



Effect of Corporate Social Responsibility Disclosure on Corporate Financial Performance in An Emerging Market

ENYUAN SU^{a*}, ROSLI MAHMOOD^a AND HISHAMUDDIN MD. SOM^a

^a*Putra Business School, Universiti Putra Malaysia, Malaysia*

ABSTRACT

This study examines the relationship between corporate social responsibility (CSR) disclosure and financial performance among listed firms in Chengdu, China. Using the Chinese Academy of Social Sciences (CASS)-CSR 4.0 standard, we analyzed the extent and quality of CSR disclosures for 68 firms over the 2019–2020 period. To address endogeneity, we employed Ordinary Least Squares regression (OLS) regression and Two-Stage Least Squares (2SLS) estimations with two novel instruments. The findings reveal a positive correlation between CSR disclosure and accounting-based metrics such as Return on Assets (ROA) and Earnings per Share (EPS), while a negative relationship with Tobin's Q underscores the complex dynamics with market valuation. Building on these insights, the study suggests policymakers incentivize voluntary CSR disclosures through tax benefits or regulatory advantages and consider mandating specific CSR information based on CASS-CSR and Global Reporting Initiative (GRI) frameworks. This approach could help enterprises define disclosure boundaries, enhance transparency, and foster accountability, offering valuable insights into the CSR-financial performance nexus in the emerging economy.

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* Corresponding author: Email: suenyuan68@163.com

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INTRODUCTION

Chengdu, the capital city of Sichuan Province in southwestern China, is one of the country's most important and rapidly developing urban centres. In recent years, the city has experienced rapid economic transformation and urbanization. Its rise to prominence was particularly evident in 2019, when it outperformed even Shenzhen, securing the top spot among Chinese cities according to the 2019 Milken Institute index. This transformation has brought increased attention to role of Chengdu-based companies in driving sustainable development in the region. These enterprises now face new imperatives: achieving sustainable growth and maintaining high-quality operations. However, it is concerning that some Chengdu-based companies continue to prioritize their own interests, overlooking the essential principles of environmental sustainability and social responsibility. As Chinese companies have been expanding their operations both domestically and internationally in recent years, those that neglect corporate social responsibility (CSR) initiatives may face challenges in achieving sustainable financial success (Gugler and Shi, 2009; Tan, 2009). This unbalanced perspective has led to a series of complex challenges, exemplified by incidents such as the Vinyl Chloride poisoning accident in 2016, the Jinya Technology financial fraud in 2019, and the allegations of concept speculation and insider trading scandal in 2022. These instances highlight the urgent need for the companies to address their shortcomings and align with contemporary expectations of responsible corporate conduct toward their stakeholders.

One of the biggest hindrances to the adoption of CSR is the "shareholder first" principle. Supporters of the "shareholder supremacy" theory, as espoused by Friedman (1970), believe that the sole purpose of a company is to maximize profits and benefit shareholders. Despite the city's economic prominence, there exists a noticeable gap in the integration of CSR into corporate fabric, revealing a disconnect between economic success and ethical responsibilities (Ali et al., 2017). In the current scenario, management often overlook the broader benefits to stakeholders, such as the community and the public, reflecting a significant managerial oversight. This oversight can be attributed to a certain hesitancy embedded within corporate ranks, which deters a full embrace of CSR initiatives that lack immediate and tangible financial rewards (Pisani et al., 2017). The central challenge lies in devising an approach that propels financial growth for enterprises while embodying principles of responsibility and sustainable development.

Despite growing interest in the field, there has been limited focus on understanding the impact of CSR on corporate financial performance (CFP) in China (Ali et al., 2019; Jiang et al., 2018; Li et al., 2017; Wu and Li, 2022). Traditionally, the prevailing perspective suggested a trade-off between financial gains and socially responsible initiatives in term of financial performance. However, recent research challenges this notion by proposing that synergy exist between CSR and financial performance. A growing body of literature indicates that proactive CSR initiatives can lead to enhanced reputation (Axjonow et al., 2018; Brammer and Pavelin, 2006), reduced operational risks (Ghoul et al., 2011; Michaels and Grüning, 2017), and improved stakeholder relationships (Contini et al., 2020; Liu et al., 2010), all of which can ultimately translate into improved financial performance. This perspective aligns with the emerging stakeholder theory, which assert that an engaged and satisfied stakeholder network can positively contribute to a company's financial bottom line.

By selecting Chengdu as the focal city, we aim to address existing knowledge gaps and provide a clear understanding of CSR disclosure's impacts. The importance of this research is emphasized by several compelling factors. Firstly, it aligns with the pressing need highlighted in the Chengdu Municipal (2018) report, which distinctly advocates for the establishment of a transparent CSR information disclosure system tailored for firms based in Chengdu. This resonates with the imperative to enhance corporate accountability and transparency, further emphasizing the importance of our study. Furthermore, the fact that Chengdu was chosen to be part of the initial group of five pilot cities for the International Sustainable Development program in 2019 bolsters the relevance and timeliness of our research endeavour. This deliberate selection of Chengdu underscores its strategic position in the global sustainability discourse and accentuates the practical implications and potential applicability of our findings. In essence, our study is not only academically important but also aligns with the tangible progress and initiatives in Chengdu's journey towards sustainable development, making it an integral and impactful exploration.

The rest of the paper is organized as follows: Section 2 conducts a literature review and formulates hypotheses. Section 3 outlines the research methodology, defines the sample units, and introduces the models. Section 4 presents the principal findings along with discussions. Finally, Section 5 concludes, highlights the limitations and provides suggestion for future research.

LITERATURE REVIEW

CSR Disclosure in China

CSR disclosure refers to the information a company shares about its social and environmental impact, as well as its interactions with stakeholders (Campbell, 2007). Su et al. (2024) emphasized that companies should recognize the value of comprehensive and transparent business insights during their growth trajectory. An effective approach to achieving this is through CSR disclosure, which validates stakeholder evaluations and perspectives.

China became the world's second-largest economy in 2010, surpassing Japan - a position it has consistently held since. The country continues to play a central player in global trade and investment. Given China's substantial economic influence and its investment climate, studying CSR disclosure practices and their effects on business sustainability, stakeholder confidence, and financial performance holds substantial significance. In 1993, the government enacted the Company Law to maintain social and economic order, safeguard the legal rights and interests of businesses, proprietors, and creditors, and foster the expansion of the socialist market economy. In 2006, the concept of CSR was integrated into this legal framework, leading to the establishment of a four-tier information disclosure system consisting of fundamental laws, administrative regulations, departmental guidelines, and self-regulatory norms (Ren et al., 2020). The year 2006 marked the beginning of CSR reporting in China. Following this development, the China Securities Regulatory Commission (CSRC) and the Shanghai and Shenzhen Stock Exchanges (SSSEs) successively introduced key guidelines for CSR disclosure. Subsequently, the number of companies producing CSR reports has steadily risen over the years, with reports becoming more extensive and diverse in content. In 2006, only 19 out of 1421 listed firms (1.33%) issued CSR reports. By 2021, this figure had risen to 1,366 out of 4,643 listed companies (29.42%)—yet it remained under 30% (See Figure 1).



Figure 1 Status of CSR Reporting in Chinese-Listed Companies

Theoretical Background

CSR practice are multifaceted and cannot be explained by a single theoretical framework. Instead, the application of multiple theories offers a more nuanced and holistic perspective, emphasizing their complementary nature rather than their potential conflicts (Gray et al., 1995b). In the context of CSR disclosure and its relationship with a firm's financial performance, researchers have extensively drawn on various theoretical perspectives to explain the observed dynamics and implications. Among these, stakeholder theory and legitimacy theory are the most commonly employed frameworks, as they share a natural synergy rooted in socio-political assumptions (Gray et al., 1995b).

Stakeholder Theory

Stakeholder theory, as proposed by Hannan and Freeman (1984), suggests that all groups and individuals affected by a company's activities have the right to participate in its decision-making processes. The goal of the enterprise should be to promote the interests of all stakeholders, including shareholders, government, employees, suppliers, creditors, and the community. In pursuit of sustained corporate viability, companies are compelled to actively seek and uphold the backing of their stakeholders. Wood and Jones (1995) asserted that stakeholder theory offers a robust framework for analyzing CSR, concentrating on how enterprises engage with their identified stakeholders and the proactive measures they adopt, such as CSR practices, to oversee these interactions (Freeman and McVea, 2017). In this theory, CSR is regarded as an essential element of the firm's communication with its stakeholders, as it helps to establish transparency and build trust with them (Gray et al., 1995a). By nurturing dialogue, CSR disclosure provides a platform to fulfil commitments to stakeholders and cultivate favourable relationships. Proactive CSR disclosure can fortify core competitiveness and uplift corporate performance (Wu et al., 2022). Consequently, the practice of CSR disclosure has emerged as a pivotal strategy for business advancement, enabling enterprises to decipher CSR-related information and establish effective channels of communication with each stakeholder (Libit et al., 2013), and it is recognised as an important part of the research on the relationship between CSR and financial performance (Peloza et al., 2014).

Legitimacy Theory

Legitimacy theory posits that organizations must actively maintain their perceived legitimacy to effectively operate within society. It emphasizes the importance of aligning organizational actions, behaviours, and disclosure practices with societal norms, values, and expectations (Suchman, 1995). In the context of CSR disclosure, legitimacy theory suggests that organizations should utilize CSR reporting as a means to showcase their commitment to social, environmental, and ethical standards (O'Donovan, 2002) and to manage their relationships with stakeholders to uphold their legitimacy (Alotaibi, 2014). Certain proponents of legitimacy theory, such as Lindblom (1994) and Neu et al. (1998), emphasize addressing the concerns of specific groups within the public, shifting the focus from 'society' as a whole to targeted stakeholder groups. This perspective aligns with insights from stakeholder theory, as noted by (Deegan, 2002).

According to the philosophy of legitimacy theory, the aim of sharing information about CSR is to foster the credibility of its acts, and the dissemination of voluntary information is viewed as a part of the process of improving credibility (Deegan, 2002; Magness, 2006; Patten, 1991; Staden and Hooks, 2007). Bansal (2005) emphasized that achieving organizational legitimacy requires a balance between optimizing enterprise systems and pursuing sustainable development. This process is underpinned by a "social contract"¹ relationship, which exists between an enterprise and the society in which it operates. Walton et al. (2000) believes that a successful organization that conforms to social expectations follows a "social contract" and is granted "management rights" by society.

CSR Disclosure and CFP

Early studies that examine the impact of CSR disclosure on CFP, have mainly employed the stakeholder theory and legitimacy theory. These theories suggest that CSR disclosure helps organizations build trust and credibility with stakeholders, thus enhancing financial outcomes. For instance, Abbott and Monsen (1979), Johnson (2003), Moneva and Ortas (2010), and Saleh et al. (2011) consistently found a robust positive and statistically significant correlation between CSR disclosure and CFP. However, contrasting perspectives have emerged in more recent studies. Su et al. (2016) and Ghoul et al. (2017) suggests that CSR disclosure could, in some cases, negatively impact business performance. These scholars argue that the costs associated with implementing and reporting CSR initiatives might outweigh the benefits, particularly if stakeholders perceive the efforts as insincere or if the disclosures reveal vulnerabilities or controversies. Such findings highlight the nuanced nature of the CSR-CFP relationship, suggesting that the impact of CSR disclosure is context-dependent and influenced by factors such as industry, company size, and stakeholder expectations.

¹ Guthrie & Parker (1989) define the concept of the "social contract" as an agreement between a company and society at large. In this agreement, the company commits to performing various behaviours that are deemed socially responsible in exchange for societal approval, recognition, and other benefits that help it achieve its goals and ensure its survival.

Research has also explored cross-country and sectoral variations in the impact of CSR disclosure on green bond performance. Green bonds, financial instruments specifically designed to fund environmentally sustainable projects, are intrinsically tied to CSR activities and their transparency. The effectiveness of CSR disclosure in influencing green bond performance varies significantly across countries due to differences in regulatory frameworks, market maturity, and stakeholder expectations (Friede et al., 2015). In countries with stringent environmental regulations and strong support for ESG (Environmental, Social, and Governance) principles, transparent and comprehensive CSR disclosure can enhance investor confidence and lead to better market reception for green bonds. In markets with a strong focus on ESG (Environmental, Social, and Governance) criteria, These disclosures serve as a signal of a company's commitment to sustainability, making green bonds more attractive to socially conscious investors.(Fatemi et al., 2018).

Despite the multitude of studies delving into the nexus between CSR practices and financial performance, the outcomes remain diverse, lacking a universally endorsed consensus. On one hand, the vast differences in stakeholders, business models, and market environments across industries can lead to complex and diverse effects of CSR practices on financial performance (Brulhart et al., 2019; Tien et al., 2019). On the other hand, disparities in geography, culture, and legal frameworks might contribute to varying research outcomes in different countries and regions (Daugaard and Ding, 2022; Kludacz-alessandri and Cygańska, 2021). Advocates of the social impact hypothesis contend that improved CSR disclosure correlates with enhanced financial performance. Researchers have supported this perspective through empirical studies, identifying three primary mechanisms through which CSR enhances corporate financial performance (CFP). First, CSR disclosure can contribute to risk reduction and cost savings for companies by mitigating ESG risks, enhancing operational efficiency, and fostering innovation. By addressing issues like climate change, supply chain ethics, and diversity and inclusion, companies can reduce regulatory, legal, and reputational risks (Crane et al., 2019), leading to long-term cost savings and improved financial performance (Weiss, 2021). Second, supporters argue that CSR disclosure can enhance a company's reputation and build trust among stakeholders, including investors, customers, employees, and communities (Weiss, 2021). Positive CSR practices signal a company's commitment to ethical behavior and social responsibility, which can improve stakeholder perceptions and, ultimately, financial performance. Third, CSR disclosure can confer a competitive advantage and differentiate companies in the marketplace by fostering brand loyalty, attracting talent, and capturing market share (Mahmood and Bashir, 2020). Companies that integrate CSR into their business strategy and communicate their sustainability initiatives effectively can differentiate themselves from competitors, strengthen customer relationships, and drive revenue growth, ultimately contributing to financial success.

However, the financing hypothesis posits that stronger financial performance enables better CSR performance because the extent of a company's CSR activities is largely determined by its available resources and financial capacity. Essentially, companies with robust financial performance have the resources to allocate toward social responsibility initiatives without compromising their operational stability. This perspective suggests that CSR is often a secondary consideration, undertaken only after a company's core financial obligations are met (Preston and O'Bannon, 1997). Consequently, the hypothesis implies that financial performance drives CSR performance, but the reverse relationship - where CSR directly influences financial performance - may not hold as consistently. This view highlights the resource-dependent nature of CSR, framing it as an outcome of financial success rather than a direct contributor to it.

CSR disclosure and ROA

The impact of CSR disclosure on return on assets (ROA) is a topic of significant interest within both academic and practical spheres. CSR initiatives are widely perceived to positively influence a company's CFP by enhancing corporate reputation, bolstering consumer loyalty, and reducing operational costs (Kim et al., 2017; Le et al., 2023; Phan et al., 2021). The stakeholder and legitimacy theories provide foundational frameworks for understanding and analyzing the relationship between CSR and ROA (Alshorman et al., 2024). Stakeholder theory emphasizes that enterprises should meet the needs of all stakeholders, while legitimacy theory highlights the necessity for enterprises to gain broad societal recognition. Through these theoretical lenses, we can delve deeper into how corporations can elevate their financial performance and achieve long-term sustainable development through responsible conduct. However, in the short term, CSR initiatives may not yield immediate returns and can sometimes increase operational costs, potentially leading to a negative impact on ROA. For instance, companies might invest in environmentally friendly technologies, which may

reduce short-term profits due to initial outlays (Dehning et al., 2005; Duma et al., 2016). Moreover, the costs associated with CSR activities can exert pressure on ROA in the immediate term, particularly for firms with lower profit margins or those in a financially constrained position (Tang et al., 2012). However, even if CSR seems to negatively affect ROA in the short term, these investments may lay the groundwork for future benefits by establishing brand reputation and consumer trust, which can lead to long-term gains (Lins et al., 2019). Nevertheless, there are evidence suggesting positive effects of CSR in the short run (Bayoud et al., 2012; Nguyen et al., 2021; Purbawangsa et al., 2019). This positive correlation may arise from the immediate advantages associated with transparent CSR practices, such as bolstered investor confidence and optimized stakeholder relations. Effective communication of CSR initiatives can lead to an enhanced market reputation for the company, attracting increased investor attention and potentially elevating stock valuations, all of which contribute to an improved ROA. Furthermore, comprehensive CSR disclosure can serve as a signal of robust corporate governance, a factor that is often met with favorable financial outcomes by the market (Purbawangsa et al., 2019).

In the long run, CSR could enhance ROA by establishing a positive corporate image and market position (Cho et al., 2019; Yoon and Chung, 2018). Corporate reputation may act as a mediator in the relationship between CSR and ROA, with proactive CSR activities strengthening corporate reputation, which could subsequently translate into improved financial performance (Fourati and Dammak, 2021). Moreover, enterprises in different industries may face varying challenges and opportunities in implementing CSR activities, which could influence the effect of CSR on ROA (Ahmad et al., 2024; Yang et al., 2019). Moreover, the quality of internal control is viewed as a crucial factor in affecting the disclosure of CSR information and CFP (Akisik and Gal, 2017). Robust internal control can improve the transparency and efficiency of CSR activities, which in turn, elevate ROA. Additionally, the independent directors play a pivotal role in CSR decision-making processes, and the extent and composition of their power can significantly influence the company's CSR performance and financial outcomes (Agarwala et al., 2022; Rao and Tilt, 2016). The size and nature of the enterprise may also moderate the relationship between CSR and ROA, with larger and state-owned enterprises potentially having more resources to implement CSR activities, a disparity that could affect ROA (Ang et al., 2022; Muttakin and Subramaniam, 2015).

CSR disclosure and EPS

Earnings per share (EPS) is a widely recognized financial performance metric that holds significant appeal for investors, as it indicates the financial return attributable to each individual share (Iqbal et al., 2015; Moore, 2001; Oeyono et al., 2011; Pava and Krausz, 1996). Rappaport (2005) suggests that the short-term EPS performance is especially important for younger companies for which future growth expectations are more sensitive to current performance, compared to older companies with a longer operating history. Brown (1999) highlights the extreme sensitivity of financial markets to earnings announcements and the pressure companies face to meet or exceed analysts' expectations. Falling short of earnings per share (EPS) estimates, even by a small amount, can trigger severe market reactions, such as "double-digit nosedives" in share prices.

Building upon this foundation, the relationship between CSR and EPS is a subject of considerable interest. CSR activities, such as community development, environmental sustainability, and ethical business practices, can influence EPS through various mechanisms. Positive CSR initiatives can lead to cost savings, improved brand image, and greater access to markets, all of which can contribute to higher EPS (Yang et al., 2019). For instance, investments in environmental sustainability may reduce energy consumption and waste disposal costs, thereby enhancing EPS. Additionally, CSR can foster stronger relationships with consumers who are increasingly inclined to support responsible companies, leading to increased sales and, consequently, higher EPS. However, the impact of CSR on EPS is not uniformly positive. Critics argue that the costs associated with CSR initiatives, such as philanthropic donations and the implementation of socially responsible policies, can reduce short-term earnings, thereby negatively affecting EPS (Kabir and Chowdhury, 2023). This perspective suggests that the financial burden of CSR activities may outweigh the potential long-term benefits, at least in the short run.

In the analysis of CSR-EPS relationship, it is also important to consider the role of transparency and disclosure. For instance, when companies clearly communicate their CSR efforts and demonstrate tangible outcomes, investors may perceive these efforts as indicative of strong management and strategic foresight, which can positively influence perceptions of the company's future prospects and, by extension, its EPS

(KPMG, 2015). Li et al. (2019) examined 34,000 CSR project announcements from 839 firms in China between 2006 and 2016 revealed that CSR practices have a strong impact on EPS in the long term. However, the short-term dynamics of EPS are subject to a myriad of influences, including quarterly earnings reports, market sentiment, and investor reactions to news events. Therefore, understanding the short-term effects of CSR disclosure on EPS is equally important for several compelling reasons. Firstly, the volatility of short-term EPS can significantly shape investor perceptions and influence stock prices, leading to immediate market responses (Sharif et al., 2015). The way investors interpret CSR-related announcements can result in rapid adjustments in a company's market valuation. Secondly, insight into these short-term effects empowers companies to strategically manage their CSR initiatives to enhance shareholder value (Surroca et al., 2020). By recognizing the impact of CSR disclosures on EPS, firms can align their social responsibilities with financial objectives, thereby creating value for shareholders. Lastly, given the propensity of investors and analysts to base short-term investment decisions on quarterly EPS reports (Kang et al., 2024), the influence of CSR disclosure on these financial metrics becomes particularly relevant.

CSR disclosure and Tobin's Q:

Several studies have examined the impact of CSR disclosure on firm value, and Tobin's Q (TBQ) is frequently employed as a metric in these studies. Tobin's Q, calculated as the ratio of a firm's market value to its replacement cost of assets, serves as an indicator of investor perceptions regarding a firm's future growth and profitability prospects. Despite its importance, the existing literature on the short-term effects of CSR disclosure on TBQ remains relatively scarce. TBQ, which captures the ratio between a firm's market value and the replacement cost of its assets, is highly sensitive to short-term fluctuations. Factors such as market sentiment, investor behavior, and external events can drive these temporary variations, reflecting the dynamic and multifaceted nature of market responses. The influence of CSR initiatives on TBQ is a complex and multifaceted issue. On one hand, CSR activities can enhance a firm's reputation and brand value, which may increase its market value and, consequently, its TBQ. This is particularly relevant for companies that operate in industries where sustainability and social responsibility are highly valued by consumers and investors. On the other hand, the costs associated with implementing CSR strategies can lead to short-term decreases in financial performance, which may negatively impact a firm's market value and TBQ.

While some research highlights a positive correlation between CSR activities and market valuation, indicating that companies engaging in CSR practices tend to receive favorable market assessments, other studies offer a contrasting perspective. For instance, Zhang (2015) highlighted a positive and significant correlation between the extent of CSR activities and the TBQ of state-owned enterprises, indicating that the social responsibilities undertaken by these entities are viewed positively by investors, thereby enhancing the market value of the firms. Similarly, Feng (2018) reinforced the notion that the quality of CSR information disclosure is positively associated with TBQ value, emphasizing the critical role of transparent and comprehensive CSR reporting in shaping investor perceptions and the overall market valuation of a company. Conversely, other works have indicated a negative influence of CSR disclosure on TBQ. For instance, Liang and Chen (2024) and Pan and Zhao (2022) have shown that mandatory CSR disclosure requirements can lead to increased financial constraints for firms, potentially distorting the optimal allocation of corporate resources and diminishing profitability, which in turn could adversely affect TBQ. This perspective aligns with the agency theory, which suggests that engaging in CSR activities may divert valuable resources away from profitable investments, thereby weakening a firm's competitive position (Friedman, 1970).

The interaction between CSR disclosure and financial performance has become an important area of discussion in modern business discussions. This growing interest reflects the evolving expectations of stakeholders, who demand not only strong financial returns but also ethical and sustainable business practices. As companies face increasing pressure to address social and environmental concerns while maintaining profitability, understanding the relationship between CSR disclosure and financial performance becomes essential for both academics and practitioners. This study seeks to delve deeper into this critical nexus by examining how the extent and quality of CSR disclosure - measured through indices such as CSR Disclosure Index for extent (CSRDIe) and quality (CSRDIq) - influence corporate financial health. By analyzing these dimensions, the research aims to uncover whether comprehensive and transparent CSR reporting translates into tangible financial benefits, such as enhanced investor confidence, improved market valuation, or mitigated risks. Building on prior literature, which presents mixed findings regarding the financial

implications of CSR, this study positions itself to bridge existing gaps and provide new insights. To this end, the following hypotheses have been formulated, grounded in theoretical frameworks and empirical evidence, to systematically test the relationship between CSR disclosure and key financial performance indicators.

H1(a): *There is a significant positive relationship between CSRDIe and ROA.*

H1(b): *There is a significant positive relationship between CSRDIq and ROA.*

H2(a): *There is a significant positive relationship between CSRDIe and EPS.*

H2(b): *There is a significant positive relationship between CSRDIq and EPS.*

H3(a): *There is a significant positive relationship between CSRDIe and TBQ.*

H3(b): *There is a significant positive relationship between CSRDIq and TBQ.*

METHODOLOGY

Data Selection

The data on CSR disclosure and CFP proxies were collected from the Shanghai and Shenzhen Stock Exchanges (SSSEs) and China Stock Market & Accounting Research (CSMAR) databases. The SSSEs and CSMAR databases stand as pivotal platforms for the trading and exchange of securities in China and they serve as an invaluable source of data for the annual reports of Chengdu-listed companies. We employed two distinct units for scrutinizing CSR disclosure practices, while simultaneously using three diverse financial performance indicators, encompassing both accounting-based and market-based data. Elaborated insights into this analytical framework will be expounded upon in the measurements section. We also relied on the annual report as a secondary source on information due to its reliability, credibility (Tilt, 1994; Unerman, 2000); availability (Tilt, 1994) and accessibility (Wilmschurst and Frost, 2000). Notably, as dedicated CSR reports are not mandated for listed companies in China, the annual reports of these companies emerge as principal empirical data sources (Zhao et al., 2018). These annual reports are downloaded from SSSE's official website and coded using Novivo 10 software. Moreover, this study employs the CSR disclosure proxies using the CASS-CSR4.0 instrument. This instrument is designed to improve the comparability and credibility of corporate sustainability reporting, incorporating a basic framework similar to Global Reporting Initiatives (GRI)², but with more detailed modules tailored to the Chinese context. While prior research utilized earlier versions, our study employs the CASS-CSR 4.0 version, reflecting the evolution of CSR practices and reporting standards in China. This may include an analysis of how CSR-related indicators, such as responsibility management (G-series), market performance (M-series), social performance (S-series), and environmental performance (E-series) relations, are reflected in the index scores and subsequently correlated with financial metrics like ROA, EPS, and TBQ.

In term of number of companies included in this study, there were 78 listed firms in 2019 and 84 in 2020. To ensure robust results and address the distinctive features of financial accounting, firms in the financial industry were excluded from the analysis. Additionally, entities flagged for special treatment (ST) due to financial anomalies and those identified as being at risk of delisting (*ST) were omitted. This process resulted in a final sample of 68 listed firms, corresponding to 136 firm-years and a total of 1,088 data points (see Table 1). The sample represents 84 percent of the total population, meeting the required minimum size for analysis. This criterion specifies that the sample must include at least five times as many observations as there are independent variables. (Green, 1991).

² The GRI Standards are driving progress in sustainability reporting by empowering organizations and their stakeholders to take actions that generate economic, environmental, and social benefits. According to KPMG's 2022 research, the GRI Standards continue to be the most widely adopted framework for sustainability reporting worldwide.

Table 1 Samples Distribution

Panel A: Population & Samples ^a			
	Population	Samples	Percentage
2019	78	68	87.2
2020	84	68	80.9
Panel B: Industries Distribution ^b			
Industry Name	Industry Code	Freq.	Percentage
Food & Beverage	C1	6	4.41
Furniture	C2	2	1.47
Chemistry	C3	12	8.82
Medical	C4	10	7.35
Mental & non-mental	C5	2	1.47
Machinery, Equipment, Instrument	C6	30	22.06
Electronics	C7	16	11.76
Power, Gas, and Water	D	10	7.35
Construction	E	6	4.41
Retail	F	6	4.41
Transportation	G	2	1.47
IT	I	18	13.24
Real estate	K	2	1.47
Business services	L	4	2.94
Scientific research and technical services	M	4	2.94
Culture, Sports and Entertainment	R	4	2.94
Comprehensive industry	S	2	1.47
Total		136	100

Notes: A total of 136 annual reports of 68 Chengdu-listed companies in 2019 and 2020 were obtained. We employed the CSRC industry classification standard, where the code for the manufacturing industry typically begins with 'C.' Due to the predominance of manufacturing firms in our sample, we utilized the first two codes for classification..

CSR Disclosure Measures

Content analysis is a widely used method in the analysis of CSR disclosure, and it has been used in many studies (Amran and Devi, 2008; Bouten et al., 2011; Cormier et al., 2005; Gray et al., 1995a, 1995b; Hackston and Milne, 1996; Monteiro and Aibar-Guzmán, 2010). The method involves the coding of text into various categories based on predefined criteria (Su et al., 2024), making it an objective, comprehensive, and statistically sound approach to evaluating information, especially within documents like annual reports (Abbott and Mosen, 1979). Content analysis offers two primary measurement paradigms in the context of CSR disclosure: the volumetric method and the index method. The former quantifies the quantity of disclosed information, while the latter assesses the quality and nature of the disclosed content (Gray et al., 1995a). In this study, both the extent and quality of CSR disclosure were adopted as independent variables. This approach aligns with the assertion made by Helfaya et al. (2019) that “Quantity alone can be greenwash; quality ensures transparency, completeness, both are correlated”. Similarly, the examination of corporate disclosure transcends mere content to encompass the manner in which the information is conveyed (Guthrie and Parker., 1990). Thus, a holistic perspective emphasizes not only "what is stated" but also "how it is stated". Combining both the extent and quality measurement approaches augments the depth and robustness of the analysis, ensuring a comprehensive understanding of CSR disclosure practices and their potential implications.

Extent (CSRDIe) Unit

This study uses sentences as the primary unit for coding and measuring the extent of CSR disclosure (CSRDIe). This method, supported by Wenzel and Will (2019) is based on the premise that sentences offer a precise and consistent framework for capturing the detailed meaning and context of each disclosure. The choice of sentences as the measurement unit minimizes subjectivity and measurement errors, ensuring objective quantification. This approach stands in contrast to proportion-based measurement techniques like per-page quantification (Unerman, 2000). The use of sentences avoids concerns related to variations in word counts and mitigates differences in print formats, column layouts, and page sizes commonly found in annual reports (Hackston and Milne, 1996). By employing sentences, the study could examine specific topics and themes, enhancing the precision of the analysis (Deegan, 2002).

Quality (CSRDIq) Unit

Existing literature has employed various index scales to measure the quality of CSR disclosure in annual reports. For example, Cormier et al. (2005) proposed a 3-point scale system, where an item explicitly described in monetary or quantitative terms would be given 3 points, a non-quantitative description of a particular term would be given 2 points, a qualitative description would be given 1 point, and no disclosure would be given 0 points. Meanwhile, Staden & Hooks (2007) developed a 5-point scale and Raar (2002) used a 7-point scale. However, based on Helfaya et al. (2019), approximately 80% of the CSR disclosure studies have used simple measures of reporting quality (Comyns, 2014; Hassan Nasr, 2010; Tauringana and Chithambo, 2015). This may be due to i) the difficulty and time-intensive nature of using more complex frameworks, ii) Their unsuitability for external assessment of the quality of CSR disclosure, and iii) The inability to assess the materiality of the information disclosed versus not disclosed.

As a result, it could be argued that using a ranking system with many points reduces measurement reliability, as a higher number of points increases the likelihood of subjective judgment in the measurement process. Therefore, this study adopts a binary approach utilizing a two-point scale in measuring CSRDIq inspired by (Hassan Nasr, 2010). This approach utilizes a weighted methodology to assess the quality of disclosure. A score of 1 is assigned if the item includes CSR information, whether in quantitative or narrative form, that reports the company's policies and activities. On the other hand, a score of 0 is given if the item does not contain such disclosure. The formula for calculating the CSR Disclosure Index for CSRDIq is expressed as follows:

$$\text{CSRDIq} = \frac{\text{AS}}{\text{TS}} \quad (1)$$

where, CSRDIq denotes the score representing the ratio of actual "quality sentence" scores (AS) awarded to a company against the total sentences disclosed extent scores (TS). The calculation of AS for a company is calculated as follows:

$$\left(\text{AS} = \sum_{i=1}^n (i = 0,1)^n d_i \right) \quad (2)$$

where, d_i scores 0 if the item d_i lacks "quality sentence" disclosure, and 1 if the item contains quantitative or narrative information regarding a company's policies and activities., and "n" represents the number of items anticipated to be disclosed by the company.

CFP Measures

Our dependent variable consists of three measures of financial performance: ROA, EPS, and TBQ. Each of these measures captures different aspects of a firm's financial health and performance, providing a comprehensive view of its economic viability and efficiency. The financial data were collected from the CSMAR databases. ROA is a profitability ratio that indicates how efficiently a company is utilizing its assets to generate profits. It is calculated by dividing the company's net income by its total assets. EPS is a financial metric that presents the portion of a company's profit allocated to each outstanding share of common stock. It is computed as the company's net income, minus any dividends on preferred stock, divided by the number of common shares outstanding. EPS is a key measure used by investors to assess a firm's profitability on a per-share basis. TBQ is an economic measure that is calculated as the market value of a firm's assets divided by their book value. It represents the degree to which the market assesses the firm's efficiency and future growth potential. A higher Tobin's Q suggests that the market values the firm more highly than the value at which the firm could be replaced or duplicated. In our study, TBQ is used to capture the market's perception of the firm's overall financial performance and growth opportunities.

Instrumental Variables

In this paper, we analyze the effects of CSR disclosure extent and quality on firm performance. To address the potential problem of endogeneity due to measurement error, reverse causality, and omitted variables in the regression model, instrumental variables (IV) are used. The previous literature has identified two sets of IVs, namely industry type and industry mean score for CSR disclosure (Cai et al., 2011; Garcia-castro, 2010).

However, many studies have utilized industry type as an independent variable, which is correlated with both the independent and dependent variables (Bansal and DesJardine, 2014). In this study, we address the endogeneity concerns associated with CSRDI by introducing two distinct IVs. Our approach is to leverage the media management expenditure (MME) and the mean score of CSRDI (MSQ), respectively, as IVs to provide a robust estimation of the causal relationship between CSR activities and firm financial performance.

The MME serves as a proxy for the resources dedicated by firms to manage their public image and stakeholder relations, which is closely tied to their CSR initiatives. We posit that MME is likely to influence the firm's CSR activities, as companies with higher expenditures on media management are expected to be more proactive in their CSR communications and practices (Du et al., 2010). Importantly, we argue that MME is plausibly exogenous to the error term in the financial performance equation, as it is less likely to be directly affected by the firm's financial outcomes. This assumption is critical in satisfying the exogeneity condition required for a valid IV. Meanwhile, the MSQ is employed to capture the overall quality of a firm's CSR disclosure. This aggregated measure is less susceptible to the measurement errors and idiosyncratic biases associated with individual CSR indicators. We assume that the mean score is correlated with the actual CSRDI used in our model, while also being less influenced by the firm-specific factors that may contaminate the relationship between CSR and financial performance. This mean score is constructed by averaging the scores across CSR dimension, providing a reliable reflection of a firm's CSR posture (Zahid et al., 2020).

Control variables

Our primary control variables (CV) encompass a range of company-specific and financial metrics. Firm size (Lnsize) is determined using the natural logarithm of total assets, commonly utilized as a control variable in research (Cardell et al., 1997; Gul and Leung, 2004; Lang and Stulz, 1994); We control for the proportion of independent directors (PID) on the company's board, as this is a critical aspect of corporate governance. Firm age (AGE) indicates the number of years since a company's listing on the stock exchange, providing insight into its maturity and experience (Al-Gamrh and Al-Dhamari, 2016; Wang et al., 2013), we measured it as natural logarithm of age; Financial-based CV include: Debt ratio (DR), representing the proportion of a company's liabilities to its total assets, reflecting its debt repayment capability (Luo et al., 2019), this paper adopts this ratio of the total amount of liabilities divided by the total amount of assets.

Model Specification

The empirical model presented herein examines the association between CSR disclosure and CFP, with the latter measured by ROA, EPS, or TBQ. The regression model is specified as follows:

$$CFP_i = \alpha + \beta \cdot CSRDI_i + \gamma \cdot Lnsize_i + \delta \cdot Pid_i + \lambda \cdot lnage_i + \theta \cdot Lndr_i + \phi \cdot Lag(CFP)_i + \mu \cdot year + \nu \cdot indu + \epsilon_i \tag{3}$$

where CFP is the corporate financial performance, measured by ROA, EPS, or TBQ, CSRDI is measured by both extent (CSRDI_e) and quality (CSRDI_q) of CSR disclosure, respectively, Lnsize is the natural logarithm of firm size, Pid is the proportion of independent directors on the board, Lnage is the natural logarithm of the age of firm, Lndr is the debt ratio, Year and Indu are dummy variables, to control for time-specific effects and industry-specific effects, respectively, and ϵ is the usual error term. The inclusion of year and industry fixed effects in the model is pivotal, as it mitigates potential biases stemming from omitted variable bias and allows for the estimation of treatment effects that are invariant to time-specific and industry-specific shocks.

To mitigate the endogeneity problems, we use two-stage least square (2SLS) estimator. In the first stage, we employ instrumental variables to address the potential endogeneity of CSR disclosure, denoted as CSRDI. The model is specified as follows:

$$CSRDI_i = \pi_0 + \pi_1 IV_i + \sum_{t=1}^T \alpha_t Year_t + \sum_{s=1}^S \lambda_s Ind_s + u_i \tag{4}$$

where, CSRDI represents two indicators for the extent and quality of CSR disclosure, respectively. IV denotes the instrumental variable used in the first stage, which are believed to be correlated with CSR disclosure but uncorrelated with the error term in the second stage.

In the second stage of our 2SLS estimation, we estimate the impact of CSR disclosure on CFP, measured alternatively by ROA, EPS, or TBQ. The model is articulated as follows:

$$CFP_i = \beta_0 + \beta_1 \widehat{CSRDI}_i + \sum_{j=1}^k \beta_j Controls_{ji} + \sum_{t=1}^T \gamma_t Year_t + \sum_{s=1}^S \delta_s Ind_s + \epsilon_i \tag{5}$$

where \widehat{CSRDI} represent the predicted values of CSR disclosure extent and quality for firm i , obtained from the first stage of the 2SLS estimation. The use of predicted CSR disclosure values (\widehat{CSRDI}) from the first stage allows us to isolate the effect of CSR disclosure on CFP while controlling for potential endogeneity. The inclusion of fixed effects is critical to our analysis, as it adjusts for unobserved heterogeneity that could confound the relationship between CSR disclosure and CFP outcomes.

EMPIRICAL RESULTS

Descriptive Statistics

Table 2 shows the descriptive statistics for each variable. For instance, ROA and EPS, the key indicators of profitability, show that although the average performance is positive, there is a wide range of outcomes, with some companies experiencing significant losses. This variability could be due to differences in management practices during Covid-19. The high mean for TBQ indicates that companies are generally viewed by the market as being worth more than their book value, which could be a positive signal for investors. In addition, CSRDIe shows a broad spectrum of CSR activities among companies. This suggests that while CSR is recognized as important, the level of engagement varies significantly among companies. CSRDIq with a maximum score of 4, the mean score of 1.5810 indicates that there is an average performance in CSR disclosure quality. The lower standard deviation compared to CSRDIe suggests that the quality of CSR disclosure is more consistent, with less room for variability.

Table 2 Descriptive Statistics

Variable	Observations	Mean	Std. dev.	Min	Max
ROA	136	0.0381	0.0757	-0.2744	0.1499
EPS	136	0.3627	0.5921	-1.7038	1.4743
TBQ	136	2.1756	1.3158	0.9386	6.8689
CSRDIe	136	45.4706	23.1459	13	124
CSRDIq	136	1.5810	0.2761	0.962	2.329
SIZE	136	22.1945	1.2957	19.7400	26.0300
PID	136	0.3739	0.0573	0.3	0.571
AGE	136	2.9939	0.2964	2.1972	3.5264
DR	136	0.4180	0.2335	0.06	1.36

Correlation Analysis

Table 3 provides the result of correlation analysis. For instance, the results show that ROA and EPS have a strong positive correlation, which is expected as both are measures of company profitability. The significant negative correlations between TBQ and both CSRDIe and CSRDIq suggest that there may be an inverse relationship between the extent and quality of CSR disclosure and the market's valuation of companies. This implies that investors may value other factors more than CSR disclosures when assessing company value. Besides that, both CSRDIe and CSRDIq show significant positive correlations with SIZE (CSRDIe: $r = 0.356$, $p < .01$; CSRDIq: $r = 0.349$, $p < .01$), indicating that larger companies are more developed in their CSR activities disclosing and have higher quality disclosures. This finding aligns moderately with the results of (Hackston & Milne, 1996), who conducted an investigation utilizing four distinct measures of corporate profitability and concluded that none of these profitability measures exhibited a significant correlation with the extent of disclosure.

Table 3 Correlation Analysis

	ROA	EPS	TBQ	CSRDIe	CSRDIq	SIZE	PID	AGE	DR	VIF	1/VIF	Mean VIF
ROA	1											
EPS	0.675***	1										
TBQ	0.488***	0.001	1									
CSRDIe	-0.012	0.140	-0.213**	1					1.35	0.742		
CSRDIq	-0.173*	-0.044	-0.324***	0.453***	1				1.25	0.803		
SIZE	-0.015	0.247***	-0.387***	0.356***	0.349***	1			1.72	0.581		
PID	0.083	0.049	-0.029	0.028	-0.028	0.141	1		1.05	0.949		
AGE	-0.185**	-0.118	-0.221**	0.085	0.078	0.351***	-0.052	1	1.20	0.837		
DR	-0.224**	-0.073	-0.231**	0.253***	0.254***	0.537***	0.235***	0.217**	1	1.38	0.723	1.32

Note: * p<0.1 ** p<0.05 *** p<0.01.

In addition, TBQ shows a moderate negative correlation with CSRDIe ($r = -0.213^{**}$) and a stronger negative correlation with CSRDIq ($r = -0.324^{***}$), suggesting that a higher quality and extent of CSR disclosure may be associated with lower market valuations. Generally, when the Pearson correlation coefficient exceeds 0.9, it indicates that the multicollinearity between independent variables is serious, while if the correlation coefficient is above 0.8, the possibility of multicollinearity between variables is not excluded, which will affect the final regression results. Hence, it is acceptable and there is no significant multicollinearity in the correlation matrix. To examine possible multicollinearity problem, we compute the Variance Inflation Factor (VIF) and results show there is no serious multicollinearity problem. As per the established guidelines, multicollinearity is considered to be a significant concern when the VIF values for the independent variables exceed 10 or when the tolerance value is close to 0.10 (Gujarati, 2009). The results in Table 3 indicate that the mean Variance Inflation Factor (VIF) is 1.32, and none of the individual VIF values suggest a significant issue with multicollinearity.

Next, we examine possible heteroscedasticity problem using the Breusch-Pagan/Cook-Weisberg test and White's General test for heteroscedasticity. The results (see Table 4) indicated that heteroscedasticity may be an issue. To address this issue, robust standard errors are used in all models to control for heteroscedasticity and ensure compliance with regression assumptions (Gujarati, 2009).

Table 4 Breusch-Pagan / Cook-Weisberg test for Homoscedasticity

	ROA	EPS	TBQ
Breusch-Pagan/Cook-Weisberg	24.39	12.85	8.70
Prob>chi2 =	0.000	0.000	0.003
White's Test :(chi2)	68.00	68.00	68.00
Prob>chi2 =	0.443	0.443	0.443

The regression estimation results of Chengdu listed firms are shown in Table 5. The regression analysis yields insightful findings on the relationship between CSRDIe and various indicators of CFP, including ROA, EPS, and TBQ. By incorporating fixed effects for years and industries, both the OLS and 2SLS models control for unobserved heterogeneity. The use of lagged dependent variables, such as L.ROA, L.EPS, and L.TBQ, helps to capture the dynamic nature of financial performance and control for potential autocorrelation. The F-value in the OLS models range from 2.61** to 30.88***, indicating that the models are statistically significant and that the independent variables, as a set, are jointly related to the dependent variable. The R-squared values range from 0.248 to 0.752, suggesting that the models explain a moderate to high proportion of the variance in the dependent variables. Specifically, the R-squared of 0.752 for the TBQ model in the OLS regression implies a strong explanatory power. Moreover, the under-identification test (LM statistic) and weak identification test (Wald F statistic) support the relevance and strength of the instruments used.

In the OLS model, CSRDIe is positively and significantly associated with ROA (coefficient = 0.0552**) and EPS (coefficient = 0.380**), suggesting that an increase in CSR activities is associated with higher ROA and EPS. The 2SLS models, which account for potential endogeneity, provide robust evidence for the positive relationship between CSRDIe and ROA and EPS, with larger coefficients in the second stage (ROA: 0.105**, EPS: 0.636**). This is consistent with stakeholder theory, which posits that CSR initiatives can enhance a company's reputation and stakeholder relationships, leading to improved financial outcomes (Freeman & McVea, 2017). Interestingly, the OLS model reveals a statistically significant negative relationship between CSRDIe and TBQ (coefficient = -0.0063**), this is also consistent with the result of the 2SLS (coefficient = -0.0214**). However, this finding is contrary to the hypothesis of a positive relationship. Therefore, we reject the hypothesis that CSRDIe have a positive impact on market based financial

performance of TBQ. In terms of control variables, the results for SIZE and DR show mixed effects on CFP, highlighting the complexity of their relationships. The PID does not significantly impact financial performance, which suggest that the relationship between board composition and firm performance is context-dependent.

Generally, our research results align with the findings of Lu et al. (2020), Cheng et al. (2016) and Chen et al. (2018), who also reported significant positive outcomes which suggest that CSR practices have a direct influence on profitability and earnings in China. However, the negative correlation between CSRDIe and TBQ in our analysis contrasts with the positive relationship observed by Lu et al. (2020) from 2009 to 2014 results in China. This could be attributed to the market's perception of CSR investments as potentially detracting from short-term profitability (Ferrell et al., 2011), which is a view that may be more pronounced in emerging markets like Chengdu in China. This can be further clarified by examining the strategic perspectives on corporate ethics outlined by Ferrell et al. (2011). According to them, “the ethical strategies a firm chooses can significantly impact its long-term profitability and sustainability”. Therefore, although CSR activities may contribute to short-term financial gains such as accounting profits and EPS which reflect the immediate ethical behaviour of a company; their influence on market valuations measured by TBQ might involve more intricate dynamics. This observation can be also explained by the resource-based view, suggesting that CSR investments may exhaust resources required for other value-creating activities, potentially leading to reduced market valuations (Zahid et al., 2020). Qiu et al. (2021) explored the complex relationship between CSR disclosure and market valuation, noting that investors may react negatively to excessive CSR spending during periods of economic uncertainty, as it could be perceived as a diversion of resources away from core business operations.

Table 5 The regression results between CSRDIe and CFP

MODELS	Relationship between CSRDIe and CFP (ROA, EPS and TBQ)								
	OLS	2SLS	2SLS	OLS	2SLS	2SLS	OLS	2SLS	2SLS
Variables:	ROA	1st stage	2nd stage	EPS	1st stage	2nd stage	TBQ	1st stage	2nd stage
CSRDIe	0.0552** (0.0271)		0.105** (0.0458)	0.380** (0.188)		0.636** (0.294)	-0.0063** (0.0031)		-0.0214** (0.0093)
SIZE	-0.0241** (0.0116)	0.105** (0.0467)	-0.0277** (0.0132)	-0.110 (0.0814)	0.114** (0.0458)	-0.153* (0.0807)	0.128* (0.076)	6.103** (2.573)	0.233** (0.102)
PID	0.220 (0.211)	0.0494 (1.084)	0.316** (0.148)	1.775 (1.461)	0.0971 (1.090)	2.093* (1.233)	-1.288 (1.340)	10.07 (22.26)	-0.386 (0.750)
AGE	-0.0232 (0.0432)	-0.00126 (0.00832)	0.000378 (0.00123)	-0.110 (0.317)	-0.00228 (0.00832)	0.00481 (0.00896)	-0.648 (0.498)	-2.222 (9.719)	-0.744 (0.467)
DR	0.00423 (0.0235)	-0.170 (0.314)	0.0310 (0.0501)	0.0697 (0.157)	-0.198 (0.309)	0.350 (0.321)	-0.381 (0.309)	-1.134 (5.471)	-0.0524 (0.159)
L.ROA	0.341* (0.176)	-0.820 (0.756)	0.478** (0.206)						
L.EPS				0.576*** (0.163)	-0.133* (0.0746)	0.712*** (0.177)			
L.TBQ							0.841*** (0.0657)	-1.923 (1.321)	0.891*** (0.0659)
MME. (IV 1)		-0.206*** (0.0560)			-0.215*** (0.0560)			-9.767*** (2.898)	
Industry & Year effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-value	2.61**		2.03*	3.962***		4.20***	30.88***		38.27***
R-squared	0.259		0.248	0.346		0.432	0.752		0.695
Under identification test (LM statistic)			10.890***			11.564***			8.623***
Weak identification test (Wald F statistic)			14.287			15.423			11.359
Over identification test (Hansen J statistic)			YES			YES			YES

Notes: Observation N = 136; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

The results in the Table 6 show the impact of CSRDIq on key CFP indicators, namely ROA, EPS, and TBQ. Based on the OLS models, a positive association is observed between CSRDIq and the financial metrics, with significant coefficients for ROA (0.139, p < 0.01) and EPS (0.885, p < 0.01), suggesting that improved CSRDIq is linked to better financial performance in these areas. The 2SLS models, which adjust for endogeneity, support these findings, yielding similarly positive and significant coefficients in the second stage for ROA (0.132, p < 0.01) and EPS (1.190, p < 0.01). For TBQ, the OLS model shows a negative and significant coefficient for CSRDIq (-0.675, p < 0.01), implying a negative correlation. However, when employing the 2SLS approach to address endogeneity, the coefficient intensifies, becoming more negative at -0.954 (p < 0.01). This increased magnitude of the negative coefficient underscores the importance of utilizing

an IV method to achieve more precise estimations. The more pronounced negative coefficient in the 2SLS model indicates a stronger adverse effect of CSRDIq on TBQ after accounting for endogeneity.

Table 6 The regression results between CSRDIq and CFP

MODELS	Relationship between CSRDIq and CFP (ROA, EPS and TBQ)								
	OLS	2SLS	2SLS	OLS	2SLS	2SLS	OLS	2SLS	2SLS
VARIABLES	ROA	1 st stage	2 nd stage	EPS	1 st stage	2 nd stage	TBQ	1 st stage	2 nd stage
CSRDIq	0.139** (0.0519)		0.132** (0.0579)	0.885** (0.363)		1.190** (0.491)	-0.675** (0.286)		-0.954** (0.405)
SIZE	-0.0265** (0.0113)	0.0217* (0.0125)	-0.0144 (0.0108)	-0.119 (0.0800)	0.0291* (0.0168)	-0.137* (0.0772)	0.122 (0.0816)	0.0356** (0.0173)	0.107* (0.0566)
PID	0.235 (0.204)	-0.0103 (0.112)	0.144** (0.0586)	1.801 (1.426)	-0.196 (0.416)	2.041 (1.550)	-1.598 (1.466)	-0.0350 (0.163)	-0.710 (0.559)
AGE	-0.0168 (0.0419)	-0.0451 (0.0492)	0.00354 (0.0239)	-0.103 (0.308)	-0.154** (0.0624)	-0.0410 (0.295)	-0.713** (0.315)	-0.0842 (0.0672)	-0.717 (0.529)
DR	-0.00157 (0.0229)	0.0225 (0.0289)	-0.00482 (0.0194)	0.0334 (0.155)	-0.0216 (0.0292)	0.0187 (0.175)	-0.369 (0.408)	0.0167 (0.0420)	0.000505 (0.130)
L.ROA	0.282* (0.165)	0.108 (0.196)	0.407** (0.203)						
L.EPS					-0.0590 (0.0446)	0.519*** (0.190)			
L.TBQ							0.812*** (0.0638)	-0.0117 (0.0124)	0.870*** (0.0633)
MSQ. (IV 2)		0.0166*** (0.00137)			0.0169*** (0.00143)			0.0258*** (0.00221)	
Industry & Year effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-value	3.25***		1.85*	4.39***		4.14***	32.50***		65.29***
R-squared	0.302		0.277	0.370		0.360	0.762		0.760
Under identification test (LM statistic)			41.372***			32.850***			37.359***
Weak identification test (Wald F statistic)			147.469			140.512			136.270
Over identification test (Hansen J statistic)			YES			YES			YES
Endogeneity test (Chi-sq (1) P-val)			0.3210			0.1336			0.1027

Notes: Observation N = 136; Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Our findings indicate a positive relationship between CSRDIq and financial metrics such as ROA and EPS. These results align with the premise of stakeholder theory, which posits that addressing the needs of various stakeholders is essential for achieving financial success (Freeman and McVea, 2017). The positive coefficients suggest that higher-quality CSR disclosures can strengthen stakeholder relationships, ultimately improving a firm's operational efficiency and profitability. This is because stakeholders are more inclined to support and invest in companies that demonstrate a commitment to social responsibility (Brammer and Millington, 2008). By addressing stakeholder concerns through high-quality CSR disclosures, firms may boost their legitimacy, leading to better financial outcomes as investors and the public recognize their commitment to social values. In terms of relationship between CSRDIq and TBQ, high-quality CSR disclosures, as captured by CSRDIq, may lead to increased expectations among stakeholders, which if unmet, could negatively influence market perception and consequently, TBQ. If CSR initiatives are viewed as insufficient or insincere, they may detract from the firm's legitimacy and result in a lower TBQ. Our findings suggest that the relationship between CSRDIq and TBQ is not static and can be influenced by the dynamic interactions between firms and their stakeholders.

In recent years, CSR disclosure in the Chinese business landscape has shown notable growth. However, concerns remain about the quality of these disclosures. Chinese companies have faced criticism for insufficient transparency and inadequately communicating their CSR initiatives (Liu et al., 2015). High-quality CSR disclosure is crucial as it enhances a company's reputation, builds stakeholder trust, and contributes to long-term financial performance improvements (GRI, 2016). The integration of CSR into China's national development strategies is evident in the "Fourteenth Five-Year Plan," which promotes innovation, coordination, green development, openness, and sharing - principles that align closely with CSR. The Chinese government has played a pivotal role in advancing CSR through legislative and regulatory support, encouraging enterprises to fulfill their social responsibilities (Qian and Chen, 2020; Wang et al., 2022). State-owned enterprises are often expected to lead by example, while private enterprises increasingly recognize the competitive and reputational benefits of robust CSR practices (Wang et al., 2022). In Chengdu,

the government has taken a proactive stance, enabling companies to align with Sustainable Development Goals (SDGs) and manage risks related to ecological sustainability. This approach helps businesses safeguard long-term value, foster stakeholder trust, and enhance confidence among customers, investors, and the public.

Empirical studies in China highlight a complex relationship between CSR activities and financial performance. While CSR initiatives may initially increase operational costs and negatively affect short-term financial indicators like Return on Assets (ROA) and Earnings Per Share (EPS), their long-term benefits are significant (Bayoud et al., 2012; Kang et al., 2024; Nguyen et al., 2021; Purbawangsa et al., 2019; Yang et al., 2019). However, this study provides evidence suggesting that CSR practices can influence corporate financial performance (CFP) even in the short term, possibly driven by increasing investor interest in Environmental, Social, and Governance (ESG) factors within Chengdu. ESG considerations are becoming critical in assessing a company's sustainability and long-term prospects. The regression analysis also reveals a significant negative impact of CSR activities on Tobin's Q (TBQ), reflecting the complex dynamics in play. For instance, market perceptions may associate CSR investments with higher operational costs, potentially affecting firm valuation (Liang and Chen, 2024; Pan and Zhao, 2022). In short, the finding suggests that the effects of CSR disclosure on financial metrics like ROA, EPS, and TBQ are multifaceted and shaped by Chengdu's economic and policy environment. While CSR initiatives may pose short-term challenges to financial performance, their long-term contributions to enterprise sustainability and success are increasingly evident in Chengdu and across China.

CONCLUSION

This study examined the complex relationship between CSR disclosures and corporate financial performance (CFP). Utilizing OLS and 2SLS estimation methods, the results demonstrated a statistically significant positive relationship between the extent and quality of CSR disclosures and financial performance indicators, such as ROA and EPS. However, a significant negative association was observed between CSR disclosure levels and quality and market-based financial metrics, such as Tobin's Q. These findings suggest that enterprises adopting higher levels and quality of CSR disclosures can achieve improved financial performance in the short term, despite potential challenges in market valuation.

Although the impact of CSR disclosure on short-term market-based financial performance may not be immediate, it has the potential to enhance reputation, build trust, and drive long-term financial success. This study advocates for improving the scope and quality of CSR disclosures within a voluntary framework but also acknowledges the possible benefits of a mandatory approach. For enterprises in Chengdu, it is recommended to actively adhere to relevant CSR guidelines and authenticate their CSR information to strengthen their position in global industrial and supply chains. Moreover, the growing preference among investors for companies with strong CSR practices can positively influence stock prices and market capitalization, ultimately boosting TBQ (Bizoumi et al., 2019; Liu, 2023; Park and Jang, 2021). Such practices can lead to operational efficiencies and foster innovation, further enhancing the company's competitive advantage and contributing to improved TBQ.

Building on these findings, this study contributes to Chengdu's sustainable development goals by advocating for a robust CSR information disclosure mechanism. Policymakers could consider incentivizing corporations to voluntarily disclose more CSR information through measures such as tax benefits or regulatory advantages. Additionally, they may explore mandating the disclosure of specific CSR information based on frameworks like CASS-CSR and GRI. This approach would help listed companies define the scope and address issues related to CSR disclosures, fostering greater transparency and accountability.

Our findings represent a preliminary exploration of the relationship between CSR disclosure practices and corporate financial performance (CFP) in Chengdu. However, this study has limitations, including reliance on annual reports, a limited study period, and a relatively small sample size. Future research could address these limitations by utilizing larger, more diverse samples and alternative data sources, thereby offering deeper insights into CSR practices and their impact on financial performance in Chengdu.

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