing constraints and reduces both debt and equity financing costs.

Table 6. The results of excluding macroeconomic policy influences

Variables	SynTao green finance ESG rating system (1) ESG	COVID-19 (2) ESG	Green finance reform (3) ESG	All policy (4) ESG
nation_spirit	0.0066***	0.0059***	0.0066***	0.0056***
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
ESG_DID	0.0069***			0.0079***
	(0.0017)			(0.0018)
GF			−0.0049***	−0.0031
			(0.0019)	(0.0019)
Constant	0.4869***	0.5171***	0.4639***	0.5336***
	(0.0347)	(0.0391)	(0.0351)	(0.0388)
Observations	26,240	20,474	26,240	20,474
Adjusted R^2	0.5446	0.5339	0.5442	0.5352
Controls	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES

Note(s): This table presents the estimation results after excluding the interference of other policies during the sample period. The independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit, while the dependent variable (*ESG*) reflects corporate ESG performance. Definitions of other firm-level control variables are provided in Table 1. Column (1) controls for the institutional factor of the annual expansion of SynTao Green Finance's ESG ratings (*ESG_DID*). Column (2) excludes post-2019 samples to eliminate the impact of the COVID-19 pandemic. Column (3) accounts for the policy factors related to China's green finance reform. Column (4) incorporates all three external factors simultaneously. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

Table 7. Mechanism analysis results: social financing

Panel A: National spirit and corporate financing constraints

Variables	(1) sa	(2) DebtCost	(3) EquityCost
nation_spirit	−0.0111**	−0.0019***	−0.0026**
	(0.0055)	(0.0007)	(0.0013)
Constant	0.8500***	−0.2133***	0.0998**
	(0.2236)	(0.0231)	(0.0408)
Observations	24,978	26,084	23,548
Adjusted R^2	0.6863	0.5843	0.2546
Controls	YES	YES	YES
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Panel B: Linkage between the financial effects of nation spirit and ESG performance

Variables	(1) High sa	(2) Low sa	(3) High DebtCost	(4) Low DebtCost	(5) High EquityCost	(6) Low EquityCost
nation_spirit	0.0084***	0.0022	0.0095***	0.0019	0.0068***	0.0016
	(0.0016)	(0.0015)	(0.0016)	(0.0014)	(0.0017)	(0.0014)
Constant	0.4303***	0.4386***	0.3864***	0.5179***	0.4663***	0.3662***
	(0.0562)	(0.0538)	(0.0524)	(0.0469)	(0.0525)	(0.0503)
Observations	12,515	12,463	13,042	13,042	11,774	11,774
Adjusted R^2	0.5671	0.5743	0.5481	0.5758	0.5524	0.5746
F-test (*p*-value)	0.0062**(0.003)		0.0076***(0.002)		0.0052**(0.008)	
Controls	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES

Note(s): This table presents the regression results validating the social finance mechanism. In Panel A, the independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit. The dependent variables are proxies for social finance, including the absolute value of the SA index (*sa*), the cost of debt financing (*DebtCost*), and the cost of equity financing (*EquityCost*). In Panel B, the dependent variable is corporate ESG performance. We employ a grouped regression method to examine the relationship between national spirit, social finance and corporate ESG performance, with samples grouped based on the median values of the three indicators mentioned above. Definitions of other firm-level control variables are provided in Table 1. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

If the cultivation of national spirit attracts social finance, mitigates corporate financing constraints, and subsequently impact ESG activities, this effect should be more pronounced for firms facing greater financing difficulties. To rigorously test this mechanism, we follow the approach proposed by Khurana and Wang (2019) and re-estimate the model by grouping firms based on the sample median of the three aforementioned indicators. Panel B of Table 7 reports the cross-sectional results. For firms with more severe financing constraints and higher debt and equity financing costs, the estimated coefficient of *nation_spirit* on corporate ESG performance is larger and remains significant, whereas in other groups, it is not significant. Furthermore, the *F*-test indicates that the estimated coefficients between the two subsamples differ significantly at the 1% level. These results strongly support our hypothesis (*H2*), suggesting that the influence of national spirit on corporate ESG performance is mediated, at least in part, through the alleviation of financing constraints.

6.1.2 Employee morale. Human capital theory suggests that employees are among the most important assets of a firm, and their well-being and satisfaction directly affect the firm's sustainable performance and market competitiveness (Edmans, 2011; Shan and Tang, 2023). An enhancement of national spirit can stimulate employee enthusiasm and cohesion, thereby improving employee morale or satisfaction, fostering a stronger sense of identification and belonging to the firm, and ultimately enhancing the firm's ESG performance. This paper measures employee morale from three dimensions: basic rights protection, job security, and compensation security. The rationale is that the more a company values the legal rights, employment, and basic welfare of its employees, the higher the employees' satisfaction with the firm, which in turn boosts employee morale (Edmans, 2011; Shan and Tang, 2023). Specifically, we include three variables: employee protection score (support), employee employment score (employee), and employee compensation score (salary), all derived from the CSMAR database [8]. According to the regression results in columns (1) to (5) of Table 7, the estimated coefficients of *nation_spirit* are positive and highly significant. This indicates that firms emphasizing national spirit are more proactive in safeguarding the legal rights, employment, compensation, and basic welfare of their employees, thereby boosting employee morale and enhancing the human capital effect of their ESG activities.

To further validate the presence of the employee morale mechanism, a grouping test (Ferri *et al*., 2018; Kyung *et al*., 2019) is conducted. Specifically, if the cultivation of national spirit improves ESG performance by boosting employee morale, this effect should be more pronounced in firms with poorer employee treatment and incentives. Firms are grouped based on the sample median of the three aforementioned indicators, and the model is re-estimate.
T8 Panel B of Table 8 reports the cross-sectional results. We find that in groups of firms with low employee protection scores (*Low_support*), low employee employment scores (*Low_employee*), and low employee compensation scores (*Low_salary*), the estimated coefficient of *nation_spirit* on corporate ESG performance is significantly positive at the 1% level, while it is not significant in other groups. Additionally, the *F*-test indicates that the estimated coefficients between the two subsamples differ significantly. Therefore, these results strongly support our hypothesis (*H3*), suggesting that the influence of national spirit on corporate ESG performance is, at least to some extent, mediated through the enhancement of employee satisfaction and morale.

6.2 Heterogeneity analysis

Under the framework of RBV, a firm's competitive advantage stems from its ability to acquire, integrate, and utilize unique resources, which depends on both the development of internal resources and effective collaboration with the external environment. From an internal perspective, the nature of a firm's ownership and its credit resources are key factors in determining its capacity to acquire and allocate resources. Ownership type influences the way a firm utilizes scarce resources (Tan *et al*., 2024): state-owned enterprises rely on policy-driven resources and face fewer financing constraints, while private enterprises typically have fewer resource endowments and are more likely to leverage intangible cultural resources, such as national spirit, to enhance internal coordination and external signaling, thereby improving their ESG performance. Firms facing credit constraints are more vulnerable to information asymmetry risks (Wang *et al*., 2019; Yiu *et al*., 2021), and national spirit, as an inimitable intangible resource, can help enhance a firm's external trustworthiness, attracting social capital support. Additionally, corporate strategy and resource allocation decisions are influenced by the management's cognition and time horizons (Bonsall *et al*., 2017). Managers with a short-term orientation may place excessive emphasis on current financial performance, potentially neglecting ESG goals. For example, this could manifest in aggressive financial asset allocations or imposing overtime work on employees.

From an external perspective, industry characteristics, media attention, and regional ESG governance intensity collectively shape the external environment for a firm's resources. Pollution-intensive industries face greater environmental responsibility and legitimacy pressures (Flammer, 2021), and national spirit can serve as a crucial resource for firms to

Table 8. Mechanism analysis results: employee morale

Panel A: National spirit and employee morale

Variables	(1) *support*	(2) *employee*	(3) *salary*
nation_spirit	0.0059**	0.0016**	0.0069**
	(0.0027)	(0.0008)	(0.0030)
Constant	0.2599***	0.4851***	−0.0365
	(0.0794)	(0.0243)	(0.0962)
Observations	24,978	24,978	24,978
Adjusted R^2	0.4291	0.4571	0.6116
Controls	YES	YES	YES
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Panel B: Linkage between the morale effects of nation spirit and ESG performance

Variables	(1) High support	(2) Low support	(3) High employee	(4) Low employee	(5) High salary	(6) Low salary
nation_spirit	0.0021	0.0098***	0.0013	0.0112***	0.0018	0.0079***
	(0.0016)	(0.0015)	(0.0015)	(0.0015)	(0.0017)	(0.0015)
Constant	0.4476***	0.4065***	0.1720***	0.4240***	0.3931***	0.4122***
	(0.0530)	(0.0529)	(0.0639)	(0.0575)	(0.0577)	(0.0512)
Observations	12,125	12,853	11,815	13,163	11,710	13,268
Adjusted R^2	0.5915	0.5457	0.5834	0.5684	0.5896	0.5535
F-test (*p*-value)	0.0077**(0.006)		0.0099***(0.001)		0.0061***(0.009)	
Controls	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES

Note(s): This table presents the regression results validating the employee morale mechanism. In Panel A, the independent variable (*nation_spirit*) captures the extent to which firms cultivate and prioritize national spirit. The dependent variables are proxies for employee morale, including employee welfare scores (*support*), employment security scores (*employee*), and compensation scores (*salary*). In Panel B, the dependent variable is corporate ESG performance. We employ a grouped regression method to examine the relationship between national spirit, employee morale, and corporate ESG performance, grouping samples based on the median values of the three employee morale indicators mentioned above. Definitions of other firm-level control variables are provided in Table 1. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

achieve internal integration and external legitimacy, significantly enhancing their ESG performance. Media attention to ESG plays a role in external supervision and dissemination (Asante-Appiah and Lambert, 2023; Serafeim and Yoon, 2023; Li *et al.*, 2024), strengthening public concern about corporate social responsibility while increasing the effectiveness of firms' use of national spirit resources. Regional ESG governance intensity offers institutional support, and in regions with stronger governance frameworks, national spirit's influence may be enhanced through the integration of external resources and policy incentives. This amplification can significantly drive improvements in corporate ESG performance. Building on this foundation, the paper will now conduct a heterogeneity analysis that integrates both internal and external perspectives.

6.2.1 Corporate ownership nature. The nature of a company may play a crucial role in enhancing ESG performance through the promotion of national spirit. On one hand, state-owned enterprises (SOEs) and private enterprises exhibit significant differences in business

objectives, market strategies, and resource acquisition, leading to potentially different responses to ESG practice goals. On the other hand, SOEs typically bear more social responsibilities and public functions, with their business decisions often influenced by a broader range of non-market factors (Tan *et al.*, 2024). In contrast, private enterprises tend to prioritize market efficiency and competitiveness, potentially showing less enthusiasm for ESG activities with positive externalities. This study further examines the impact of corporate ownership on the relationship between national spirit and corporate ESG performance. Specifically, we introduce a dummy variable (*soe*; assigned a value of 1 for state-owned enterprises and 0 otherwise) representing corporate ownership nature and interact it with the national spirit component (*nation_spirit* × *soe*) into Model (1) for reevaluation. The
T9 estimation results in column (1) of Table 9 show that the coefficient of the interaction term (*nation_spirit* × *soe*) is significantly positive at the 1% level, indicating a stronger positive effect of national spirit on ESG performance in SOEs. This could be attributed to the more direct influence exerted by governments on the management and development of SOEs, making it easier to emphasize national spirit as a guiding principle for corporate development. The findings align with Tee *et al.* (2024), who highlight that government policy support and resource allocation play key roles in facilitating the implementation of national spirit as a guiding principle for sustainable development in SOEs. Additionally, SOEs are held to higher expectations in terms of social responsibility and public interest. Emphasizing national spirit not only enhances a company's social image and reputation but also strengthens its sense of

Table 9. Results of enterprise heterogeneity analysis

Variables	(1) *ESG*	(2) *ESG*	(3) *ESG*
nation_spirit	0.0021	0.0080^{***}	0.0045^{***}
	(0.0015)	(0.0012)	(0.0014)
soe	−0.0036		
	(0.0031)		
nation_spirit × *soe*	0.0099^{***}		
	(0.0020)		
myopia		0.0068	
		(0.0063)	
nation_spirit × *myopia*		-0.0179^{**}	
		(0.0086)	
load			−0.0000
			(0.0001)
nation_spirit × *load*			-0.0002^{**}
			(0.0001)
Constant	0.4640^{***}	0.4661^{***}	0.4763^{***}
	(0.0350)	(0.0241)	(0.0355)
Observations	26,240	26,240	26,240
Adjusted R^2	0.5446	0.5440	0.5440
Controls	YES	YES	YES
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Note(s): This table reports the regression results of firm-level heterogeneity tests. The variable *nation_spirit* captures the extent to which firms cultivate and prioritize national spirit. The dependent variable (*ESG*) reflects corporate ESG performance. Columns (1) to (3) respectively examine the heterogeneous effects of national spirit on ESG performance across different dimensions of firm ownership structure (*soe*), managerial short-sightedness (*myopia*) and credit constraint levels (*load*). Definitions of other firm-level control variables are provided in Table 1. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

social responsibility and mission, thereby enabling SOEs to better fulfill their ESG obligations.

6.2.2 Managerial myopia. Managers, as key decision-makers responsible for shaping internal strategic choices and perceiving external environmental, play a critical role in determining the direction and implementation of a company's development strategies. Their traits and capabilities significantly influence strategic behaviors, business objectives, and overall efficiency (Bonsall *et al.*, 2017). This study examines the role of managerial myopia in moderating the relationship between national spirit and a company's ESG performance. Specifically, following Fan *et al.* (2024), we constructed a seed word library based on relevant MD&A corpora from company annual reports. Using the Word2Vec machine learning method, we expanded this library to include 43 terms, such as "immediately", "right away", and "predicament," that reflect short-term managerial perspective. Using Python we calculated the total frequency of these words in the MD&A section and measured managerial myopia as the proportion of these words to the total word frequency in the MD&A (*myopia*). To analyze the influence of managerial myopia, we introduced the interaction term (*nation_spirit* × *myopia*) into Model (1) for reevaluation. The results reported in column (2) of Table 9, indicate that the regression coefficient of the interaction term (*nation_spirit* × *myopia*) is significantly negative at the 5% level. This suggests that managerial myopia weakens the positive impact of national spirit on a company's ESG performance. The findings can be attributed to the time preference differences, risk aversion, and short-term incentive mechanisms associated with managerial myopia, which diminish the long-term benefits of national spirit on ESG performance. Managers with a myopic perspective tend to prioritize short-term performance evaluations and rewards, often at the expense of achieving long-term ESG goals. Conversely, national spirit typically encourages companies to assume social responsibility and environmental risks as part of a long-term sustainable development strategy.

6.2.3 Corporate credit resources. In China's capital market, corporate financing channels are relatively limited, with traditional credit financing from financial institutions, such as banks, serving as the primary funding source. According to the micro-banking theory, the asymmetry of information between enterprises and financial institutions often leads to moral hazards and adverse selection issues (Lin *et al.*, 2013), creating significant constraints for companies seeking ESG credit support. This, in turn, may reduce the availability of corporate credit resources, ultimately affecting the achievement of corporate ESG goals. National spirit, however, acts as a positive signal to stakeholders, enabling companies with limited credit scales to secure greater market support and drive ESG initiatives. To explore this mechanism, this study further examines the role of corporate credit resources in how national spirit influences corporate ESG performance. Specifically, we calculate the natural logarithm of the sum of a company's short-term and long-term borrowings at the end of the period plus 1 to reflect the company's credit financing scale (*load*). We then introduce this variable and the interaction term between national spirit and credit resources (*nation_spirit* × *load*) into Model (1) for reevaluation, as shown in column (3) of Table 9. The estimation coefficient of the interaction term (*nation_spirit* × *load*) is significantly negative at the 5% level. This indicates that the positive impact of national spirit on ESG performance is more pronounced in companies with smaller credit scales. These findings indirectly confirm the earlier discussed financing constraint mechanism, where national spirit helps smaller credit-scale companies secure external resource, thereby facilitating the implementation of ESG initiatives.

6.2.4 Network media attention to ESG. In the capital market, news media serves as a critical information channel for external governance stakeholders. In the internet era, online news transcends geographical boundaries, providing vast amounts of distinctive information such as social news promoting national spirit or ESG-related sustainable development that accelerates dissemination (Asante-Appiah and Lambert, 2023; Serafeim and Yoon, 2023). This, in turn, influences market incentives for corporate ESG activities. This study further examines the role of network media attention to ESG in the relationship between national spirit and corporate

ESG performance. Using Python, we retrieved and crawled news related to listed companies from the Baidu news website (https://news.baidu.com/) and validated these with manual searches. After cleansing the news texts, we applied machine learning and textual analysis to identify ESG-themed news related to listed companies, compiling over two million ESG news items between 2009 and 2022. Finally, we measured media attention to ESG (*esg_total*) by taking the natural logarithm of the sum of ESG-related online news reports for each company annually plus 1. We then introduced the interaction term between media ESG attention and
T10 national spirit (*nation_spirit* × *esg_total*) into Model (1). As shown in column (1) of Table 10, the estimated coefficient of the interaction term (*nation_spirit* × *esg_total*) is significantly negative at the 5% level. This result indicates that the enhancing effect of national spirit on corporate ESG performance is more pronounced in companies with lower media ESG attention. In companies with higher media attention, markets and consumers likely impose greater scrutiny on ESG performance. Companies that merely emphasize national spirit without tangible ESG improvements may face market penalties, leading to performance declines. In contrast, in companies with lower media ESG attention, national spirit can become a unique competitive advantage by fostering employee belonging and responsibility, encouraging active participation in ESG activities, and boosting corporate ESG performance.

6.2.5 Industry characteristics. To guide capital flows towards resource-efficient and environmentally friendly enterprises, the state has introduced a series of green credit and green financial policies in recent years. These policies have raised the financing costs for heavily

Table 10. Heterogeneity analysis results of media, city ESG attention and industry attributes

Variables	(1) *ESG*	(2) *ESG*	(3) *ESG*
nation_spirit	0.0101***	0.0044***	0.0051***
	(0.0018)	(0.0012)	(0.0011)
esg_total	−0.0042***		
	(0.0006)		
nation_spirit × *esg_total*	−0.0012**		
	(0.0006)		
popul		0.0023*	
		(0.0014)	
nation_spirit × *popul*		0.0056***	
		(0.0015)	
city_esg			0.0013
			(0.0017)
nation_spirit × *city_esg*			0.0074***
			(0.0019)
Constant	0.4383***	0.4746***	0.4657***
	(0.0239)	(0.0348)	(0.0349)
Observations	26,240	26,240	26,240
Adjusted R^2	0.5468	0.5455	0.5454
Controls	YES	YES	YES
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Note(s): This table presents the regression results of heterogeneity tests at the media, industry, and regional levels. The variable *nation_spirit* captures the extent to which firms cultivate and prioritize national spirit. The dependent variable (*ESG*) reflects corporate ESG performance. Columns (1) to (3) examine the heterogeneous effects of national spirit on ESG performance across different levels of media ESG attention (*esg_total*), whether the firm belongs to a pollution-intensive industry (*popul*) and the intensity of ESG governance in the firm's city (*city_esg*). Definitions of other firm-level control variables are provided in Table 1. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

polluting enterprises while benefiting green enterprises. In this context, can heavily polluting enterprises enhance their ESG performance by strengthening internal education and promoting national spirit to attract support from investors and financial institutions? Furthermore, after green enterprises secure substantial low-cost funds, they may not engage in substantive green innovation and instead exhibit a phenomenon known as "greenwashing" (Flammer, 2021). To analyze the heterogeneous impact of industry characteristics, this study divides the sample into heavily polluting enterprises (*popul* = 1) and other enterprises (*popul* = 0) for examination. Column (2) of Table 10 reports the regression results of the interaction term between national spirit and industry characteristics (*nation_spirit* × *popul*), showing that the regression coefficient of this interaction term is significantly positive at the 1% level. This indicates that national spirit has a greater promoting effect on the ESG performance of heavily polluting enterprises. The reason may lie in the fact that heavily polluting enterprises often face pressure from various stakeholders such as government, society, and consumers, experiencing more severe environmental constraints and regulation that require them to bear higher environmental costs. National spirit not only inspires employees with a sense of responsibility and mission towards environmental protection, prompting them to actively participate in the company's environmental activities, but also enhances communication and cooperation between the company and its stakeholders. This helps the company better respond to external pressures. In this scenario, national spirit serves as both an internal and external constraint mechanism, prompting heavily polluting enterprises to improve their environmental performance and enhance their overall ESG performance.

6.2.6 Urban ESG governance intensity. The ESG governance intensity of local governments influences the ESG actions adopted by local enterprises. Administrative penalties, such as production restrictions, emission reductions, and production halts or rectifications, impose significant external pressure on enterprises that harm societal and environmental interests. Therefore, it is important to explore whether the synergistic and complementary effects of government ESG governance pressure and national spirit external incentives can promote the ESG development of local enterprises. Using 65 keywords related to ESG responsibilities such as carbon peaking, employment security, and smart governance, this study employs text analysis to identify the frequency of appearance of ESG-related terms in government work reports across various regions. The ESG governance intensity of each city is measured by calculating the ratio of ESG word frequency to the total word frequency in government work reports (*city_esg*). Column (3) of Table 10 reports the regression results of the interaction term between national spirit and urban ESG governance intensity (*nation_spirit* × *city_esg*). The regression coefficient of this interaction term is significantly positive at the 1% level, suggesting that national spirit has a greater promoting effect on the ESG performance of enterprises located in areas with higher ESG governance intensity. This finding may be attributed to the fact that a more stringent ESG governance institutional environment requires companies to bear higher environmental governance costs, including compliance with environmental regulations and implementation of environmental measures (Tan *et al.*, 2024). National spirit can help reduce transaction costs and promote internal and external cooperation within companies, thereby encouraging proactive innovation. This accelerates the intelligent and green transformation of production processes and enables companies to adapt to the local business environment with reduced administrative penalty risks and enhanced ESG legitimacy.

6.3 Expansion analysis

6.3.1 ESG sub-dimension examination. Given that ESG consists of three dimensions: environmental, social responsibility, and corporate governance, this study further explores how national spirit influences companies' performance in each of these ESG sub-categories, ultimately affecting their overall ESG assessment. Specifically, it examines the ratings of listed companies in environmental (*E_score*), social responsibility (*S_score*), and corporate

governance (G_score) dimension. The results of the impact of national spirit on each sub-
T11 category are shown in columns (1) to (3) of Table 11. The results indicate that national spirit positively influences all three dimensions. A comparison of the coefficients reveals that national spirit has the strongest promoting effect on companies' environmental performance (*E_score*), while its effects on the governance (*G_score*) and social responsibility (*S_score*) are relatively weaker. One possible explanation is that national spirit emphasizes cultural and emotional identity. Traditional cultural concepts, such as ecological protection goals, are more closely tied to public interests and evoke emotional resonance and spontaneous dissemination among stakeholders. As a result, environmentally friendly companies are more likely to build a favorable corporate reputation, attracting support from investors, governments, and other stakeholders (Asante-Appiah and Lambert, 2023; Chasiotis *et al.*, 2024). In contrast, the governance and social responsibility dimensions focus more on institutional norms and development, which diminishes the relative promoting effect of national spirit in these areas.

6.3.2 National spirit sub-dimension examination. National spirit comprises four dimensions: national pride (*pride*), national revival (*revival*), corporate role (*corporate*), and anti-foreign (*antifor*) (Yue *et al.*, 2024). This study disaggregates the national spirit index into sub-indicators representing these four dimensions and examines their differentiated impact of on corporate ESG performance. The impact of each dimension on corporate ESG performance is shown in columns (4) to (7) of Table 11. The results suggest that all four dimensions significantly promote improvements in corporate ESG performance. By comparing the coefficients, it is evident that national revival has the strongest promoting effect on corporate ESG performance, followed by national pride and corporate role, with anti-foreign sentiment having the weakest effect. A possible explanation for these findings is that national revival encourages companies to cultivate a positive culture of national rejuvenation

Table 11. Results of extended analysis

Variables	(1) E_score	(2) S_score	(3) G_score	(4) ESG	(5) ESG	(6) ESG	(7) ESG
nation_spirit	0.0099***	0.0048**	0.0067***				
	(0.0014)	(0.0019)	(0.0016)				
corporate				0.0074*			
				(0.0041)			
revival					0.0142***		
					(0.0020)		
antifor						0.0046**	
						(0.0021)	
pride							0.0079***
							(0.0026)
Constant	0.3083***	0.1999***	0.7042***	0.4693***	0.4622***	0.4703***	0.4701***
	(0.0440)	(0.0583)	(0.0516)	(0.0351)	(0.0350)	(0.0351)	(0.0351)
Observations	26,240	26,240	26,240	26,240	26,240	26,240	26,240
Adjusted R^2	0.6823	0.5692	0.4575	0.5426	0.5441	0.5426	0.5427
Controls	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES

Note(s): This table presents the regression results for dimension-specific tests. The variable *nation_spirit* captures the extent to which firms cultivate and prioritize national spirit. *ESG* reflects corporate ESG performance. *E_score*, *S_score*, and *G_score* represent the ESG ratings in the environmental, social, and governance dimensions, respectively. *Corporate*, *revival*, *antifor*, and *pride* represent the dimensions of national spirit: "national pride," "corporate role," "national revival" and "anti-foreign." Definitions of other firm-level control variables are provided in Table 1. Values in parentheses are robust standard errors clustered at the firm level. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively
Source(s): Authors' own work

and corporate growth. This fosters internal consensus and motivation that influences employee behavior and decision-making (Bajoria, 2008; Yue *et al*., 2024), leading to more conscious engagement in ESG-related activities. Conversely, anti-foreign sentiment emphasizes rejection and resistance to foreign cultures and companies. This mindset may result in reduced openness and inclusivity in ESG-related aspects, hindering cooperation and communication with external stakeholders and thereby limiting improvement in corporate ESG performance.

7. Research conclusions and implications

Incorporating national spirit into traditional business practices generates long-term added value by aligning a company's financial decisions, employee engagement, and sustainable development strategies. This study constructed a national spirit index at the corporate level using machine learning and text analysis methods, empirically examining the dual impact of national spirit on corporate ESG performance. The findings indicate that national spirit significantly enhances corporate ESG performance. Mechanism analysis suggests that national spirit can boost corporate ESG performance by promoting social financing and boosting employee morale. Heterogeneity analysis further reveals that the positive impact of national spirit on corporate ESG performance is more pronounced in private enterprises, firms with non-myopic managers, firms facing higher credit constraints, firms receiving greater media attention on ESG, industries with higher pollution levels, and companies located in cities with stronger ESG governance. Additionally, the impact of different dimensions of national spirit on corporate ESG performance varies. This study offers new empirical insights into promoting development systems in emerging economies and deepens the understanding of the role of national spirit in corporate social responsibility investments.

This study provides new empirical evidence on the economic benefits and sustainable value of national spirit, offering the following insights. First, companies should actively incorporate national spirit into corporate culture, using its rich cultural and moral connotations as a significant source of corporate soft power and a cornerstone for strengthening internal controls and achieving sustainable development. By leveraging national spirit, companies can identify unique values and behavioral guidelines to drive ESG development and achieve sustainable development goals. These values can inspire companies to prioritize environmental protection and resource conservation in production and operations, fostering sustainable management practices. For example, advocating for green production, promoting energy conservation, reducing emission, and enhancing environmental awareness among employees can contribute to environmental sustainability. Second, governments can play a vital role in supporting companies by facilitating national spirit training programs. Such initiatives would help employees better understand and embrace national culture, thereby boosting morale and cohesion and fostering a more harmonious corporate culture. Currently, the government efforts to encourage corporate national spirit training are primarily directed at state-owned enterprises such as the establishment of central enterprise patriotism education bases [9] and the creation of demonstration units for fostering national unity within state-owned enterprises [10]. However, support for private enterprises remains limited, which may explain why the observed effect of national spirit on ESG performance is weaker in private enterprises. In the future, the government could leverage the high concentration of enterprises in industrial parks across the country. Under the guidance of park management committees, the government could expand national spirit cultivation efforts from state-owned to private enterprises through initiatives such as organizing national spirit promotion meetings and providing tax incentives. These measures could encourage more enterprises to actively engage in ESG practices through the integration of national spirit.

Despite its contributions, this study has certain limitations. First, the measurement of corporate national spirit was primarily based on media-related news reports and corporate annual reports. However, how national spirit manifests in operational, sales, and management processes within companies remains unclear. Future research could refine this approach by exploring the integration of national spirit in these areas. Second, the influence of various traditional Chinese cultural elements on contemporary economics and corporate development has been extensively validated. National spirit, as an external expression of broader national culture, still lacks comprehensive research. Future research could delve deeper into the rich connotations of national spirit, exploring how it exemplifies spiritual strength in other domains and its broader impact on corporate sustainable behavior. These areas warrant further exploration to deepen the understanding of the interplay between national spirit, corporate culture, and sustainability.

Notes

1. In the European and American markets, ESG investment has become mainstream. According to the official website of the United Nations Principles for Responsible Investment (PRI), since the launch of the PRI in 2006, the number of signatory organizations has increased from 734 in 2010 to over 5,700 by April 2024, with assets under management exceeding $121 trillion.
2. Data source: https://kpmg.com/xx/en/our-insights/esg/the-move-to-mandatory-reporting.html
3. Data source: https://www.mckinsey.com/~/media/mckinsey/about%20us/social%20responsibility/2023%20esg%20report/2023-esg-report-mck.pdf
4. Data source: https://www.sse.com.cn/lawandrules/sselawsrules/stocks/mainipo/c/c_20240412_10753180.shtml.
5. Data source: https://www.wind.com.cn/
6. For example, Waldmeir (2012) finds that Chinese firms leverage their sense of national pride to communicate with the public and use it as a signaling mechanism to secure government procurement contracts, thereby enhancing their market competitiveness.
7. In March 2021, numerous Chinese apparel and textile companies issued public statements in support of Xinjiang cotton, which garnered widespread social attention. Against this backdrop, the stock price of Metersbonwe, a well-known Chinese casual wear brand, recorded its largest single-day increase. Meanwhile, the share prices of Li-Ning and Anta, leading domestic sportswear companies, rose by 10.74% and 8.4%, respectively.
8. The employee protection score (*support*) is calculated by weighting factors such as legal employment practices, investment in safe production, safety production levels, occupational health protection, the proportion of social security fund contributions for employees, commercial insurance, and employee rights protection. The employee employment score (*employee*) is derived from a weighted calculation of factors such as the number of employees at year-end, the creation of new employment positions, gender diversity in management, job competitiveness, career management, and care for vulnerable groups. The employee compensation score (*salary*) is calculated by weighting factors including per-share compensation contribution, employee profit-sharing, average compensation per employee, employee compensation growth rate, and the ratio of the average compensation between executives (including directors, supervisors, and senior management) and other employees.
9. Source: https://www.sdic.com.cn/cn/rmtzx/xwzx/gzdt/gzjg/gqdj/webinfo/2021/06/1626531835514999.htm
10. Source: http://mzw.liuzhou.gov.cn/xwzx/sxxx/202204/t20220407_3040315.shtml

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