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Corporate Charitable Donations Under Financial Constraints: Impact on Firm Performance and Sustainable Development in China

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ABSTRACT

This study investigates why financially constrained Chinese firms continue to engage in substantial philanthropic giving and whether such donations yield financial and sustainability-related benefits. Positioned at the intersection of corporate social responsibility (CSR), financing constraints, and sustainable development, it examines the link between charitable contributions, firm performance, and financial constraints within the framework of the United Nations Sustainable Development Goals (SDGs), particularly SDG 8 and SDG 17. Drawing on the resource-based view and strategic charitable giving theory, the analysis uses panel data from 3856 Chinese A-share listed firms (2019–2023). Fixed Effects regression models are employed to assess the direct and moderating effects of financial constraints, while correlated random effects, alternative performance measures, and control substitutions provide robustness checks; endogeneity concerns are addressed through generalized method of moments estimation. Findings highlight that philanthropic donations enhance firm performance, but this effect weakens under financial constraints, which themselves directly reduce performance. These findings underscore the need for firms to strategically balance social commitments with financial limitations. By highlighting the moderating role of financial constraints in the donation–performance nexus, this study contributes novel empirical evidence from an emerging economy, enriching CSR research on strategic philanthropy and SDG-oriented business strategies.

1 | Introduction

Corporate giving has become more commonly employed as a strategic vehicle whereby firms link business objectives with those of society in general. Besides fulfilling ethical needs, such donations usually fit within sustainability-oriented agendas, as the United Nations (UN) Sustainable Development Goals (SDGs). To this purpose, there is a fascinating paradox in China: although it is under financial duress, listed firms donated over

RMB 100 billion in 2023. Two significant questions therefore arise: why do financially constrained firms make such large-scale philanthropic donations, and does generosity pay economic returns?

Corporate philanthropy, in the form of voluntary donation by company resources or profits for the financing of social welfare and not-for-profit objectives (Godfrey 2005), has been related to increased competitiveness (Affiah et al. 2024), improved

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corporate reputation (Ijabadeniya and Govender 2024), financial performance (Ananzeh 2024), and equitable economic growth (Le et al. 2024). In China, such donations are usually targeted towards societal requirements such as education, rural revitalization, and healthcare (Klebl et al. 2025). Financial constraints, however, in the form of limited access to internal or external capital (Qian 2024), pose significant challenges to firm growth, R&D spending (Calabrese et al. 2024), competitiveness within the industry (Fonseka et al. 2014), performance (Lassala et al. 2021), and long-run sustainability (Ziolo et al. 2021). As such, the ability of a company to engage in significant philanthropic work would not only be a function of its social agendas but also of its financial capital base.

This equivalence between corporate donations and finance is taking on new shapes in the face of the SDGs. In particular, while SDG 17 (Partnerships for the Goals) focuses on mobilizing financial resources for the achievement of development outcomes, SDG 8 (Decent Work and Economic Growth) addresses sustainable and inclusive growth (Mishra et al. 2024; Wei and Wu 2019; Raman et al. 2025). Even in the face of economic difficulty, businesses can utilize philanthropy to reaffirm their role in sustainable development and to demonstrate their legitimacy and responsibility.

The strategic charity giving theory and resource-based view (RBV) theory are foundations for current research. The former makes the case that philanthropy can be utilized as an investment to improve society's health as well as the financial performance and reputation of the business (Iqbal et al. 2024; Mishra et al. 2024). The latter highlights the significance of utilizing both financial and intangible resources (Ahmad et al. 2024; Nordin et al. 2024; Raman et al. 2025).

Few studies have examined how financial constraints can moderate the donation–performance relationship, especially in developing markets and from a sustainability perspective, even though prior research has looked at the direct impact of charitable contributions or financial constraints on firm performance. Although it remains empirically underexplored, some academics contend that charitable contributions can improve financial circumstances and lessen knowledge asymmetry (Driss and Jaballah 2025).

This study intends to close the gap by examining, from the standpoint of SDGs, the relationship between corporate performance, financial constraints, and charity giving in the Chinese setting. In particular, it examines a panel dataset of 3856 Chinese A-share listed companies between 2019 and 2023. China offers a distinctive empirical environment because of its intense financial strain and steadfast dedication to corporate giving.

The following research questions are addressed in this study:

1. How do corporate charitable donations influence firm financial performance?
2. How do financial constraints affect firm performance?
3. Do financial constraints moderate the relationship between charitable donations and financial performance?

Fixed effects (FE) regression models are used in the analysis, followed by robustness checks using correlated random effects (CRE) models, alternative financial performance metrics and control variables, and endogeneity tests using generalized method of moments (GMM) models. This study advances knowledge of how businesses can simultaneously seek financial and social goals by incorporating corporate philanthropy and finance dynamics into the SDG framework.

The remaining sections of this study are organized as follows: The theoretical background and hypotheses are exposed in Section 2, along with a survey of pertinent literature. The data and study technique are described in Section 3. The results obtained are revealed in Section 4. The discussions are covered in Section 5, along with the main implications and research limitations and potential directions for future work. Section 6 concludes this study.

2 | Literature Review and Hypothesis Development

2.1 | Theoretical Background

This study relies on two complementary theories: strategic charitable giving and RBV theories. Strategic charitable giving theory explains how charitable donations function as strategic tools that enhance firm performance by generating competitive advantages (Cha et al. 2023). Charitable donations are widely perceived as a compelling strategy firms can use to attract potential investors, establish connections with stakeholders, and ensure long-term sustainability (You et al. 2025). Firms that integrate charitable giving into their strategic planning tend to engage in continuous philanthropic activities. Societally, corporate charitable donations fulfill stakeholder needs and foster harmonious social development (Chai et al. 2023). From the firm's standpoint, donations improve reputation, consumer loyalty, competitive positioning, market share, and ultimately firm value (Ying et al. 2024). Combining the above two perspectives, the fulfilment of diverse stakeholders' demand and the improvement of firms' value further have positive influences on their sustainable performance (Pareek et al. 2023). Hence, charitable giving methods allow businesses to pursue social and economic goals simultaneously, providing a strong basis for sustainable growth that aligns with SDG 8. According to complementary viewpoints from stakeholder theory, donations improve performance by encouraging reciprocity, which in turn strengthens stakeholder connections (Duran et al. 2025). By suggesting that charity contributions spread favorable information about corporate social responsibility (CSR), drawing clients and boosting reputation, signaling theory adds even more credence to these observations. Despite their utility, stakeholder and signaling theories do not fully capture the strategic integration of donations within core business activities, a focus central to this study. In contrast, RBV conceptualizes firms as bundles of valuable, rare, inimitable, and non-substitutable resources that highlight sustainable competitive advantage (Abid et al. 2023). As competition intensifies, maintaining such advantages is increasingly challenging (Fonseka et al. 2014). Competitive advantage arises from unique resources, particularly financial resources, which are essential inputs for firm operations and

growth (Shi 2024; Wang and Chen 2024). Firms facing financial constraints struggle to optimize capital structures and leverage financing opportunities, undermining performance (Shi 2024). Consequently, sufficient financial resources contribute critically to sustainable development, in line with SDG 17 (Di Vaio, Zaffar, et al. 2025; Di Vaio, Van Engelenhoven, et al. 2025; Di Vaio et al. 2024).

While optimal capital structure theory has been employed to examine financial constraints, it emphasizes debt-equity balance rather than the broader availability and strategic deployment of financial resources, which is the focus here. Moreover, RBV elucidates the moderation effect of financing constraints on the links between charitable donations and financial performance. Two fundamental RBV assumptions are relevant: first, firms differ in their resource endowments and capabilities, leading to variations in competitive advantage and performance; second, resource differences persist due to difficulties in acquiring valuable resources (Abid et al. 2023). Financial constraints limit firms' ability to engage strategically in charitable donations, hindering their capacity to develop competitive advantages, improve performance, and achieve sustainable development (Shi 2024). This limitation aligns with the challenges highlighted in SDG 17.

2.2 | Charitable Donation and Financial Performance

Extensive research indicates that charitable donations can positively influence a firm's financial performance. Ying et al. (2024), analyzing 233 banks across Asian emerging economies, demonstrate that donations enhance brand image, reputation, awareness, and customer loyalty, driving long-term revenue growth. Turner and Lee (2024), studying 842 publicly traded US firms, similarly report a positive association between philanthropic giving and performance. Data from 45 countries analyzed by Duran et al. (2025) confirm that corporate philanthropy strengthens stakeholder relationships and fosters mutuality, resulting in improved firm outcomes. Rhee et al. (2025), analyzing all Korean listed firms in the game industry, suggest that firms' donations can promote performance; thus, it should be incorporated into firms' strategy. Muchiri et al. (2022) interviewed 171 participants in Kenya and finally concluded that charitable CSR enhances firms' financial performance. In the Chinese context, Zhu and Wei (2020) find that donations increase employees' organizational identification, reduce turnover, attract talent, and enhance productivity and creativity, all contributing to cost savings and better financial results. Driss and Jaballah (2025), examining Chinese A-share firms, argue that charitable donations signal positive attributes to external investors, mitigating information asymmetry and easing financial constraints, thereby facilitating investment and novelty (Nordin et al. 2024). Zhou et al. (2024) further identify that philanthropic activities strengthen government ties, enabling firms to secure financial and policy support that boosts performance. Conversely, some studies report negative effects. Hogarth et al. (2018), analyzing 100 Australian listed firms, find that donations can act as agency costs rather than strategic investments, detracting from performance. Since charitable giving represents the pinnacle of CSR, we can extend the relationship between financial performance

and charitable giving to include CSR-performance relationships. Two hundred and twenty-four non-financial listed firms in India were used in Mondal and Sahu's (2023) study, which suggests a positive connection between CSR and performance. After analyzing 78 non-financial Indian companies between 2010 and 2020, Ghosh et al. (2023) conclude that, initially, there exist negative links between CSR and performance because of the cost of CSR investments. However, as critical resources and management discretion increase, there will eventually be a positive relationship between firms' CSR and performance. Tsatsaronis et al.'s (2024) study, which used 50 listed international maritime companies, finds positive links between CSR and performance. According to Dakhli's (2022) analysis of data from 200 French listed companies, CSR helps companies better serve their stakeholders by aligning their interests. In companies that are subject to external audits, the relationship is more evident. According to Chi and Hang's (2023) research in the banking industry in Vietnam, CSR spending improves a company's reputation with the public and with consumers, which in turn improves its performance. For listed firms, the association is more noticeable. The same results as Chi and Hang (2023) are also reported by studies of CSR-performance relationships in the financial industries of Ghana (Saeed et al. 2023) and Pakistan (Ramzan et al. 2021; Shafique and Ahmad 2022). However, in the Lithuanian context, Adamkaite et al. (2023) propose a neutral relationship between corporate donations and financial performance. Generally speaking, research from developed and emerging markets (i.e., the United States, Australia, China, France, Ghana, India, Kenya, Korea, Lithuania, Pakistan, and Vietnam) reveals growing scholarly interest in how charitable donations affect financial outcomes. While stakeholders and signaling theories are frequently invoked, they do not fully clarify the direct mechanisms by which donations influence performance. Furthermore, despite charitable donations being a core expression of CSR (Ananzeh 2024) supporting sustainable development, few studies explicitly address this relationship through a sustainability lens. The literature remains divided, with some studies highlighting positive effects (Driss and Jaballah 2025; Duran et al. 2025; Turner and Lee 2024) and others reporting negative or negligible impacts (Hogarth et al. 2018).

Figure 1 summarizes the contrasting results in the literature regarding the financial effects of charitable donations.

2.3 | Financial Constraints and Financial Performance

Most studies document a negative link between financial constraints and firm financial performance. Priya and Sharma (2023), investigating 73 developing economies, find that financial constraints decrease innovation activities, consequently reducing performance. Similar results emerge in China, where Ji et al. (2024) observe that funding restrictions limit innovation and undermine financial outcomes. Akbar et al. (2021), studying Chinese A-share-listed firms, report that financial constraints lead to underinvestment and inefficient capital allocation, harming performance. Nordin et al. (2024) provide corroborative evidence from 87 Nigerian non-financial listed firms. Liu et al. (2015) identify financial constraints as key barriers to international expansion among Chinese firms,

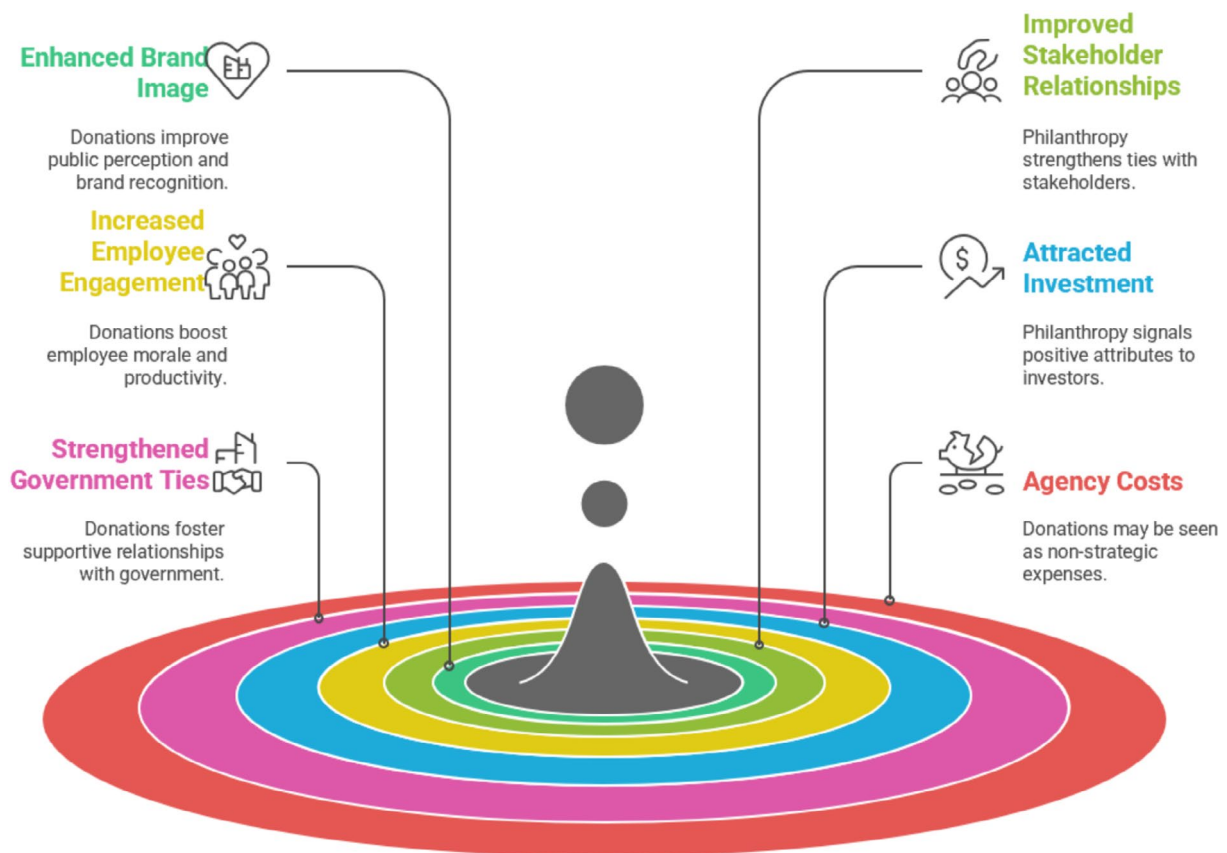


FIGURE 1 | Impact of charitable donations on financial performance. *Source:* Authors' processing.

negatively affecting performance. Zhu et al. (2016) further reveal that constrained firms prioritize short-term projects over long-term initiatives like CSR, which erodes responsible corporate image and financial performance over time. Jabbouri et al. (2024), analyzing 753 Middle East and North African firms, link financial constraints to reduced performance and suggest improved working capital management as a remedy. Angelina et al. (2025) find comparable results in Indonesia's non-cyclical consumer sector, where financial constraints limit strategic investments, substantially impairing performance. However, a minority of studies report positive effects. Chen and Hu (2020) find that financial constraints in high-tech industries may enhance efficiency and performance, potentially by enforcing more disciplined resource allocation. Overall, the literature on financial constraints and performance is concentrated in developing economies such as China, Nigeria, and Indonesia, underscoring the urgency of addressing this issue in these contexts. As the largest developing country in the world, China offers an ideal context applicable to similar markets, enhancing the relevance of this study. While optimal capital structure theory often guides this research, its focus on leverage overlooks the broader importance of sustainable financial resources for firm survival and growth. Hence, further sustainability-focused research is warranted. Although most findings indicate a negative relationship (Angelina et al. 2025; Jabbouri et al. 2024; Nordin et al. 2024), contrasting views (Chen and Hu 2020) highlight ongoing debate.

Figure 2 summarizes the mixed empirical results on the influences of financing constraints on corporate performance.

2.4 | Moderating Role of Financial Constraints on the Relationship Between Donation and Performance

Research exploring the moderation role of financing constraints on the CD-FP relationship is sparse, marking a novel contribution of this study. Resource-based theory provides a valuable lens to interpret this moderation: Financial resources are critical for firm production, operations, expansion, and development (Rao and Brown 2024). Financially constrained firms often lack the slack resources necessary to support performance improvements through charitable giving. Such firms face heightened business risks and vulnerability to capital chain disruptions (Al-Hamshary et al. 2024). After meeting mandatory obligations like environmental protection, they may lack sufficient resources for philanthropy (Zhu et al. 2016). Consequently, their donations tend to be sporadic and limited. Unlike financially flexible firms, constrained firms struggle to build strong corporate images, attract customers, or expand market reach via sustained donation strategies, ultimately diminishing their financial performance (Attig 2024). Charitable donation is a form of CSR engagement; prior studies indicate that the relationship between firms' CSR performance and financial performance will be affected by the increase of the critical resources (Ghosh et al. 2023). Ghosh and Sahu (2024) prove that financially sound firms will prioritize CSR engagement, which will improve their financial performance because they have sufficient financial resources. Additionally, information asymmetry theory suggests financial constraints exacerbate asymmetry between firms and stakeholders, reducing trust and harming performance (Zhu

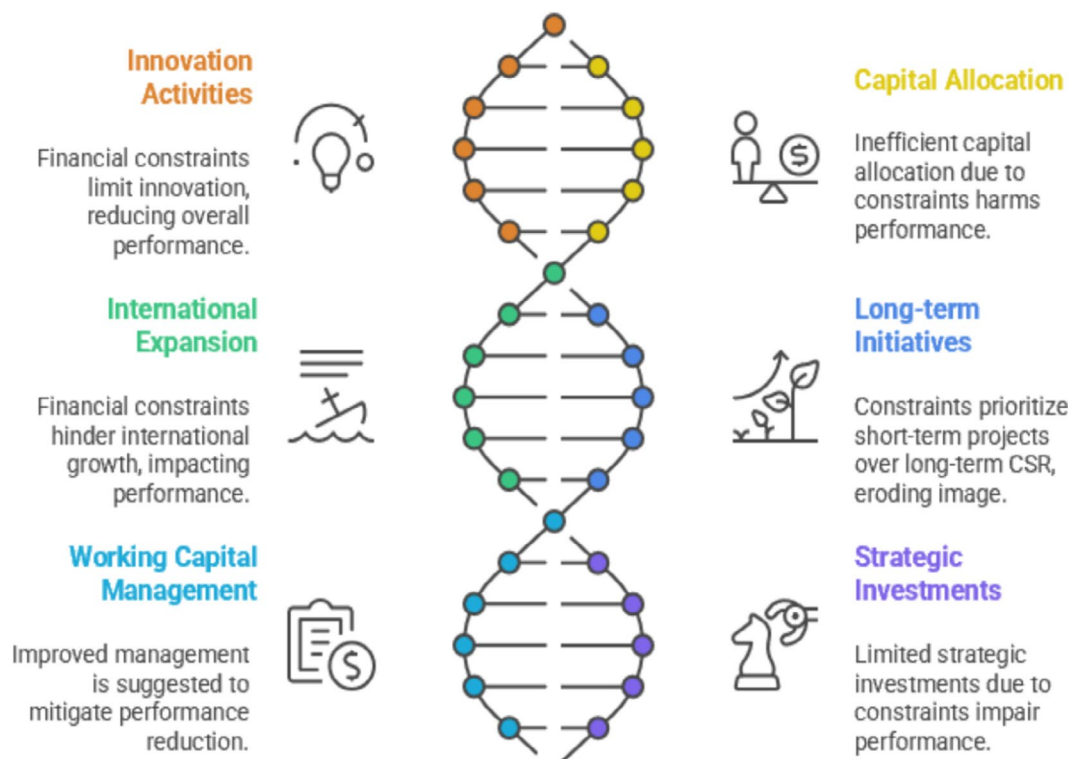


FIGURE 2 | Impact of financial constraints on firm performance. Source: Authors' processing.

et al. 2016). From a signaling perspective, constrained firms may inadvertently send negative signals regarding their financial health, such as limited growth capacity and high-risk exposure (Patel and Guedes 2022). The beneficial effects of charity contributions on financial performance may be lessened in these situations if they are interpreted as attempts to hide internal flaws or reputational problems (Wang et al. 2024). The theoretical framework showing how financial restrictions moderate the links between donations and performance is shown in Figure 3.

2.5 | Hypotheses Development

Scholars continue to dispute the links between charity and corporate performance. Even though many scholars argue that charitable contributions improve firm performance through improving customer loyalty, reputation, and stakeholder relations (Duran et al. 2025; Ying et al. 2024), some researchers report negative or non-significant effects (Hogarth et al. 2018), U-shaped relationships (Ghosh et al. 2023), or neutral relationships (Adamkaite et al. 2023). According to the strategic charity giving theory, companies that engage in philanthropic activities can enhance their market share and competitive positioning by cultivating a socially conscious image, improving performance (Cha et al. 2023; Ying et al. 2024). In the Chinese context, the beneficial impact of charity contributions on performance is especially pertinent. First, China's longstanding Confucian cultural background provides cultural impetus for corporate philanthropy by emphasizing prosocial behavior and social responsibility (Zu et al. 2025). Businesses that contribute significantly to charity are seen as supporting dominant societal ideals, which increases their legitimacy and garners support from

stakeholders and eventually improves their financial results (Zhang and Lucey 2022). Second, China's continuous economic transformation has led to ineffective market distribution and a persistently significant role for the state in allocating resources. In this context, charitable contributions are a calculated way for businesses to improve their relationship with the government (Shen et al. 2022).

Guanxi, a Confucian concept, helps businesses access limited resources and boost performance (Shen et al. 2022) by reinforcing the need to preserve solid institutional relationships in the business world (Zeng et al. 2024). The contextual and theoretical points to the potential for philanthropic contributions to improve financial results. We propose the following hypothesis:

H1. *Firms' charitable donations are positively associated with financial performance, consistent with strategic charitable giving theory.*

There are consistent opinions in literature that financing constraints hamper firm performance. The majority of the studies observe that such limitations reduce innovation capacity (Priya and Sharma 2023; Ji et al. 2024), limit market expansion (Liu et al. 2015), and result in ineffective capital allocation and investment decisions (Akbar et al. 2021; Nordin et al. 2024). Besides, budget constraints may discourage firms from spending on long-term strategies such as CSR activities (Zhu et al. 2016). Although some studies state that there can be a positive effect in certain high-tech industries (Chen and Hu 2020), the prevailing perception is of a negative relationship. Theoretically, RBV theory emphasizes the importance of financial capital as one of the most essential organizational resources. Financial flexibility enables

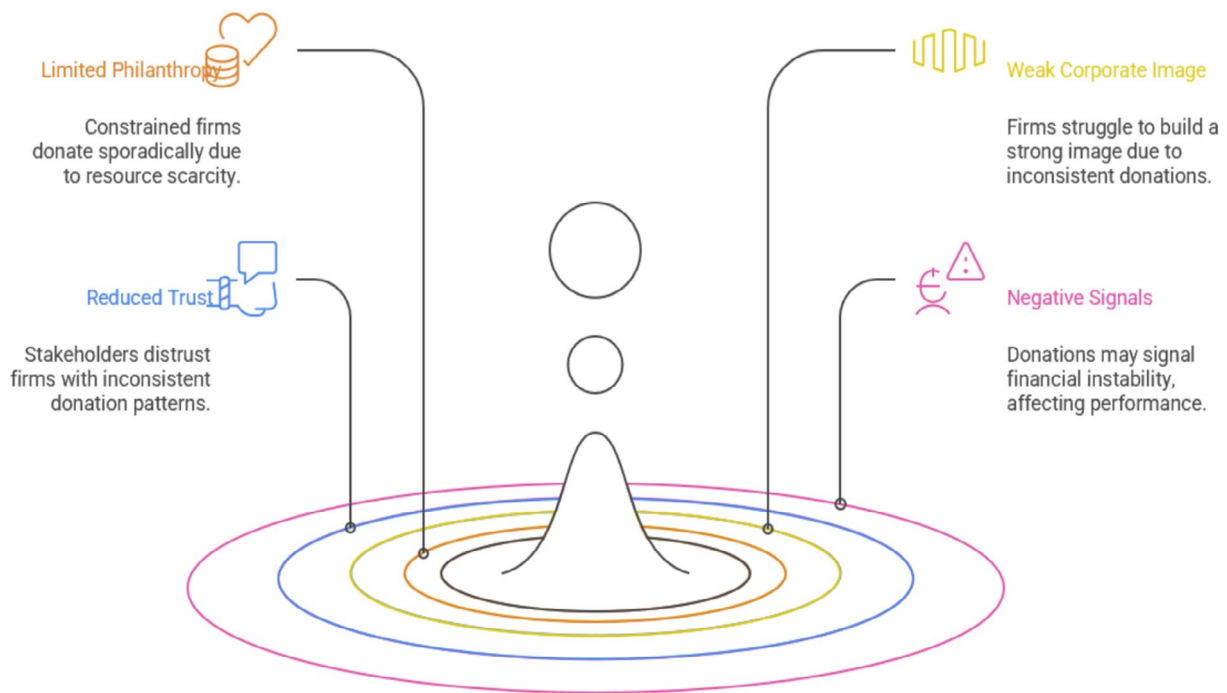


FIGURE 3 | Impact of financial constraints on corporate donations. *Source:* Authors' processing.

firms to invest, innovate, and chase strategic objectives that enhance performance (Abid et al. 2023; Wang and Chen 2024; Shi 2024).

Financial constraints are much more severe in China's underdeveloped capital market and extremely asymmetric information (Zhu et al. 2016; Tu and Zhang 2019). Financial performance is weakened by these constraints since they make it more difficult for businesses to fund operations, make investments in expansion plans, and respond to external shocks (Zhu et al. 2016). The second hypothesis is put forward, with reference to the RBV and empirical evidence from emerging markets, especially China:

H2. *Financial constraints negatively affect financial performance.*

Though there are still few studies in this area, researchers have recently started looking into how financial constraints may affect the connection between donations and performance. According to RBV theory, businesses cannot employ charitable endeavors to achieve strategic advantages if they lack financial flexibility (Attig 2024). Firms under such constraints tend to make donations less often and at lower amounts (Shen et al. 2022). These organizations usually face higher levels of information asymmetry (Zhu et al. 2016). When lacking financial resources, they may also unintentionally send negative signals about their financial health to stakeholders (Patel and Guedes 2022). Therefore, donations' positive effects on stakeholders' relationships and reputations are therefore less likely to manifest when finances are tight. The Chinese setting likewise demonstrates this phenomenon. Giving to charity is encouraged by Confucian principles to create a responsible company image that wins over stakeholders and institutional support (Zhang and Lucey 2022). However, many firms find it challenging to obtain adequate financial resources due to China's capital market

inefficiencies and significant levels of information asymmetry (Zhu et al. 2016; Tu and Zhang 2019). As a result, financially strapped businesses might put short-term liquidity and operational survival ahead of long-term reputational benefits, which would reduce the ability of donations to improve performance. Hypothesis is put out in light of the theoretical justification and contextual realities as follows:

H3. *Financial constraints weaken the positive relationship between charitable donations and financial performance.*

3 | Research Methodology

3.1 | Data Selection Procedures

This study's population includes all Chinese A-share listed firms during the period 2019–2023. The sample period is justified as follows: with the outbreak of the COVID-19 pandemic in 2019, China implemented strict epidemic control measures that affected all of the firms in different industries, resulting in corporate operational difficulties, shrinking revenues, and increasingly severe financing constraints. In 2023, China lifted its COVID-19 control measures and enacted a series of measures to help corporates resume normal operations and ease their financial constraints. During the period of 2019–2023, Chinese firms' charitable donations maintained an upward trend, despite the serious financing constraints. What motivates Chinese financially constrained firms to engage in philanthropic activities, and whether such generosity yields economic returns is worth further investigating. To construct a robust and reliable sample, several exclusion criteria were applied. First, due to their distinct financial structures and regulatory frameworks, all financial institutions were disqualified (Lopatta et al. 2024). Second, companies classified as ST, *ST, or PT were not included since

their usage might skew the analysis by implying financial difficulty or special treatment status (Zeng et al. 2024). Third, to prevent disruption and inconsistency of accounting information, delisted, freshly listed (within a year), and suspended businesses were eliminated during the sample period (Tu and Zhang 2019; Xu et al. 2018; Zhu et al. 2016). Finally, companies that lacked data on important variables were not included (Zeng et al. 2024); 3856 distinct organizations make up the final sample after being screened using these criteria, and 13,624 firm-year observations were made over the course of the 5 years.

The China Stock Market and Accounting Research (CSMAR) database, that is often utilized in empirical research on Chinese capital markets and CSR, is where all of the data was taken from (Chai et al. 2023; Wei et al. 2014; Wu and Huang 2022). In particular, typical methodologies outlined in the literature were used to extract or compute data on corporate charitable donations, financial constraints, financial performance, and control variables.

This study applied panel regression models, such as FE models, CRE models, and GMM models, to establish the relationships among the variables and adjust for unobserved heterogeneity. All the statistical tests were performed on Stata 19.

3.2 | Empirical Model Design

A panel dataset comprising multiple firm-level observations across a number of years is used in this investigation. The FE, RE, and POLS models are commonly employed when dealing with panel data (Wooldridge 2016). The Hausman and Breusch-Pagan Lagrange Multiplier (BP-LM) tests were used to identify the optimal estimating models. According to the results, the best model for this research is the FE model. Hence, the following formula is given (with FE at the company and year levels):

- Set β_2 and β_3 to zero, the sign of β_1 reflects strengthening (positive) or weakening (negative) impact of firm philanthropic donations on their performance, following the approach of Ananzeh (2024).
- Set β_1 and β_3 to zero, the sign of β_2 indicates the enhancing (positive sign) or deteriorating (negative sign) effect of financing constraints on firm performance, according to the study of Yang et al. (2020).
- Do not impose any coefficients to zero, the sign of β_3 symbolizes the positive (strengthening) or negative (weakening) effects of financing constraints on the CD-FP relationship, adopting the model specification advanced by Zhang and Lucey (2022).
- β_4 – β_7 sign reflects the positive (strengthening) or negative (weakening) impacts of cash holding level, ratio of independent directors, leverage, and largest shareholder's shareholding ratio on finance performance.

Set β_2 and β_3 to zero; the statistically positive coefficient β_1 supports the strategic charitable giving theory and implies that donations can be employed as a strategic tool to keep a balance between economic yields and social benefits. The result is also

aligned with SDG 8, which is aimed at sustainable and inclusive economic growth.

Set β_1 and β_3 to zero; if β_2 is significantly negative, then it conforms to resource-based theory that financial resources availability is an essential asset to provide firm sustainability and performance. This result reflects the importance of sustainable finance emphasized by SDG 17.

Finally, do not place any coefficients equal to zero, but a highly significant, negative coefficient β_3 would determine that financial constraints reduce the positive impacts of philanthropic donations on company performance. This would further support the RBV theory and demonstrate the interdependence between SDGs 8 and 17, testifying that without enough financial assistance, the strategic utility of philanthropy could be impaired.

$$FP = \beta_0 + \beta_1 CD + \beta_2 FC + \beta_3 CD * FC + \beta_4 cash + \beta_5 inddirectorratio + \beta_6 lev + \beta_7 top1 + I + Y + \epsilon$$

where FP: financial performance, CD: charitable donation, FC: financial constraints, CD*FC: charitable donation*financial constraints, cash: cash holding level, indirect ratio: independent director ratio, lev: leverage, top1: the shareholding ratio of the largest shareholder, I: firm fixed effect, Y: year fixed effect, ϵ : error term, β_0 : intercept, β_1 – β_7 : coefficients.

3.3 | Variable Definitions and Measurements

Dependent variable of this research is financial performance. It describes the overall success of a company's cash flow, financial situation, and operating results as shown by financial data over a specific period (Iqbal et al. 2024). Most studies measure financial performance using return on equity (ROE) or return on assets (ROA). Since ROE is frequently linked to market performance (Keter et al. 2023), this study employs ROA rather than ROE to quantify financial performance (Gao et al. 2019) because ROE is often associated with market performance (Keter et al. 2023). Net profits are divided by the average balance of all assets to determine ROA. The CSMAR database is the source of all net profit and total asset data. Financial constraints and philanthropic donations are independent variables here. The voluntary distribution of business assets or income to nonprofits and social causes is known as a charitable donation (Godfrey 2005). This study follows previous research that agrees on the use of the logarithm of charitable donation amounts to quantify corporations' philanthropic donations (Chai et al. 2023). The CSMAR database provides information on the amounts of charitable donations. Limited access to internal or external capital is referred to as a financial constraint (Qian 2024). Previous research has used several metrics, such as the SA, WW, KZ, and FC indices, to quantify financial restrictions. The KZ index is used in this study to quantify financial limitations (Wei et al. 2014); Table 1 details the KZ index's development process. Calculation of KZ1, KZ2, KZ3, KZ4, and KZ5 is the first step. More precisely, each year of the whole sample should be categorized based on gearing, Tobin's Q, cash dividends/total assets at the start of the year, cash holdings/total assets at the start of the year, and net cash flow from operations/total assets at the start of the year. KZ1

is 1 if, at the start of the year, net cash flow from operations/total assets is less than the median; otherwise, it is 0. KZ2 is 1 if cash dividends as a percentage of total assets at the start of the year are smaller than the median, and 0 otherwise. KZ3 is 1 if the cash holdings/total assets at the start of the year are smaller than the median, and 0 otherwise. KZ4 is 1 if the gearing is more than the median, and 0 otherwise. KZ5 is 1 if Tobin's Q is greater than the median, and 0 otherwise. The second step is to calculate the total score, which is KZ, by adding KZ1 to KZ5. The third step is to apply Ordered Logistic Regression to model 1 in Table 1, where the explanatory variable is the KZ index, and the coefficients need to be estimated. The last step is to compute each company's KZ index using model 1 above; the higher the KZ index, the more severe a firm's financial constraints are. The CSMAR database contains all of the information necessary in calculating the KZ index. The level of cash held, the ratio of independent directors, leverage, and the largest shareholder's shareholding ratio are control variables in this study that were selected due to their strong correlations with financial performance (Akbar et al. 2021; Wu and Huang 2022). More precisely, firm-specific traits like cash holding level are used as the control variable in this study because they are recognized as contributing to the underwhelming financial performance of businesses (Ahmed and Tahir 2024). Although the exact relationship between a company's cash holdings and its financial performance is still debatable, some research suggests that storing more cash increases the likelihood that corporate insiders will expropriate it, which would lower financial performance (La Rocca and Cambrea 2019). Nonetheless, some research suggests a favorable correlation since cash ensures regular operations, offers steady financial support for production and operational activities, and enhances corporate performance (Ahmed and Tahir 2024). One important aspect of corporate governance that is thought to have a significant influence on firms' performance is the directors' independence. For this reason, this study picked it as a control variable here. Independent directors prioritize the interests of shareholders, have an unbiased point of view, supervise management operations, and provide management with advice, all of which help businesses operate better (Shah et al. 2024). Leverage is used as a control variable in this study because it is regarded as one of the key influential factors of a firm's financial performance and has been confirmed by numerous previous empirical investigations (Wang and Ahmad 2024). Two opposing viewpoints are also presented by existing literature; some studies show a negative relationship between a firm's leverage and performance (Ma et al. 2023). However, according to other research, a firm's performance can be improved by taking on additional debt as the profits it makes outweigh the average interest cost of using leverage (Wang and Ahmad 2024). A company's corporate governance structure is one of the most important variables affecting its financial performance. Additionally, ownership structure is a vital part of internal governance and frequently affects a company's performance through its corporate governance mechanisms (Wang 2013). As a result, the study's control variable also includes the largest shareholder's shareholding ratio. There is ongoing debate on earlier research on the connections between the largest shareholder's shareholding ratio and financial performance. According to some researchers, large shareholders will harm the interests of small shareholders to further their own agendas, which would finally result in a decrease in the firm's performance (Kirimi 2024).

Nonetheless, some academics contend that performance will improve and management may be more effectively controlled if the largest shareholder's sharing ratio is increased (Wang 2013). To eliminate the unobservable macroeconomic influences and firm characteristics, this study further controls year and firm. Table 1 contains all of the definitions.

4 | Data Analysis and Results

4.1 | Descriptive Statistical Analysis

The sample of this study comprises 3856 firms and 13,624 observations (unbalanced panel data). To eliminate outliers, continuous variables were winsorized at the 1% and 99% levels (Zeng et al. 2024).

Table 2 shows the mean, standard deviation, minimum, and maximum values for each variable. According to Table 2, financial performance ranges from -0.224 to 0.232 , with a mean value of 0.0374 and a standard deviation of 0.0601 . The mean value of charitable donations is 13.09 , with a standard deviation of 1.958 , and varies from 7.824 to 18.01 . The smallest and largest values, according to financial constraints, are -5.918 and 6.177 , with a mean value of 0.992 and a standard deviation of 2.269 . Regarding the control variables, the cash holding level (cash) has a mean value of 0.148 and a standard deviation of 0.1 , with a range of 0.0105 to 0.528 . With a mean of 37.91 and a standard deviation of 5.192 , the independent director ratio ranges from 33.33 to 57.14 . The standard deviation is 0.185 , and the mean leverage value is 0.431 , with a range of 0.0695 to 0.887 . The largest shareholder's shareholding ratio has a mean of 31.98 , a standard deviation of 13.79 , a minimum of 7.980 , and a high of 71.77 .

4.2 | Correlation Matrix

This study's correlation matrix of the variables is presented in Table 3. The matrix aids in the identification of multicollinearity problems in the study; high correlations and multicollinearity problems are indicated by pairwise correlation coefficients greater than 0.8 (Wooldridge 2016). All pairwise correlation coefficients in Table 3 are less than 0.8 , suggesting that multicollinearity problems are not present in this study.

4.3 | Regression Analysis

4.3.1 | Model Selection and Diagnostic Checks

While the Hausman test's null hypothesis suggests that the RE model is more appropriate, the BP-LM test's null hypothesis suggests that the POLS model should be selected (Wooldridge 2016). The significant results for both tests across all models are shown in Table 4, suggesting that the FE model should be used to interpret the results. Multicollinearity problems are defined as variance inflation factors (VIF) more than 5 (Wooldridge 2016). The absence of serial correlation is the null hypothesis for the Wooldridge test, while homoskedasticity is the null hypothesis for the Modified Wald

TABLE 1 | Operational definitions of variables.

Categories of variables	Names of variables by type	Notations	Definitions
Dependent variable	Financial performance	FP	ROA = Net profits/average balance of total assets Average balance of total assets = (closing balance of total assets + opening balance of total assets)/2 ROA(A) = Net profit/total assets balance
Independent variable	Charitable donation	CD	Ln (charitable donation)
Independent/ moderating variable	Financial constraints	FC	KZ index 1. Classify every year of the full sample according to net cash flow from operations/total assets at the beginning of the year, cash dividends/total assets at the beginning of the year, cash holdings/total assets at the beginning of the year, gearing, and Tobin's Q. If net cash flow from operations/total assets at the beginning of the year is less than the median, then KZ1 is 1, otherwise it takes 0. If cash dividends/total assets at the beginning of the year are lower than the median, then KZ2 is 1, otherwise 0. If cash holdings/total assets at the beginning of the year is less than the median, then KZ3 is 1, otherwise 0. If gearing is bigger than the median, then KZ4 is 1, otherwise 0. If Tobin's Q is bigger than the median, then KZ5 is 1, otherwise 0. 2. $KZ = KZ1 + KZ2 + KZ3 + KZ4 + KZ5$. 3. Use Ordered Logistic Regression for the following model, KZ index is regressed as the explained variable, and the coefficients of the following model are estimated: $KZ_{it} = \alpha_1 \frac{CF_{it}}{Asset_{it-1}} + \alpha_2 LEV_{it} + \alpha_3 \frac{DIV_{it}}{Asset_{it-1}} + \alpha_4 \frac{CASH_{it}}{Asset_{it-1}} + \alpha_5 Q_{it}$ (model 1) 4. Use model 1 to calculate KZ index of every firm, larger KZ index indicates a serious degree of FC for firms.
Control variable	Cash holding level	cash	Cash holdings at the end of the year/total assets at the end of the year
	Independent director ratio	inddirectorratio	Number of independent directors/total number of board members
	Leverage	lev	Total liabilities/total assets
	The shareholding ratio of the largest shareholder	top1	The shareholding ratio of the largest shareholder
	Sales growth	salesgrowth	(Revenue in this year-revenue in last year)/revenue in last year
	Firm	I	Firm fixed effect
	Year	Y	Year fixed effect

Source: Authors' elaboration on definitions of variables.

test (Wooldridge 2016). Table 4 shows that the mean VIFs for models 1–5 are all less than 5, indicating no multicollinearity issues. In addition, it also shows significant results for the Wooldridge and Modified Wald tests for all the models, demonstrating the existence of serial correlation and heteroskedasticity. Therefore, this study uses clustering robust standard error to minimize the above-identified issues and get robust results.

4.3.2 | Regression Results

The regression results are shown in Table 5. Model 2 looks at how charitable donations made by firms affect their performance. Model 2's variables account for 11% of the variation in firms' financial performance, according to its *R*-squared within and adjusted *R*-squared values of 0.110. At the 1% level, the regression results indicate a substantial positive correlation (0.001) between

TABLE 2 | Descriptive statistics.

Variables	N	Mean	Standard deviation	Minimum	Maximum
FP	13,352	0.0374	0.0601	−0.224	0.232
CD	13,353	13.09	1.958	7.824	18.01
FC	13,352	0.992	2.269	−5.918	6.177
cash	13,352	0.148	0.100	0.0105	0.528
inddirectorratio	13,432	37.91	5.192	33.33	57.14
lev	13,352	0.431	0.185	0.0695	0.887
top1	13,352	31.98	13.79	7.980	71.77

Source: Authors' elaboration on descriptive analysis of variables using Stata software.

TABLE 3 | Correlation matrix.

	roa	donation	kz	cash	Inddirectorratio	lev	top1
roa	1						
donation	0.174***	1					
kz	−0.574***	−0.081***	1				
cash	0.230***	0.003	−0.500***	1			
inddirectorratio	0.006	−0.010	0.007	0.003	1		
lev	−0.324***	0.111***	0.632***	−0.332***	−0.009	1	
top1	0.149***	0.088***	−0.134***	0.071***	0.035***	0.024***	1

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Source: Authors' elaboration on correlation of variables using Stata software.

TABLE 4 | Model selection and diagnostic checks.

Test	Model 1	Model 2	Model 3	Model 4	Model 5
BP-LM test	0.0000	0.0000	0.0000	0.0000	0.0000
Hausman test	0.0000	0.0000	0.0000	0.0000	0.0000
Mean VIF	1.07	1.06	1.43	1.40	1.34
Wooldridge test	0.0000	0.0000	0.0000	0.0000	0.0000
Modified Wald test	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' elaboration on model selection and diagnostic checks using Stata software.

their philanthropic contributions and financial performance. This finding supports H1 and is consistent with the strategic charitable giving theory, which holds that charitable donations can help businesses gain a competitive edge and simultaneously accomplish social and economic advantages in tandem as part of their strategy (Cha et al. 2023), which is in line with SDG 8.

Model 3 examines how financial constraints affect a company's financial performance. Model 3's R -squared within and adjusted R -squared values are 0.190, indicating that its variables can explain 19% of the variation in corporate performance. At the 1% level, financial performance is severely impacted negatively (−0.012) by financial restraints. This result supports H2 and is consistent with RBV theory, demonstrating the significance of financial resources for businesses. Sustainable finance helps businesses create long-term, sustainable debt, develop

competitive advantage, and boost financial performance (Wei and Wu 2019), all of which are in line with SDG 17.

The moderation role of corporate financing constraints on CD-FP relationships is examined in Model 5. The factors in Model 5 can account for 19% variance in financial performance, based on the model's R -squared within of 0.190. Model 5's adjusted R -squared is 0.189. At the 5% level, Model 5 demonstrates that the interaction CD*FC has a substantial negative (−0.000) link with financial performance, showing that the positive links between charitable giving and performance are weakened by financial constraints. The results support H3, and they are also in line with RBV theory, showing that sustainable financial resources are important to firms' financial performance of charitable donations (Cha et al. 2023), which contributes to the realization of SDG 8 and 17 in tandem.

TABLE 5 | Baseline regression estimates.

	Model 1	Model 2	Model 3	Model 4	Model 5
			FP		
cash	0.063*** (6.66)	0.061*** (6.46)	−0.045*** (−4.64)	−0.045*** (−4.59)	−0.044*** (−4.54)
inddirectorratio	0.000 (1.49)	0.000 (1.42)	0.000** (2.25)	0.000** (2.20)	0.000** (2.21)
lev	−0.145*** (−14.82)	−0.145*** (−14.69)	−0.068*** (−7.15)	−0.069*** (−7.14)	−0.070*** (−7.24)
top1	0.000** (2.16)	0.000** (2.25)	0.000* (1.82)	0.000* (1.95)	0.000** (1.99)
Constant	0.078*** (8.65)	0.065*** (6.18)	0.065*** (7.70)	0.055*** (5.67)	0.055*** (5.63)
CD		0.001*** (2.66)		0.001** (2.11)	0.001** (2.20)
FC			−0.012*** (−22.33)	−0.011*** (−21.85)	−0.011*** (−21.62)
CD*FC					−0.000** (−2.09)
Firm			Control		
Year			Control		
Cluster			Firm level		
N	12,438	12,209	12,280	12,054	12,054
R ² within	0.110	0.110	0.190	0.189	0.190
Adjusted R ²	0.109	0.110	0.190	0.189	0.189

Note: Robust *t*-statistics in parentheses.

****p* < 0.01, ***p* < 0.05, **p* < 0.1.

Source: Authors' elaboration on regression results using Stata software.

4.4 | Robustness Test

To obtain robust results, this study uses three methods to conduct robustness tests. The first one uses a correlated random-effects model, which allows for coefficient estimates of time-invariant covariations in the panel-data model and correlation between covariates and unobserved panel-level effects. The adoption of the CRE model accounts for the potential limitations of interaction terms in Fixed Effects models. Table 6 displays the results of five models, and it is evident that the conclusions are the same as those of the FE models mentioned before. In particular, Model 2 supports H1 and is in line with strategic charitable giving theory by indicating that businesses' philanthropic contributions significantly improve financial performance. Model 3 supports H2 and is in line with RBV theory by showing that enterprises' financial restrictions significantly impair their financial performance. Model 5 supports H3 and is in line with resource-based theory by demonstrating that enterprises' financial constraints erode the correlation between their philanthropic donation and financial performance.

Furthermore, all of the aforementioned outcomes are consistent with SDGs 8 and 17.

The second method is to use an alternative measurement of the dependent variable as follows (Xu and Zhu 2024):

$$\text{ROA(A)} = \text{Net profit} / \text{total assets balance}$$

Table 7 summarizes the BP-LM and Hausman tests; all results are significant, meaning that the interpretation of models 1 to 5 should be based on the FE model. Table 7 shows that the mean VIFs for models 1–5 are 1.06, 1.06, 1.43, 1.40, and 1.34, respectively, signifying no multicollinearity. Wooldridge and Modified Wald test results for all the models are significant, meaning the existence of serial correlation and heteroskedasticity issues. Therefore, clustering robust standard errors is adopted to minimize the above two issues.

Table 8 shows the regression results for robustness checking. The R-squared within for model 2 is 0.107. This indicates that

TABLE 6 | CRE model results using ROA.

	Model 1	Model 2	Model 3	Model 4	Model 5
			FP		
cash	0.059*** (6.18)	0.057*** (5.94)	−0.051*** (−5.27)	−0.050*** (−5.20)	−0.050*** (−5.17)
inddirectorratio	0.000 (1.06)	0.000 (0.99)	0.000** (2.08)	0.000** (2.01)	0.000** (2.02)
lev	−0.159*** (−16.51)	−0.159*** (−16.38)	−0.067*** (−7.03)	−0.068*** (−7.02)	−0.069*** (−7.11)
top1	0.001*** (5.73)	0.001*** (5.66)	0.000*** (2.63)	0.000*** (2.71)	0.000*** (2.77)
Constant	0.044*** (6.44)	−0.045*** (−5.35)	0.036*** (6.47)	−0.006 (−0.90)	−0.006 (−0.90)
CD		0.001*** (3.29)		0.001** (2.10)	0.001** (2.16)
FC			−0.012*** (−24.25)	−0.012*** (−23.69)	−0.012*** (−23.50)
CD*FC					−0.000* (−1.81)
Cluster			Firm level		
N	12,438	12,209	12,280	12,054	12,054

Note: Robust z-statistics in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' elaboration on CRE results using Stata software.

TABLE 7 | Robustness diagnostics: panel model selection and residual checks (Models 1–5, baseline robustness specification).

Test	Model 1	Model 2	Model 3	Model 4	Model 5
BP-LM test	0.0000	0.0000	0.0000	0.0000	0.0000
Hausman test	0.0000	0.0000	0.0000	0.0000	0.0000
Mean VIF	1.06	1.06	1.43	1.40	1.34
Wooldridge test	0.0000	0.0000	0.0000	0.0000	0.0000
Modified Wald test	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' elaboration on model selection and diagnostic checks using Stata software.

charitable giving is a variable that influences financial performance, and that 10.7% variation in financial performance can be explained by the variables in Model 2. The adjusted R-squared for Model 2 is 0.106. Model 3's adjusted R-squared and R-squared within are both 0.175. This suggests that financial performance is influenced by financial constraints, and that 17.5% change in the explained variable can be explained by the factors in Model 3.

Model's variables can explain 17.5% variation in the explained variable, according to its R-squared within value of 0.175. Model 5's adjusted R-squared is 0.174. The results in models 2, 3, and 5 are the

same as those in Table 5, showing that the results are reliable regardless of how financial performance is measured. The findings support H1 by showing that businesses' charity donations improve financial performance. It helps achieve SDG 8 and aligns with the theory of strategic philanthropic giving. Furthermore, the results complement H2 by demonstrating that firms' financial constraints prevent them from improving their financial performance. The findings are consistent with SDG 17 and are backed by RBV theory. Furthermore, the results confirm H3 by indicating that businesses' financial constraints lower the financial performance of philanthropic donations. This supports the joint achievement of SDGs 8 and 17 and is also in line with resource-based theory.

TABLE 8 | FE model results using ROA(A).

	Model 1	Model 2	Model 3	Model 4	Model 5
			FP		
cash	0.051*** (5.60)	0.049*** (5.39)	−0.048*** (−5.06)	−0.048*** (−5.00)	−0.048*** (−4.96)
inddirectorratio	0.000 (1.47)	0.000 (1.31)	0.000** (2.24)	0.000** (2.08)	0.000** (2.10)
lev	−0.150*** (−15.37)	−0.150*** (−15.26)	−0.080*** (−8.35)	−0.081*** (−8.37)	−0.082*** (−8.48)
top1	0.000** (2.10)	0.000** (2.15)	0.000* (1.88)	0.000** (1.96)	0.000** (2.00)
Constant	0.079*** (8.66)	0.066*** (6.17)	0.066*** (7.73)	0.056*** (5.67)	0.056*** (5.65)
CD		0.001*** (2.79)		0.001** (2.26)	0.001** (2.34)
FC			−0.011*** (−20.86)	−0.010*** (−20.44)	−0.010*** (−20.22)
CD*FC					−0.000* (−1.73)
Firm			Control		
Year			Control		
Cluster			Firm level		
N	12,441	12,212	12,281	12,055	12,055
R ² within	0.106	0.107	0.175	0.174	0.175
Adjusted R ²	0.106	0.106	0.175	0.174	0.174

Note: Robust *t*-statistics in parentheses.

****p* < 0.01, ***p* < 0.05, **p* < 0.1.

Source: Authors' elaboration on regression results using Stata software.

The above analysis changes dependent variable's measurement. Considering changing the measurements of independent variables (donation and financial constraints) in this study, previous studies indicate consistent opinions on using the amounts of charitable donations to measure firms' donations. Thus, no need to change the measurement of charitable donation. For another independent variable, financial constraints, it can be measured by other proxies, but only changing its measurement will not ensure the robustness of the CD-FP relationships' results. Therefore, it is not suitable to change the measurement of independent variables to conduct a robustness test. So, the third method is to change the control variables of the original equation. More specifically, the shareholding ratio of the largest shareholder is substituted by another control variable, sales growth. It is measured by current year's revenue minus last year's revenue and then divided by revenue in last year. Sales growth is considered to have a significant influence on firms' performance based on prior studies like Zhu et al. (2016). The results of model selection and diagnostic checks are presented in Table 9, and the regression results are shown in Table 10.

Table 9 indicates that FE model is appropriate to use because the results of the BP-LM and Hausman tests all indicate 0.0000. Table 9 also indicates that there are no multicollinearity issues because all of the models 1–5's mean VIF is less than 5. In addition, there are serial correlation and heteroskedasticity issues in models 1–5, as all results for the Wooldridge test and the Modified Wald test are 0.0000. Thus, clustering robust standard errors is adopted to minimize the above two issues.

The results of the FE models after substituting control variables are shown in Table 10, which are the same as the baseline results. Model 2 proves that firms' donations have positive impacts on financial performance, consistent with strategic philanthropy theory and supporting H1. Model 3 suggests that firms' financial constraints have negative influences on their financial performance, which aligns with RBV theory and supports H2. Model 5 indicates corporate financial constraints have a weakening effect on the CD-FP relationship, consistent with resource-based theory and supporting H3. R-squared within and adjusted R-squared in models 1–5 show that these models

TABLE 9 | Robustness diagnostics: panel model selection and residual checks (Models 1–5, alternative robustness specification).

Test	Model 1	Model 2	Model 3	Model 4	Model 5
BP-LM test	0.0000	0.0000	0.0000	0.0000	0.0000
Hausman test	0.0000	0.0000	0.0000	0.0000	0.0000
Mean VIF	1.06	1.06	1.42	1.39	1.34
Wooldridge test	0.0000	0.0000	0.0000	0.0000	0.0000
Modified Wald test	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' elaboration on model selection and diagnostic checks using Stata software.

TABLE 10 | FE model results using ROA.

	Model 1	Model 2	Model 3	Model 4	Model 5
	FP				
cash	0.048*** (5.39)	0.047*** (5.21)	−0.042*** (−4.49)	−0.042*** (−4.40)	−0.041*** (−4.35)
inddirectorratio	0.000** (2.02)	0.000** (2.06)	0.000*** (2.64)	0.000*** (2.66)	0.000*** (2.67)
lev	−0.172*** (−18.36)	−0.172*** (−18.13)	−0.103*** (−11.19)	−0.103*** (−11.14)	−0.104*** (−11.22)
salesgrowth	0.059*** (26.98)	0.059*** (26.74)	0.051*** (25.06)	0.051*** (24.82)	0.051*** (24.77)
Constant	0.093*** (12.38)	0.082*** (9.39)	0.079*** (11.17)	0.072*** (8.77)	0.072*** (8.78)
CD		0.001** (2.25)		0.001 (1.60)	0.001* (1.66)
FC			−0.010*** (−21.34)	−0.010*** (−20.79)	−0.010*** (−20.60)
CD*FC					−0.000* (−1.74)
Firm			Control		
Year			Control		
Cluster			Firm level		
N	12,470	12,237	12,317	12,087	12,087
R ² within	0.235	0.236	0.288	0.287	0.288
Adjusted R ²	0.234	0.235	0.287	0.287	0.287

Note: Robust *t*-statistics in parentheses.

****p* < 0.01, ***p* < 0.05, **p* < 0.1.

Source: Authors' elaboration on regression results using Stata software.

have goodness of fit. All of the abovementioned results align with the SDGs 8 and 17.

All three of the above robustness tests help confirm the stability of the baseline results and strengthen the validity of the conclusions in this study. They suggest that regardless of the different models or changing measurements for dependent and control variables, the results are robust.

4.5 | Endogeneity Test

This study also considers the potential endogeneity issues and addresses three types of endogeneity concerns relevant to our study. First, the omitted variable bias, which happens when there are important variables omitted in the models. According to the prior studies such as Ahmed and Tahir (2024), Kirimi (2024), Ma et al. (2023), Shah et al. (2024), and Wang and Ahmad (2024),

firms' cash holding level, independent director ratio, leverage, shareholding ratio of the largest shareholder, and sales growth are all considered significant influential factors of financial performance. This study introduces them as the control variables into the models to avoid the omitted variable bias in the study of CD-FC-FP relationships. Second, simultaneity occurs when explanatory variables and the dependent variables influence each other. The explained variable in this research is financial performance, and the explanatory variables are donation and financial constraints. Most of the existing studies report the impacts of donation and financial constraints on performance. Studies of the reversal impact of performance on donation and financial constraints are still not verified because firms' good performance is their ultimate goal, so good performance does not ensure a high donation and sufficient financial resources. Usually, to achieve good financial performance, firms will make donations and reduce financial constraints. However, if firms

have good performance, they will not increase their donations, and they may still face a financial constraints dilemma. Third, the measurement error. It happens when the important variables in the study are measured incorrectly. All of the data in this study are sourced from the CSMAR database, which is a frequently used database in empirical research on Chinese capital markets (Chai et al. 2023; Wu and Huang 2022). The data measurement methods in this research are based on methods from previous high-ranking journals. Hence, the accuracy of the data can be guaranteed. In addition, we also change the alternative measurement for the dependent variable to validate the results and limit the impact of the measurement errors.

This study also adopted the dynamic GMM models (in the GMM models, dependent variables are lagged) to further address the endogeneity issues to ensure the research results are reliable. The results of GMM are shown in Table 11, which indicates the

TABLE 11 | Generalized method of moments results.

	Model 1	Model 2	Model 3	Model 4	Model 5
	FP				
L.roa	0.324*** (0.082)	0.392*** (0.031)	0.304*** (0.064)	0.376*** (0.036)	0.337*** (0.044)
cash	0.102 (0.152)	0.033*** (0.007)	−0.643 (0.395)	−0.007 (0.043)	−0.070 (0.071)
inddirectorratio	−0.014 (0.015)	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)	−0.002 (0.004)
lev	−0.047 (0.069)	−0.072*** (0.005)	−0.025 (0.057)	−0.038 (0.034)	0.001 (0.053)
top1	−0.005 (0.013)	0.000*** (0.000)	0.000* (0.000)	0.000*** (0.000)	0.000 (0.000)
Constant	0.699 (0.871)	−0.013 (0.009)	0.132* (0.069)	−0.011 (0.009)	0.043 (0.199)
CD		0.003*** (0.001)		0.003*** (0.001)	0.006 (0.006)
FC			−0.021* (0.012)	−0.005 (0.006)	−0.011 (0.009)
CD*FC					−0.007** (0.003)
Year			Control		
Observations	8435	8283	8348	8197	8197
Wald (X^2)	340.67***	6222.90***	1713.97***	7172.98***	3618.43***
AR1	0.004	0.000	0.000	0.000	0.000
AR2	0.581	0.893	0.380	0.811	0.856
Hansen	0.475	0.573	0.381	0.549	0.344

Note: Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' elaboration on GMM results using Stata software.

same results as baseline FE models. More specifically, firms' charitable donation has positive impacts on financial performance. Financial constraints of firms negatively affect their performance, and financial constraints weaken the CD-FP relationship. These results support H1–H3, supported by strategic charitable giving theory and resource-based theory, aligning with SDGs 8 and 17. All of the models' AR1 are less than 0.1, and AR2 are bigger than 0.1. Hansen tests for models 1–5 are also bigger than 0.1. They all justify the reliability of the GMM results.

5 | Discussion

The rapid growth of corporate philanthropy in China aligns closely with the SDGs advocated by the UN (Le et al. 2024). While charitable giving may result in an outflow of financial resources (Godfrey 2005), seemingly contradicting firm performance and long-term sustainability, the strategic charitable giving theory posits that such donations can create intangible assets that improve competitive advantage and financial outcomes (Cha et al. 2023). Against this backdrop, the first research question explored whether Chinese firms' charitable donations could simultaneously achieve economic returns and social value. The empirical results confirm that charitable donations significantly enhance corporate financial performance, validating H1. This finding supports the strategic charitable giving theory, suggesting that philanthropy, when strategically aligned, acts as a value-enhancing mechanism. Such donations can help to boost the corporate image in the public eye, establish stakeholder relationships, and gain institutional support (Cha et al. 2023). Within China, cultural and institutional forces such as the dominance of Confucian values and the significance of Guanxi might enhance the effect (Zhang and Lucey 2022). Apart from this, philanthropic donations also support public goods such as education, healthcare, and rural revitalization that strengthen the legitimacy and long-term value creation of a firm (Dong 2023). These findings are in line with SDG 8, emphasizing sustainable and inclusive economic growth. While previous studies (Duran et al. 2025; Turner and Lee 2024; Ying et al. 2024) have established the positive economic influences of corporate donation, the current study adds to the literature by situating these effects within a sustainability framework. Specifically, it highlights that businesses can leverage philanthropic donations altruistically to simultaneously fulfill economic and social objectives and offer an in-depth understanding of how CSR initiatives enhance sustainable development.

The second research question examines the role of financing constraints in company performance. Following the RBV theory underlining the importance of scarce and imitable resources in building a competitive advantage (Abid et al. 2023), the current study investigated whether access to financial resources is a crucial enabler of business growth and sustainability. The findings confirm that financial constraints significantly reduce financial performance, thereby confirming H2. This corroborates the relevance of financial capital as a foundation resource for business activities and strategic pursuits (Wang and Chen 2024). The finding concurs with existing literature evidence demonstrating that China's imperfections in the capital market render financing constraints more pronounced for most firms (Zhu et al. 2016; Tu

and Zhang 2019). Without adequate access to financing, firms cannot make optimal investment decisions, utilize resources optimally, or adopt long-term strategic decisions. Thus, financial constraints not only limit firm performance but also slow the progress of sustainable development. The above discussion is in favor of SDG 17, specifically target 17.4, which emphasizes the need for enhancing financing support for sustainable development (Wei and Wu 2019). Consistent with existing research (Angelina et al. 2025; Jabbouri et al. 2024; Nordin et al. 2024), our research adds depth by placing the financing-performance nexus in the SDG context and defining finance as a major facilitator of sustainability.

In addition, the third research question explored the interplay between resources and strategy by examining whether financial constraints moderate the links between charitable donations and performance. The findings confirm that financing constraints greatly mute the positive influence of donations on performance, confirming H3. This supports a vital insight: the effectiveness of strategic philanthropy is contingent on resources' availability. Firms with inadequate financial means may be unable to engage in sustained or impactful philanthropy, consequently diminishing the strategic benefits of donations (Zhu et al. 2016). This result drives the alignment between strategic charitable giving theory and resource-based theory, proving that strategic intentions are useless without resources to implement them. Philanthropic donations can only be translated into performance gains if supported by long-term financial support. The results provide strong theoretical and practical evidence to support SDGs 8 and 17 by emphasizing the importance of resource–strategy alignment in achieving sustainable development. As Cha et al. (2023) noted, firms with adequate financial resources can strategically plan and execute philanthropic activities, thereby gaining legitimacy, goodwill, and stakeholder trust, capital that becomes a competitive advantage. Additionally, this research is the pioneer to frame financing constraints as a moderator in the donation–performance nexus, envisioning financial capital as not just a direct input but a driver of strategic CSR. It emphasizes that sustainable development does not rely on a series of discrete, isolated initiatives, but on internal capabilities and the synergy of strategic activities. Conceptualizing financial resources as complementary capability, this research extends strategic charitable giving theory as well as resource-based theory from static to dynamic.

Finally, examining the findings through resource-based theory also contributes further depth to the understanding of SDG 17, especially at the firm-level sustainability and institutional finance. Resource-based theory points out that firms with differentiated, high-quality resources, such as stable financing, are better able to innovate (Ji et al. 2024; Priya and Sharma 2023), invest (Akbar et al. 2021; Angelina et al. 2025; Nordin et al. 2024), and expand in new markets (Liu et al. 2015). The same financial resources also fund effective and strategic philanthropy, which reinforces its performance-improving impact and enables long-term social results (Zhu et al. 2016).

Therefore, evidence gathered in this study reveals that donations are an effective strategic tool to propel better financial performance when firms are supported by adequate financial resources. Alternatively, financial constraints inhibit both

direct performance and the strategic benefits of CSR initiatives. Therefore, the study highlights the strategy-resource link, shedding new light on how private sector action can enable the attainment of SDGs.

5.1 | A Comparative Analysis With Previous Studies

Several studies on a similar topic from different countries over the past five years are taken into account to make a comparative analysis with existing studies. The findings in this study indicate that there exists a positive link between donation and financial performance, aligning with previous studies in the USA (Lopatta et al. 2024; Turner and Lee 2024), Korea (Rhee et al. 2025), Kenya (Muchiri et al. 2022), Pakistan (Ramzan et al. 2021; Shafique and Ahmad 2022), Ghana (Saeed et al. 2023), France (Dakhli 2022), and internationally (Tsatsaronis et al. 2024). However, there are also some studies that hold different opinions. For example, the study of Chi and Hang (2023) reports a negative link after conducting research on 28 firms in Vietnam, and Adamkaite et al. (2023) report a neutral relationship after conducting research in Lithuania. The above studies indicate the growing scholarly interest in this topic across the world; thus, they validate the importance of this research, which is conducted in China, the second biggest economy in the world. Different opinions regarding the relationship between donation and performance are attributable to the different situations in different research. For example, some of the existing research in other countries focuses on certain industries like the game industry (Rhee et al. 2025), shipping industry (Tsatsaronis), financial industry (Chi and Hang 2023; Muchiri et al. 2022; Ramzan et al. 2021; Saeed et al. 2023; Shafique and Ahmad 2022), and energy industry (Adamkaite et al. 2023), but our research focuses on all Chinese A-share listed firms. Therefore, this research is more comprehensive. In addition, most of the other countries' research (i.e., Lopatta et al. 2024; Muchiri et al. 2022; Tsatsaronis et al. 2024) concentrates on the CSR–financial performance relationship, but this research explores one of the specific aspects of CSR, namely charitable donation. So, it enriches the detailed and in-depth research of CSR.

Regression results of this study highlight negative relationships between financial constraints and performance, which aligns with prior studies in Portugal (Patel and Guedes 2022), Nigeria (Nordin et al. 2024), Africa (Jabbouri et al. 2024), Indonesia (Angelina et al. 2025), and developing countries (Priya and Sharma 2023). It reveals the scholarly interest in such a topic in emerging countries and proves the necessity of this study to be conducted in China as China is the biggest developing country in the world. Although there are consistent viewpoints about the links between financial constraints and performance from different countries, different studies have their different focuses and variable measurements. For instance, Patel and Guedes (2022) use SMEs to conduct the research, and they use a self-constructed index, ASCL, to measure financial constraints. However, most of the other studies use listed firms across all industries and a comprehensive financial constraints index, such as the SA index (Angelina et al. 2025) and the KZ index (Nordin et al. 2024), to conduct

the research. Additionally, Jabbouri et al. (2024) focus on capital structure to indirectly reflect the financial constraints; however, most studies, including our research, directly check firms' financial constraint situations, which is more precise. The measurement of financial performance is also different in some research; for example, Angelina et al. (2025) use Tobin Q rather than ROA (most studies and this study use this measurement) to measure firms' performance.

This study's results suggest that financing constraints weaken the link between firms' donations and their financial performance. Notably, few researchers outside of this country have considered this issue, which highlights a distinctive aspect of the present research. While limited studies have explored this topic, Chi and Hang (2023) and Dakhli (2022) have recognized that factors such as listing status and external auditing can affect how donations relate to firm performance.

5.2 | Theoretical Implications

This study demonstrates the great influence of donations on firms' performance, further enriching the strategic charitable donation theory. It demonstrates that donations are not only purely altruistic behaviors of firms, but they are also a strategic decision made by firms to achieve their own purposes, which can help firms form competitive advantages and promote their financial performance and sustainability (Cha et al. 2023). Considering the current rapid development of philanthropy in China, our research of the association between firms' charitable donations and financial performance is timely. Additionally, this study reveals the significant influence of corporate financing constraints on performance, expanding the resource-based theory. Financial resources play a central role in supporting firms' day-to-day activities, helping create durable advantages over competitors and enhancing both sustainable development and financial performance (Shi 2024). Chinese firms often encounter strong barriers to obtaining financing, largely because the country's capital market has not yet fully matured (Zhu et al. 2016). Against this background, investigating how financing barriers relate to firms' financial performance becomes necessary. In this study, the moderating effect analysis introduces a model linking resource-supported charitable donations to financial performance. At the core of this model, the resource-based theory highlights the importance of resource cooperation. Firms rely on resource support when developing strategy, consistent with the main idea of resource-based theory: differences in firms' resources lead to varying levels of competitiveness, and the unique ways firms combine these resources often influence how their competitive positions differ (Abid et al. 2023).

5.3 | Managerial Implications

This study's empirical findings suggest several considerations for managers aiming to advance sustainable development and achieve SDGs 8 and 17. Evidence supports that charitable donations can enhance a firm's financial performance when guided by a well-defined strategy. Instead of treating corporate philanthropy as a simple outlay, managers should view them as investments that help build lasting competitive strength. Aligning

charitable work with central business objectives and forming partnerships with NGOs whose aims match those of the firm may generate both reputational benefits and financial returns (Ananzeh 2024). Firms with financial constraints (Attig 2024) could benefit from phased donations, which may reduce short-term financial strain without sacrificing longer-term social or economic gains.

This study emphasizes the crucial effect of financial resources in supporting both firm performance and sustainability goals. Managers should focus on building financial flexibility as a strategic asset. By expanding access to various funding sources, improving the firm's financial structure, and lowering the cost of capital (Wang and Chen 2024), they can help lessen obstacles to obtaining finance. To address issues of information asymmetry, firms are encouraged to improve the quality of financial and non-financial disclosures and demonstrate strong environment, social, and governance practice actions that can enhance investor confidence and reduce perceived risk (Zhu et al. 2016).

Third, managers in resource-rich firms are advised to integrate financial capacity with their CSR strategies to maximize impact. Financially unconstrained firms should ensure that philanthropic efforts are fully supported by internal resources, enabling them to pursue sustained and high-impact initiatives. Conversely, firms facing dual pressures, charitable ambitions and financial limits, should balance these through structured planning and external partnerships. Using hybrid financing models may help these organizations increase their effectiveness without putting their own funds at risk. Joining shared CSR platforms can provide comparable advantages. These approaches will finally support contributions to both SDG 8 and SDG 17 at the same time (Di Vaio, Zaffar, et al. 2025; Di Vaio et al. 2024).

5.4 | Policy Implications to Foster Strategic Philanthropy and Ensure Financial Sustainability

The findings suggest several policy recommendations to help firms achieve sustainable development. Since corporate charitable donations have shown a positive effect on financial performance, policymakers should focus on creating conditions that make philanthropic contributions more appealing. Introducing tax incentives, for example, by permitting full or partial deductions of charitable spending from taxable income, can encourage corporate giving, as seen in the work of Duran et al. (2025). Establishing a clear and reliable monitoring framework is also necessary. These frameworks help ensure that donations reach their intended purposes, which in turn builds corporate trust and supports dedication to social goals in line with SDG 8 (Zhu et al. 2016; Di Vaio et al. 2024). The research highlights that financial challenges can often weaken corporate performance. To address this, removing obstacles to obtaining funding should become a policy focus. If governments offer financial guarantees, they may lower lenders' concerns about risk and make it easier for firms, especially those usually left out of financial markets, to secure capital, as described by Liu et al. (2018). The success of such guarantees relies on pairing them with thorough risk assessments, which help direct support effectively and contribute to SDG 17 (Di Vaio et al. 2024). A clear need exists for targeted

support for firms with limited financial resources that participate in charitable donations. Policy measures, including phased donations, government subsidies, or special tax arrangements (Zhu et al. 2016; Duran et al. 2025), could help relieve financial difficulties while maintaining spending on projects that benefit society. These approaches not only can enhance financial performance but also tend to increase social benefits, promote SDG 8 and SDG 17, and raise value for those with a stake in the organizations.

5.5 | Limitations and Future Prospects

This study explores how financial constraints affect the connection between charitable donation and financial performance within the context of sustainable development, thereby addressing a previously overlooked aspect in the literature. However, some limitations persist, suggesting potential directions for further research. First, the current analysis does not include factors such as market conditions, advances in technology, or human resource practices. As a result, the possible effects of these elements on firms' financial performance remain unexamined in this study. Future studies can add these variables to deepen the understanding of the mechanisms influencing firms' financial performance. Second, this research is conducted in the Chinese context; the findings may not apply to other countries outside China, especially for some developed countries. Therefore, future research can be conducted in other countries to extend current research and assess the generalizability of the findings. Third, this study only covers 5 years. Future studies can extend to a longer research period to include more data. Finally, this study adopts the KZ index to measure firms' financial constraints, but existing studies regarding the measurement of corporate financial constraints are still debatable; hence, future research can adopt other measurements of corporate financial constraints, such as the SA, WW, and FC indices, to validate the findings of this study.

6 | Conclusion

This study elucidates the links between corporate charitable donations and financial constraints in influencing firm performance within the Chinese context, thereby contributing meaningful insights to the discourse on sustainable development.

The empirical evidence demonstrates that strategic philanthropy enhances both economic outcomes and social value, thereby strengthening corporate legitimacy and fostering long-term sustainability. Nonetheless, the efficacy of such philanthropic endeavors is contingent upon the availability of sufficient financial resources, which serve as both facilitators and moderators in realizing the benefits associated with CSR. By integrating strategic charitable giving theory with resource-based perspectives, this research underscores that sustainable development cannot be realized through isolated CSR initiatives but requires the coherent alignment of strategic intent and resource availability. In countries with developing economies, such as China, limited access to financial resources often shapes how companies act and how well they perform. This situation influences the choices firms make as they manage their daily operations. Considering possible policy actions, the results indicate that focused support may help

companies overcome financial barriers and also motivate them to participate in charitable activities. In this way, firms may find chances to support social projects without putting their financial health at risk. Practitioners might also benefit from adopting a cautious approach to CSR, where they match charitable efforts to the financial resources they possess. By doing so, firms may achieve both social and economic gains. This study adds to existing CSR scholarship by exploring how financial constraints affect the relationship between corporate donations and financial performance, especially within the context of the UN 2030 Agenda. While much earlier work looks at these factors in isolation, this analysis presents new evidence drawn from Chinese listed companies. When resources are scarce, the study helps explain how these constraints can change the impact of companies' charitable strategies. By synthesizing strategic charitable giving theory with resource-based theory, our study advances theoretical discourse and offers substantive managerial and policy implications for harmonizing CSR initiatives with financial sustainability in emerging market contexts. Whilst this study is confined to Chinese listed firms over a limited temporal horizon, it opens avenues for future inquiry to extend these findings by incorporating broader contextual factors and examining diverse geographic and institutional settings, thereby enriching the understandings of the joint contribution of corporate donation and financial resources to sustainable development on a global scale.

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