Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Research paper

Can corporate social responsibility protect firm value during the COVID-19 pandemic?

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ABSTRACT

The novel coronavirus (COVID-19) pandemic has caused a significant decline in the stock market worldwide, and hospitality companies are experiencing serious financial problems. Protecting and preserving firm value is a critical way of helping hospitality companies survive the crisis. The influence of corporate social responsibility (CSR) on firm value has been widely investigated. However, little is known about the stock price movement following CSR activity adoption during an industrial crisis. Using event study and difference-in-difference method, this study reveals that engaging in CSR activities can increase the stock returns and stakeholder attention of hospitality firms during the pandemic. Community-related CSR has a stronger and more immediate effect on stock returns than customer- and employee-related CSR. Results also indicate that hospitality firms that pursue improved stock market performance during a pandemic can invest in CSR to protect communities, customers, and employees for attracting further stakeholder attention.

1. Introduction

Recent literature (e.g., Goodell, 2020; Rizwan et al., 2020; Zhang et al., 2020) has highlighted the serious impact of the novel coronavirus (COVID-19) on global capital markets. For instance, strong volatility and contagion effects were observed in capital markets of China, the epicenter of the pandemic, at the beginning of the global outbreak (Corbet et al., 2020). Systemic risks of banking industries and stock markets of affected countries increased sharply (Rizwan et al., 2020; Zhang et al., 2020) and are positively associated with the severity of outbreaks (Zhang et al., 2020).

Capital markets in the hospitality industry have also suffered. Lockdowns and the imposition of worldwide travel and convention restrictions to contain the virus and limit its transmission have caused critical financial problems to numerous companies in the hospitality industry (Gössling et al., 2020; Hao et al., 2020). Researchers claimed that firm value in the hospitality industry is more sensitive to pandemics than in many other industries (e.g., Chen et al., 2007; Zopiatis et al., 2019). This argument is supported by recent findings that Asian stock markets in the transportation, lodging and catering sectors experienced a greater negative impact of COVID-19 than other sectors (Liu et al., 2020).

Although the negative impact of pandemics and other crises on hospitality firm value has been affirmed (Chen et al., 2007; Hadi et al., 2020; Seo et al., 2013; Zopiatis et al., 2019), little attention has been paid to individual corporate efforts that are intended to mitigate that impact. Several studies on these efforts have been written about the SARS outbreak. Such studies have discussed the reactions of individual companies to business declines and measures taken to recover the confidence of markets. Most of these studies are qualitative or focus on individual firms or destinations (e.g., Au and Yeung, 2005; Gu and Wall, 2006; Kim et al., 2005). Some of these studies have proposed future crisis management measures on the basis of market reactions to SARS (e.g., Mao and Lee, 2010; Zeng et al., 2005; Zhang et al., 2005). To the best knowledge of the authors, little is known about the actual effect of certain practices in response to pandemics on stock markets. To fill in the gap, this study focuses on the influence of corporate social responsibility activities of hospitality firms on their stock returns during the COVID-19 pandemic to observe whether or not investors have positive reactions to the market.

During a pandemic, the public often expects hospitality firms to be socially responsible in taking actions that may affect public health. As a

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consequence, many companies have attempted to combat the spread of COVID-19 and protect their stakeholders such as employees, customers, and communities, despite intense financial pressure (Mao et al., 2020). For example, at the beginning of the outbreak in China, airlines, hotels, and travel agents agreed to cancel reservations without a fee or penalty. Many hotels around the world offered free rooms for medical staff and discounts on rooms for self-isolation (Walker, 2020). Hospitality businesses that could accept customers undertook new health and safety measures and raised their hygiene standards to protect employees and customers (Asaf, 2020). After reopening to the public, many tourism attractions and resorts in China provided 12 months of free access to medical staff in a show of gratitude (Yang and Yang, 2020). Such voluntary activities that extend stakeholder benefit beyond shareholder benefit are referred to as corporate social responsibility (CSR) (Carroll and Shabana, 2010).

Although CSR initiatives are usually encouraged to improve and sustain long-term corporate financial performance (Feng et al., 2018; Flammer, 2013), according to instrumental stakeholder theory (Jones, 1995), whether companies should invest in CSR during difficult times remains controversial. CSR activities involve investment to improve social well-being with or without direct benefit to corporate financial well-being. On the one hand, corporate images are benefited by appropriate CSR activities that satisfy different stakeholders (Franco et al., 2020; Rhou and Singal, 2020) and that contribute to favorable evaluations in capital markets (Flammer, 2013; Madsen and Rodgers, 2015). On the other hand, according to the slack resource hypothesis (Lee et al., 2013), CSR activities often incur substantial extra costs which can undermine the financial well-being of companies under the weight of industrial crises or natural disasters. As a result, companies may be undervalued in capital markets.

Lee et al. (2013) claim that during recessions, non-operations-related CSR (e.g., community relations) may cause a tremendous drop in firm value, but operations-related CSR (e.g., employee and environmental relations) increases it. Karaibrahimoglu (2010) finds that during financial crises there is a significant drop in the number and extent of CSR activities among Fortune 500 companies. Therefore, a thorough understanding of the effect of CSR on stock returns during the COVID-19 pandemic can help hospitality businesses plan their CSR agenda in future crises. This study addresses the following research questions (RQs):

RQ1: What are the reactions of investors to CSR activities during the COVID-19 pandemic?
RQ2: To what extent and how soon can CSR activities affect stock returns during the COVID-19 pandemic?
RQ3: What types of CSR activities are effective in increasing company stock returns during the COVID-19 pandemic?

2. Literature review

Among the stakeholders engaged in CSR are employees, shareholders, managers, consumers, non-government organizations, governments, ecosystems, suppliers, and communities (Font and Lynes, 2018). Examples of CSR activities include the improvement of staff benefit; reduction of energy use; protection of the natural environment; performance of philanthropic activities, such as donation and voluntary services; production of products integrating social attributes; and support for local communities. The degree and breadth of responsibility that an organization acknowledges to society is determined by the ways in which the CSR strategies of the organization define and engage stakeholders (Dahlsrud, 2008).

An evaluation of the research progress in hospitality and tourism literature by Font and Lynes (2018) shows that the lens used to investigate CSR is often determined by the practical purposes of research, such as using CSR to increase profits, improve political performance, or emphasize stakeholder accountability. Jones' (1995) instrumental stakeholder theory points out that CSR toward non-shareholding stakeholders is an investment that can be instrumental in improving financial performance. CSR initiatives, although costly to implement, can generate other management benefits and revenues and reduce other types of corporate costs (Feng et al., 2018).

2.1. Financial effects of hospitality firm CSR

The financial effect of CSR activities of hospitality firms has attracted increasing academic attention. According to Rhou and Singal's (2020) review of more than 170 articles on the relationship between CSR and organizational performance, the impact of CSR activities on the stock market performance of hospitality firms remains inconclusive. For example, Kang et al.'s (2010) investigation of the effect of CSR on the price-earnings ratio and Tobin's Q of airline, hotel, casino, and restaurant companies arrived at mixed findings. Youn et al. (2016) claim that positive CSR practices lead to increased Tobin's Q for quick service restaurants but not for fine dining restaurants. Franco et al. (2020) identify a U-shape relationship between CSR and return on equity. They argue that stakeholders only reward companies with high CSR performance and may punish those with weak CSR results; therefore, investment in CSR does not necessarily generate sufficient benefit.

However, studies of stock price movement following CSR activities are limited in the hospitality literature. Therefore, discrepancies in previous findings offer great opportunities for current studies to fill the knowledge gap by investigating the influence of CSR on stock returns during a pandemic. Based on the review by Rhou and Singal (2020), stakeholders of CSR activities that have been mostly investigated are environment, customers, employees, and communities. Although the effect of pandemic-related CSR on the stock prices of hospitality firms is not fully understood, previous studies of CSR toward customers, employees, and communities (i.e., stakeholders vulnerable to pandemics) provide a theoretical basis to this inquiry.

2.1.1. Financial effects of CSR on customers

Research on CSR toward customers has focused on product safety and customer well-being. For instance, failure in a food safety operation is usually followed by lawsuits and unflattering publicity which results in a significant decrease in sales and loss of market confidence (Swanger and Rutherford, 2004). In contrast, CSR activities, such as disclosure of nutritional and ingredient information (Fakih et al., 2016), use of non-genetically modified food (Lu and Gursoy, 2017), and suggestion of healthy alternatives (Lee et al., 2014), that show a hospitality firm's concern for customer well-being may bring extra benefit by increasing customer loyalty.

In the era of COVID-19, customer safety and well-being are particularly salient components of CSR given the changes in people's daily routines (Wen et al., 2020). Hospitality firms' ability to protect customers from infection is critical for rebuilding market confidence to survive the crisis (Hao et al., 2020). Hence, companies' customer protection measures such as hygiene practices, contactless services and healthcare facilities may receive a lot of attention by the public and potential investors (Jiang and Wen, 2020). In sum, CSR toward customers has a significant and instant impact on corporate financial performance, which may then benefit stock returns during a crisis.

2.1.2. Financial effects of CSR toward employees

Empirical findings indicate that, as implied by social exchange theory (Emerson, 1976), CSR toward employees is instrumental in their reciprocal behaviors, which may improve stock market performance by attracting, motivating, and retaining employees (Li et al., 2016; McGinley et al., 2017; Park et al., 2017). Park et al. (2017) identify an inverted U-shaped relationship between socially irresponsible human resource practices (e.g., unfair pay, layoffs, and unpaid overtime) and unsystematic firm risks. Li et al. (2016) also find that the failure of

employee protection rights, such as sexual harassment, diminishes job engagement and proactive customer service performance. More recently, Mao et al. (2020) conclude that CSR activities can improve employees' psychological capital in terms of self-efficacy, hope, resilience and optimism during the COVID-19 pandemic. Organizational commitment to employees' well-being enhances their confidence, motivates them to endure hardships and cultivates resilience in adversity, ensuring healthy operation of hospitality firms and probably strengthening investors' confidence. However, very few studies have confirmed the direct financial impact of employee-related CSR, considering the labor-intensive nature of the hospitality industry (Singal, 2015).

2.1.3. Financial effects of CSR toward communities

As reflected in recent reviews, CSR toward communities, such as philanthropic giving and disaster relief, seems to have been seldom studied (Font and Lynes, 2018; Rhou and Singal, 2020). Of these, Henderson (2007) explores hotels in Phuket, Thailand that provided food and rooms for disaster relief after a tsunami. Despite the loss of revenue in the affected area, the assistance of these hotels in community recovery helped enhance corporate image and reap future financial returns. Chen et al. (2017) indicate that the relationship between charitable giving and profit depends on the competitive advantage that brand diff ;erentiation and customer loyalty confer on companies through charitable giving. Chen (2019) states that the positive corporate image through corporate giving can improve employees' morale and enhance their productivity, thus reducing production and operations costs and strengthening firm performance.

Despite the limited research, practical evidence shows that corporate philanthropy in the hospitality industry is prevalent and especially appreciated by local communities during disasters (Rhou and Singal, 2020). The strategic advantages of CSR toward communities highlight the prominence of branding and diff ;erentiation that are crucial to success in this industry (Singal, 2015). Therefore, hospitality firms engaged in philanthropic activities, such as donation, room and/or food provision, and volunteering, may increase investors' confidence in future returns. Moreover, the effect of community-related CSR may be particularly significant during the pandemic. As suggested by Jiang and Wen (2020), healthcare facilities and services will become more popular in hotels' marketing mix due to the COVID-19 pandemic. Many hotels have provided facilities and services such as quarantine stations and hospital extension services to help their community fight the virus (Hao et al., 2020). Hao et al. (2020) suggest that such CSR activities are essential for hotels' recovery from the impact of COVID-19.

2.2. Financial effects of CSR during crisis

During a disaster, company CSR activities are usually expected by the public to help relieve pain (Madsen and Rodgers, 2015). However, from a slack resource perspective, companies affected by disasters must reduce their investment in CSR to contain their costs (Lee et al., 2013). This paradox makes it worthwhile to observe whether investing in CSR during a disaster to consolidate corporate financial performance is wise. Stakeholder attention theory and the social capital concept may offer useful perspectives (Lins et al., 2017; Madsen and Rodgers, 2015).

Media coverage of CSR news affects investors' decisions (Greening and Gray, 1994; Mitchell et al., 1997). Favorable CSR news helps materialize CSR goals by promoting a positive corporate reputation among individual investors (Patten, 2008). Based on an analysis of the media coverage of CSR activities in eight categories, Pérez et al. (2020) claim that the influence of CSR news is less significant for low-profile industries (e.g., consumer goods and services) than high-profile industries (e.g., finance). In this process, stakeholder attention is a critical determinant of the success of CSR initiatives in generating financial benefit (Madsen and Rodgers, 2015). Engaging in CSR during a disaster may draw tremendous public attention to companies hoping to enhance their corporate image and influence investor decisions.

Based on the social capital concept, Lins et al. (2017) demonstrate that high-CSR firms have excess stock returns during financial crises because of high profitability, margin, sales growth, and employee productivity compared to low-CSR firms. They explain that social capital built through CSR activities can facilitate stakeholder cooperation by fostering trust and reducing the need for formal contracts. During financial crises, investors seek metrics such as social capital ratings that speak to the trustworthiness of firms against the declination of the public trust.

In support of this argument, He and Harris (2020) propose that COVID-19 will raise people's expectation on CSR and classify businesses according to their CSR attitudes. Due to strong pressure of survival and lack of disposable resources, the genuineness of companies' CSR strategies is being tested and those with genuine CSR can build stronger rapport among their customers and the public. Hence, they predict that companies that thrive in the post-pandemic period are those with strong CSR commitment and effective CSR strategies (He and Harris, 2020). Kim et al. (2020) also find that restaurants' CSR engagement can improve their resilience to unexpected negative events such as epidemic outbreaks because of enhanced brand reliability. By combining the stakeholder attention and social capital concepts, this study proposes that firm CSR activities, as reported in news during the COVID-19 pandemic, should draw significant stakeholder attention and increase firm social capital to enhance stock performance.

Hypothesis 1(H1). CSR activities improved the stock returns of hospitality firms during the COVID-19 pandemic.

Only when CSR activities are known to stakeholders can they improve corporate financial performance (Madsen and Rodgers, 2015; Rhou and Singal, 2020). In stock markets, the CSR effect takes place when media transmits relevant information to potential investors, usually via news reports (Pérez et al., 2020). Therefore, previous studies have focused on the influence of CSR news on firm value (Ender and Brinckmann, 2019; Flammer, 2013; Wang and Chen, 2017). For instance, stakeholder attention, as measured by newspaper coverage, has been identified as a key mediator between firm disaster relief activities and stock returns (Madsen and Rodgers, 2015).

The effect of COVID-19 related news on stock price movement has been identified (Cepoi, 2020). Increased stakeholder attention has also been observed among companies whose CSR activities are reported in mass media (Flammer, 2013; Patten, 2008). In the same vein, this study investigates companies whose CSR activities are reported on news and analyzes the stock price movement in the wake of that news. The study proposes that companies can receive stakeholder attention after the news has covered their CSR activities, resulting in the positive stock evaluations of potential investors during the COVID-19 pandemic.

Hypothesis 2 (H2). During the COVID-19 pandemic, companies attracted further stakeholder attention after their CSR activities were reported on news.

Different types of CSR activities may exert distinctive influences on stock returns based on the salience of the affected stakeholders. As suggested by Mitchell et al.'s (1997) stakeholder salience theory, managers should give different priority to stakeholder claims according to such relationship attributes as power, legitimacy and urgency. Mitchell et al.'s theory has been confirmed and extended by Bruna and Nicolò (2020) to establish a theoretical model that links CSR and corporate reputation. Stakeholders with higher salience in the COVID-19 pandemic should have a stronger influence on stock prices and need to be first considered in hospitality firms' CSR strategies. As previous studies have indicated, communities, customers and employees are the most vulnerable to pandemic (e.g., Au and Yeung, 2005; Gu and Wall, 2006; Hao et al., 2020; He and Harris, 2020). However, due to a lack of literature, it is difficult to identify the salience of different stakeholders in this case.

As discussed earlier, the health of customers and employees is a

salient if not an urgent concern of hospitality firms, and something that directly affects their financial performance during the COVID-19 pandemic (Hao et al., 2020; Jiang and Wen, 2020). Customer and employee well-being are also necessary for a company to remain in operation. Because COVID-19 has become a global concern that affects everyone's life, the power and legitimacy of the community is significantly higher (He and Harris, 2020). Although the health of a community may not directly affect hospitality firms' operation, commitment to that community's anti-pandemic actions should attract significant media attention (Flammer, 2013; Singal, 2015) and generate a particularly good public image (He and Harris, 2020), enhancing the confidence of potential investors. Therefore, CSR toward communities, customers and employees should have different effects on stock returns and stakeholder attention.

Hypothesis 3 (H3). CSR activities toward different stakeholders have different effects on stock returns and stakeholder attention.

3. Methodology

3.1. Event study method

To answer the research questions, event study method (ESM) is used to examine the stock price movement after firm CSR activities are reported on the news. ESM has been extensively used to estimate the impact of particular events on stock returns, including crises in the hospitality industry (Chen et al., 2007; Hadi et al., 2020; Seo et al., 2013). For example, using the stock market data in Taiwan during the SARS outbreak, Chen et al. (2007) demonstrate that hotel stock performance is particularly sensitive to pandemics. Moreover, Zopiatis et al. (2019) identify negative reactions of hospitality- and tourism-related stock return indices to different types of global crises, including terrorism, natural catastrophes, and wars. Hadi et al. (2020) also illustrate the significant adverse effect of terrorist attacks on the stock performance of hospitality companies in six countries. In general, negative abnormal stock returns follow crises, manifesting a negative influence of such events on firms' future value.

These studies demonstrate that ESM enables researchers to identify immediate stock price movements because of macro or firm-specific events and their cumulative impact. Abnormal returns and cumulative abnormal returns (*CAR*) are common measures of firm value variation. Although the negative impact of crises on firm value has been well documented using ESM, little attention has been paid to corporate responses to these events to mitigate the declination. As previously discussed, the contribution of CSR to the financial performance of the hospitality industry has been well documented. However, few studies have explored its effect on saving stock prices during industrial crises. Hence, this study uses ESM to investigate the effect of CSR activities on the stock returns of individual firms during the COVID-19 pandemic.

3.2. Research design

The first analysis is an event study considering *CAR* following CSR press releases. This analysis documents stock market reactions to CSR activity. $CAR_{i(t_1,t_2)}$ is the cumulative abnormal return of security *i* around the CSR press release measured over a window (days t_1 to t_2 relative to the release date). Market-adjusted method and value-weighted market returns are employed to estimate expected returns (Arthur and Cook, 2004; Brown and Warner, 1985).

The market-adjusted method is estimated for each firm over a 30-day period with a minimum of five days prior to the CSR activities of each corporation. First, the firm's stock return was regressed against the return of market index to control for the overall market effects (Model (1))

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \quad (1)$$

where R_{it} is the return of security i on day t, and R_{mt} is the return of market index on day t. ε_{it} is the random disturbances.

Then we conduct ordinary least squares (OLSs) regression analysis to obtain estimates of market model parameters $\widehat{\alpha}_i$ and $\widehat{\beta}_i$ (Model (2)):

$$ER_{it} = \widehat{\alpha}_i + \widehat{\beta}_i R_{mt}. \quad (2)$$

Finally, abnormal return (AR) was calculated by subtracting the expected return from the stock return (Model (3)) and cumulative abnormal return (*CAR*) for security i over the event window of days t_1 through t_2 is (Model (4)):

$$AR_{it} = R_{it} - ER_{it} \quad (3)$$

and

$$CAR_{i(t_1,t_2)} = \sum_{t=t_1}^{t_2} AR_{it}. \quad (4)$$

To test H2, we use the difference-in-difference method following Bertrand and Mullainathan (1999a, 1999b, 2003) and Low (2009). Specifically, we use the following Stakeholder Attention Model as given in Model (5) to examine the relationship between CSR activity and stakeholder attention.

$$\begin{aligned} Cdindex = {} & \alpha 0 + \alpha 1 Treat\_CSR + \alpha 2 Post\_CSR + \alpha 3 Growth + \alpha 4 Roa \\ & + \alpha 5 Loss + \alpha 6 Size + \alpha 7 Lev + \alpha 8 Stkhd + \alpha 9 Board + \varepsilon \end{aligned} \quad (5)$$

where dependent variable *Cdindex* is the sum of the Baidu Search Index (BSI) frequency of company stock code from December 1, 2019 to May 31, 2020. The dummy variable *Treat_CSR* equals 1 if companies are in the treatment group (CSR activity adopters) and equals 0 if companies belong to the control group (non-CSR activity adopters); and *Post_CSR* equals 1 for firm days in which CSR activity adopters have CSR activities in place, and 0 otherwise.

The coefficient of *Treat_CSR*, α_1, represents the difference in the stakeholder attention between firms in the treatment and control groups during the pre-adoption period. The coefficient on *Post_CSR*, α 2, measures the change in the stakeholder attention across pre- and post-adoption periods for firms in the treatment group compared with the change over the same interval for firms in the control group. We also control several firm characteristics in Model (5) that may influence the amount of stakeholder attention that firms receive. *Growth* is the one-year percentage growth in sales. *Roa* is the income before extraordinary items divided by lagged total assets. *Loss* is a dummy variable that equals 1 for firms reporting net losses, and 0 otherwise. *Size* is the natural logarithm of total assets. *Lev* is the total liability divided by total assets. *Stkhd* is the natural logarithm of the number of shareholders. *Board* is the number of directors. In addition, the *t* statistics are corrected for heteroskedasticity (Petersen 2009).

3.3. Sample selection

Our initial sample consists of all hospitality companies listed in China Stock Exchanges with available data in the China Stock Market and Accounting Research (CSMAR) database. We follow the industry classification scheme of China Securities Regulatory Commission to identify hospitality companies. Appendix A contains detailed information of these companies. China Stock Market is selected as our sample because China was the first country to impose lockdowns and travel restrictions. It was also the first country to reopen attractions and hospitality businesses. Moreover, the nationwide free cancellation policy, implemented on January 21, 2020, caused a brief but dramatic decline in business, one that had a critical impact on the country's hospitality industry. The findings should provide useful information for other countries undergoing or recovering from lockdowns.

The sample period of CSR activities spans from January 20, 2020, the day when the Chinese government admitted human-to-human

transmission of the virus, to February 19, 2020, the day that the first tourism attraction, West Lake in Hangzhou City, reopened to the public. This period represents the process from countrywide lockdowns (free cancellation began on January 21, 2020, and Wuhan was locked down on January 23, 2020) to the reopening of hospitality businesses in China. Hospitality firms were under the heaviest financial pressure when almost all businesses were suspended.

Firm CSR activities are identified from news that discuss COVID-19-related firm activities during this period. News items are retrieved from Baidu news search engine with Python program by identifying "all news" containing the search keywords that are combined with company names and COVID-19-related key words. For example, "Quan Ju De + pandemic" (in Chinese) is a keyword to identify news reports covering COVID-19 pandemic events associated with Quan Ju De company. Subsequently, CSR-related news reports are manually identified on the basis of the definition and operationalization of the CSR in the study by Hu et al. (2018). Their study conceptualizes the CSR structure of Chinese hospitality firms and provides a sound foundation for CSR studies on China's hospitality industry. For instance, corporate activities in the news should be consistent with at least one category of the CSR classification by Hu et al. (2018) (e.g., economy, community, employee, customer, politics, environment, law, and partner) to be identified as CSR activities.

The event date of companies is the first date that information regarding pandemic-related CSR activities is released in the media. To test the market reactions to CSR activities during the COVID-19 pandemic, we restrict the sample to companies with CSR activities. The sample comprises 28 firms with completed stock return data in the CSMAR database around CSR activity press releases.

Following prior literature (Yu and Zhang, 2012; Zhi et al., 2011), we use daily company-related BSI to proxy stakeholder attention. BSI is an effective proxy for stakeholder attention because most web searches originating from China are submitted through the Baidu search engine (http://www.baidu.com/). Baidu is the most popular search engine in China, and the Baidu search volume is provided as a weighted index and available to the public. The shared Baidu index platform contains search behavior data for numerous search terms with Baidu search engine by internet users. Given the ubiquity of the internet in the study area and the stability of the Baidu search platform, we collect daily company-related search queries from the Baidu database (http://index.baidu.com) for each publicly traded hospitality company from December 1, 2019 to May 31, 2020.

After excluding firms without financial data, our sample consisted of 40 firms (6080 firm-day observations), of which 28 engaged in CSR activities during the COVID-19 pandemic. These 28 CSR activity adopters comprise our treatment sample. The remaining 12 firms did not engage in any CSR activities during our sample period. These non-adopters comprise our control sample. For the 28 firms with CSR activities, we search news releases to identify the date on which they initiated their CSR activities.

Table 1 provides descriptive statistics for the sample used to test the relationship between stakeholder attention and CSR activity. The sample spans from December 1, 2019 to May 31, 2020, with 4104 CSR activity firm-days and 1976 non-CSR activity firm-days. We find that CSR adopter firms have higher stakeholder attention than control firms. Turning to firm characteristics, we observe that relative to non-adopters, CSR adopters are larger, have higher sales growth and liquidity, lower leverage, and better profitability. In terms of corporate governance, CSR adopters have large boards and many shareholders.

The Pearson correlation coefficients between dependent and independent variables are presented in Table 2. First, the correlation between *Treat_CSR* and *Cdindex* is positive and significant, indicating that stakeholders pay more attention to CSR adopter companies before they adopt CSR activities. Second, *Cdindex* is positively related to *Post_CSR* (significant at the 0.01 level), implying that CSR activities help companies attract attention from additional stakeholders. Third, *Cdindex* is positively related to *Size*, *Loss*, *Growth*, and *Srkhd* and negatively related to *Roa* and *Board* (significant at the 0.01 level), indicating that stakeholders pay attention if firms are large, unprofitable, have high sales growth, and have many shareholders.

4. Empirical results

4.1. Stock market reaction to CSR activities

The results of the event study examining the effect of CSR activity adoption on *CAR* are reported in Table 3. The average *CAR* in the full sample ranges from 0.021 to 0.162 for various event windows. CSR activities cause great positive reactions with statistically significant impacts on company stock returns by 2.1 % and 16.2 % during window periods (+1, +5) and (+1, +50), respectively. These results imply that stakeholders rewarded companies with CSR during the COVID-19 pandemic, consistent with H1.

Table 1
Descriptive statistics and t-tests.

Variable	Section A: Descriptive statistics							Section B: t-tests				
	(1)							(2)		(3)		(4)
	Descriptive statistics [N = 6080]							*Treat_CSR* = 0 [N = 1976]		*Treat_CSR* = 1 [N = 4104]		t-tests
	Mean	Std. Dev.	min	p25	median	p75	max	Mean	Std. Dev.	Mean	Std. Dev.	difference
Cdindex	222.723	138.960	.000	137.000	195.000	294.000	629.000	17.630	136.7756	247.806	132.9226	−77.176***
Treat_CSR	.675	.468	.000	.000	1.000	1.000	1.000	.000	.000	–	–	–
Post_CSR	.384	.486	.000	.000	.000	1.000	1.000	.000	.000	.569	.000	−.569***
Treat_com	.475	.499	.000	.000	.000	1.000	1.000	.000	.000	.704	1.000	−.704***
Post_com	.250	.433	.000	.000	.000	.500	1.000	.000	.000	.370	.000	−.370***
Treat_emp	.325	.468	.000	.000	.000	1.000	1.000	.000	.000	.481	.000	−.481***
Post_emp	.185	.388	.000	.000	.000	.000	1.000	.000	.000	.274	.000	−.274***
Treat_cus	.475	.499	.000	.000	.000	1.000	1.000	.000	.000	.704	1.000	−.704***
Post_cus	.270	.444	.000	.000	.000	1.000	1.000	.000	.000	.400	.000	−.400***
Growth	.019	.145	−.325	−.081	.024	.143	.290	.009	.164	.023	.134	−.014***
Roa	−.009	.140	−.507	.006	.023	.059	.176	−.051	.178	.011	.112	−.063***
Loss	.200	.400	.000	.000	.000	.000	1.000	.308	.462	.148	.355	.160***
Size	21.816	1.429	18.276	21.045	21.789	22.602	24.384	21.470	1.712	21.980	1.236	−.517***
Lev	.387	.210	.059	.195	.412	.594	.899	.315	.331	.422	.438	−.107***
Stkhd	10.296	.660	8.149	9.906	10.439	10.692	11.443	10.513	.554	10.192	.682	.321***
Board	8.850	2.140	5.000	7.500	9.000	10.500	15.000	8.462	1.95	9.037	2.20	−.575***

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

Table 2
Pearson correlation analysis.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	*Cdindex*	1.000															
(2)	*Treat_CSR*	.260***	1.000														
(3)	*Post_CSR*	.297***	.548***	1.000													
(4)	*Treat_com*	.117***	.660***	.364***	1.000												
(5)	*Post_com*	.201***	.401***	.731***	.607***	1.000											
(6)	*Treat_emp*	.145***	.481***	.271***	.195***	.104***	1.000										
(7)	*Post_emp*	.164***	.330***	.588***	.142***	.319***	.686***	1.000									
(8)	*Treat_cus*	.249***	.660***	.375***	.398***	.249***	.302***	.209***	1.000								
(9)	*Post_cus*	.280***	.422***	.755***	.247***	.533***	.191***	.426***	.639***	1.000							
(10)	*Growth*	.146***	.044***	.029**	−.083***	−.056***	.135***	.088***	.241***	.152***	1.000						
(11)	*Roa*	−.085***	.210***	.125***	.191***	.118***	.199***	.137***	.217***	.147***	−.213***	1.000					
(12)	*Loss*	.162***	−.187***	−.115***	−.100***	−.058***	−.214***	−.161***	−.225***	−.155***	.175***	−.811***	1.000				
(13)	*Size*	.050***	.169***	.106***	.251***	.156***	.133***	.104***	.249***	.175***	−.016	.337***	−.286***	1.000			
(14)	*Lev*	.007	.238***	.132***	.180***	.123***	−0.003	−0.003	.069***	.048***	.141***	−.500***	.375***	.102***	1.000		
(15)	*Stkhd*	.171***	−.228***	−.132***	−.032**	−.016	−.228***	−.152***	.014	−.010	.173***	−.312***	.469***	.147***	−0.005	1.000	
(16)	*Board*	−0.112***	.126***	.056***	.137***	.067***	.173***	.127***	.160***	.088***	.162***	−.035***	.035***	.340***	.194***	.110***	1.000

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

Table 3
Abnormal market returns surrounding the CSR (event study).

	CSR = 1 [N = 28]	
Event window	Coefficient	*t*-value
[1–5]	.021**	2.36
[1–10]	.035***	3.21
[1–20]	.081***	3.51
[1–30]	.150***	3.94
[1–40]	.123***	2.89
[1–50]	.162***	3.49

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

4.2. Impact of CSR activities on stakeholder attention

We report the estimation results of Model (5) in Table 4. Column 1 in Table 4 reports the results of stakeholder attention to the overall CSR activities. The coefficient of *Treat_CSR* is significantly positive (80.150, $t = 19.06$). Given that this coefficient represents the difference in stakeholder attention between CSR adopters and control firms during the pre-adoption period, the positive coefficient suggests that CSR adopters have more stakeholder attention than control firms before undertaking CSR activities. The coefficient on *Post_CSR* is positive and significant (62.699, $t = 16.80$). The positive coefficient indicates that CSR adopters' stakeholder attention is significantly higher and subsequent to CSR adoption, after controlling for the change over the same interval for non-adopters. Moreover, the sum of the coefficients on *Treat_CSR* and *Post_CSR* is positive and significant ($F = 1242.15$), suggesting that CSR adopters have significantly more stakeholder attention during the post-adoption period than control firms.

We also re-estimate Model (5) after including date fix effect to control for the potential effects of macroeconomic and regulatory-specific factors on stakeholder attention (Adams and Ferreira, 2009). Column 2 in Table 4 reports the results, which are consistent with those discussed above, with the exception that *Treat_CSR* and *Post_CSR* coefficients reach statistical significance. Taken together, the results in Table 4 support H2 that CSR activities attracted stakeholder attention for hospitality companies during the COVID-19 pandemic.

4.3. Impact of different types of CSR on stakeholder attention

This study classifies CSR activities on the basis of Hu et al.'s (2018) categorization of stakeholders. Three types of CSR activities are identified in the sample: communities, customers, and employees. CSR toward communities includes donation, charitable giving, disaster relief, and

Table 4
Impact of CSR activities on stakeholder attention.

	Dependent variable= *Cdindex*			
	Regression (1)		Regression (2)	
Variable	Coefficient	*t*-value	Coefficient	*t*-value
Treat_CSR	80.150***	19.06	103.728***	25.95
Post_CSR	62.699***	16.80	20.769***	3.93
Growth	111.581***	9.27	113.089***	10.70
Roa	−97.613***	−3.76	−97.270***	−4.73
Loss	74.945***	8.26	74.625***	9.95
Size	15.094***	10.31	15.371***	12.54
Lev	−136.329***	−14.63	−135.692***	−17.81
Stkhd	22.851***	7.40	22.618***	8.25
Board	−13.829***	−14.99	−14.022***	−17.61
INTERCEPT	−262.761***	−8.61	−358.900***	−12.36
Date FE	NO		YES	
Adjusted R^2	.243		.449	
Observation	6080		6080	

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

volunteer service. CSR toward customers focuses on the prevention of virus transmission among customers and the supply of necessities during travel restrictions. CSR toward employees involves protection of employee rights, such as health, workplace safety, compensation, and employment. During the pandemic, most CSR activities were understandably designed to protect stakeholders who are vulnerable to infection. Hence, this study examines the difference between stock market reaction and stakeholder attention among the three CSR dimensions. As shown in Appendix B, the number of communities, customers, and employees CSR adopters are 19, 20, and 13, respectively. The total number of companies adopted CSR is 28 in the sample. Eighteen of the companies engaged in more than one type of CSR activity.

Table 5 reports separate results for the three dimensions of CSR activity. The *CAR* for community-related CSR are positive and significantly different from zero across all six event windows. The *CAR* for customer-related CSR activities is insignificant during the window of the first five trading days around CSR press releases. However, the coefficients become significant when the event windows expand to 10 days or longer. For employee-related CSR, the coefficient of *CAR* is only significant during the window of 20 and 30 trading days.

Table 6 reports the results of stakeholder attention to customer-, employee-, and community-related CSR activities. The positive and significant coefficients on *Treat_CSR* suggest that firms have CSR activities toward communities, employees, and customers and more stakeholder attention than control firms before taking these CSR activities. In addition, CSR adopters' stakeholder attention is significantly high and subsequent to community- and customer-related CSR adoption, after controlling for the change over the same interval for non-adopters. Overall, H3 was supported by our empirical results.

4.4. Additional tests: Effect of firms' historical CSR performance

Bruna and Nicolò (2020) report that young companies' corporate social commitment can be viewed as an anticipation of their future corporate social performance. If the announcement of a CSR engagement should be positively appreciated by the investors, this short-term impact will be influenced by the performance of the company's historical CSR practice and commitment.

To examine whether our empirical results are affected by companies' past CSR performance, we define a new variable *CSR_perf* to proxy company historical CSR performance. It equals 1 if the company disclosed CSR activities in financial statement or CSR report during the last five years, and 0 otherwise. In our sample, about 70 % companies disclosed at least one CSR activity in their financial statement or CSR report. Then we interact *Treat_CSR* and *Post_CSR* with *CSR_perf*. The empirical results as shown in Table 7. The coefficient of the interaction term *Post_CSR*CSR_perf* is significantly positive (68.764, t = 20.07). The positive coefficient indicates that CSR adopters with better historical CSR performance have additional stakeholder attention. The results suggest that investors appreciate companies' better historical CSR performance, so the CSR activities during the COVID-19 pandemic attracted

Table 5
Three types of CSR activities and Abnormal market returns.

	Community = 1 [N = 19]		Customer = 1 [N = 20]		Employee = 1 [N = 13]	
Event window	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value
[1–5]	.022***	2.76	.018	1.47	.004	.48
[1–10]	.046***	3.68	.038**	2.1	.032	1.62
[1–20]	.120***	4.06	.087***	3.01	.076*	2.33
[1–30]	.203***	5.8	.158***	3.37	.126*	2.03
[1–40]	.185***	4.11	.147***	2.72	.112	1.6
[1–50]	.228***	4.98	.181***	2.97	.129	1.58

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

Table 6
Impact of three types of CSR activities on stakeholder attention.

	Dependent variable= *Cdindex*											
	Community				Customer				Employee			
	Regression (1)		Regression (2)		Regression (3)		Regression (4)		Regression (5)		Regression (6)	
Variable	Coefficient	*t*-value value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value
Treat_CSR	11.343***	2.70	37.106***	9.26	48.941***	10.66	71.948***	16.91	38.380***	7.17	70.051***	14.33
Post_CSR	65.121***	15.64	15.589***	2.96	63.398***	13.17	22.760***	4.44	45.659***	7.18	−10.098	−1.61
Growth	157.984***	12.58	157.206***	14.00	65.877***	5.57	66.535***	6.60	107.782***	9.20	106.670***	10.73
Roa	−2.039	−0.07	2.039	.09	9.193	.36	8.511	.43	52.558**	2.07	46.512**	2.37
Loss	74.078***	7.80	74.658***	9.30	105.786***	11.25	106.012***	13.59	86.967***	9.22	84.369***	10.89
Size	14.019***	9.08	14.059***	10.62	13.052***	8.81	13.444***	10.81	13.784***	9.01	13.916***	10.78
Lev	−69.376***	−6.88	−66.444***	−7.91	−70.871***	−7.93	−70.862***	−9.66	−29.769***	−3.22	−30.077***	−3.97
Stkhd	9.692***	2.84	10.004***	3.19	4.366	1.32	3.659	1.22	21.653***	6.71	22.127***	7.77
Board	−12.934***	−13.56	−13.142***	−15.75	−13.420***	−13.03	−13.613***	−14.89	−14.709***	−15.74	−14.651***	−18.34
INTERCEPT	−81.006**	−2.41	−182.554***	−5.52	−23.401	−0.71	−119.001***	−3.76	−199.038***	−5.99	−310.715***	−9.81
Date FE	No		Yes		No		Yes		No		Yes	
Adjusted R^2	.140		.351		.190		.405		.141		.369	
Observation	6080		6080		6080		6080		6080		6080	

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

Table 7
Impact of historical CSR performance on the relation between CSR activities and stakeholder attention.

	Dependent variable= *Cdindex*			
	Regression (1)		Regression (2)	
Variable	Coefficient	*t*-value	Coefficient	*t*-value
Treat_CSR×CSR_perf	12.124***	2.64	34.669***	7.31
Post_CSR×CSR_perf	68.764***	20.07	29.604***	5.25
CSR_perf	−1.980	−.34	−1.930	−.36
Growth	116.706***	8.74	116.915***	9.67
Roa	26.121	0.96	28.027	1.30
Loss	71.747***	8.11	107.516***	12.92
Size	17.767***	11.52	18.048***	13.89
Lev	−88.668***	−9.77	−88.467***	−12.26
Stkhd	8.497**	2.52	8.265***	2.67
Board	−14.457***	−14.22	−14.654***	−16.39
INTERCEPT	−140.224***	−4.19	−235.439***	−7.19
Date FE	NO		YES	
Adjusted R^2	.146		.353	
Observation	6080		6080	

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

more attention from investors.

4.5. Robustness tests

4.5.1. Alternative measures of stakeholder attention

For all reported results, we first use *BSI* to examine the effect of CSR activities on stakeholder attention. We then use alternative measures of stakeholder attention in Model (5) to assess the robustness of our primary results reported in Table 4. We define *Attention* as the numbers of posts, pageviews (thousands), and comments on online stock forums. Table 8 shows that the coefficients on *Post_CSR* are positive and significant at the 0.01 level. The results indicate that CSR activities improved the online stock forum stakeholder attention for hospitality companies during the COVID-19 pandemic.

4.5.2. Controlling for firm marketing strategies

The results in Table 4 show a positive relation between CSR activities and stakeholder attention during the COVID-19 pandemic. However, this relation might be influenced by marketing strategies. To address this potential problem, we control firms' marketing strategies in the model. Marketing strategies are identified from news that was retrieved from Baidu news search engine by identifying news items containing the search keywords combined with company names, marketing strategy and COVID-19-related key words.

We define a dummy variable *Mktst* that equals 1 if the company adopted marketing strategies, and 0 otherwise. In our sample, 22.5 % of the companies adopted marketing strategies during the COVID-19 pandemic. We re-estimate our regression Model (5) after controlling for the adoption of firm marketing strategies. Table 9 indicates that the results are consistent with the main results, suggesting that the observed positive relation between CSR activities and stakeholder attention is robust to controlling for firm marketing strategies.

5. Conclusions, implications, and future research directions

ESM is conducted to examine the market reactions to the CSR activities of hospitality firms during the COVID-19 pandemic. On the basis of the sample of listed hospitality firms in China, this study finds that investors positively react to pandemic-related CSR activities which help protect communities, employees, and customers from the virus. In general, the positive effect of CSR on stock returns takes place in five days and can last as long as 50. In addition, stakeholder attention to companies significantly increases after the news has covered their CSR activities, along with positive abnormal stock returns. Specifically, CSR

Table 8
Alternative measures of stakeholder attention.

	Dependent variable = No_posts											
	Regression (1)		Regression (2)		Regression (3)		Regression (4)		Regression (5)		Regression (6)	
Variable	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value
Treat_CSR	3.684***	4.27	4.835***	5.81	2.497***	4.20	3.962***	7.05	5.004***	4.69	6.868***	6.54
Post_CSR	3.328***	3.98	4.044***	3.18	4.624***	7.95	2.470***	2.65	6.248***	5.82	4.048**	2.31
Growth	−10.136***	−4.41	−11.381***	−5.92	−8.184***	−5.21	−8.644***	−6.54	−11.681***	−4.10	−12.660***	−4.89
Roa	−36.452***	−5.86	−40.202***	−7.81	−27.761***	−7.23	−29.874***	−8.85	−44.114***	−6.04	−47.443***	−7.24
Loss	−4.188**	−2.27	−4.440***	−2.85	−3.624***	−3.30	−3.712***	−3.91	−4.318**	−2.04	−4.512**	−2.36
Size	1.059***	2.98	1.208***	3.98	.920**	4.24	1.046***	5.40	.763*	1.78	.933**	2.39
Lev	−14.140***	−6.33	−15.925***	−7.90	−10.266***	−6.98	−10.969***	−8.13	−13.677***	−5.05	−15.045***	−5.82
Stkhd	7.610***	10.06	8.227***	12.21	5.061***	10.40	5.227***	12.15	8.862***	9.89	9.321***	11.07
Board	−1.025***	−6.84	−1.140***	−8.40	−0.568***	−5.32	−0.650***	−6.97	−1.359***	−7.29	−1.486***	−8.45
INTERCEPT	−73.384***	−8.97	−95.312***	−12.59	−53.056***	−9.82	−66.355***	−13.12	−77.228***	−7.74	−99.564***	−10.14
Date FE	No		Yes		No		Yes		No		Yes	
Adjusted R^2	.097		.296		.112		.299		.098		.204	
Observation	3047		3047		3047		3047		3047		3047	

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

Table 9
Controlling for firm market strategies.

	Dependent variable = Cdindex			
	Regression (1)		Regression (2)	
Variable	Coefficient	*t*-value	Coefficient	*t*-value
Treat_CSR	77.216***	17.61	100.754***	24.74
Post_CSR	62.601***	16.78	20.495***	3.88
Mktst	10.405**	2.56	10.888***	3.14
Growth	112.948***	9.31	114.525***	10.73
Roa	−103.096***	−4.02	−103.006***	−5.11
Loss	71.747***	8.11	71.278***	9.82
Size	14.773***	10.14	15.036***	12.38
Lev	−133.931***	−14.30	−133.181***	−17.45
Stkhd	24.724***	8.54	24.577***	9.68
Board	−14.094***	−14.60	−14.300***	−16.99
INTERCEPT	−273.383***	−9.37	−370.128***	−13.34
Date FE	NO		YES	
Adjusted R^2	.244		.450	
Observation	6080		6080	

Note: ***, ** and * represent the 1%, 5% and 10 % levels of significance, respectively.

toward communities, such as charitable giving and disaster relief, had the strongest influence on stock returns during the crisis, followed by CSR toward customers, such as public health protection and hygiene standard improvement. Noticeably, CSR toward employees takes effect later than other types of CSR activities and then the effect fades quickly.

Although stock markets react quickly to critical events, the time required to take effect and the duration of effects vary by specific events and market environments (e.g., Ender and Brinckmann, 2019; Pérez et al., 2020; Seo at al., 2013). For instance, Madsen and Rodger (2015) find that stakeholder attention to firms' disaster relief efforts accumulates in five days to affect the stock market. This study also reveals that it takes at least five days for CSR news to generate positive stock market returns in China. Moreover, scholars have argued that CSR investment usually rewards slowly but constantly so its benefits on firm value are more likely to manifest in the long run (e.g., Cahan et al., 2016; Feng et al., 2018). This argument is supported by our study with evidence from stock markets. The sample indicates a 50-day return period during a pandemic, which is longer than that of many managerial tools (e.g., Agrawal and Kamakura, 1995; Geyskens et al., 2002). As explained by Lins et al. (2017), potential investors are willing to trust companies with good social capital when the market environment is terrible. Hence, CSR investment during the hardship should improve hospitality firms' reputation that strengthen investors' confidence over the long term.

The increase in stakeholder attention, as measured by an online search index, may have caused a rise in stock returns, following CSR press releases. Madsen and Rodgers (2015) confirm that stakeholder attention is a key mediator between CSR activities and stock returns. Companies may not financially benefit from CSR engagement unless this action triggers higher attention from stakeholders. This study indicates that hospitality firms can attract more attention from the public when their CSR activities, in response to pandemics, are reported by mass media. This increased attention can also convert to positive market firm evaluations. The growth of stakeholder attention also means increased awareness among potential investors, leading to an active exchange of shares, thereby protecting firm value against the impact of the industrial crisis.

Moreover, although there is insufficient evidence that the effect of CSR activities on stock price movement is more significant in the hospitality sector than in other sectors (Rhou and Singal, 2020), institutional theory (Greening and Gray, 1994) suggests that high-profile industries should be more sensitive to CSR news (Pérez et al., 2020). As mentioned earlier, hospitality firms are in the spotlight during the pandemic and are expected to be more socially responsible than before when it comes to public health (Jiang and Wen, 2020). Therefore, it is possible that the effect of CSR news is more salient for hospitality firms or the study results only apply to hospitality or other high-profile industries. Noticeably, the study findings may be limited to institutional and social-economic environments similar to China's. One should be cautious when applying the results to other financial markets.

5.1. Theoretical implications

This study fills in the research gap by identifying the upward stock price movement of hospitality firms after the adoption of CSR activities during a pandemic. The findings contribute to the debate about whether companies should invest in CSR during difficult times by using evidence from China's stock market during the COVID-19 pandemic. Although spending on CSR seems painful under financial pressure, stock market returns should justify the investment because capital markets are also critical for companies' ability to survive the crisis. This finding is consistent with Lins et al.'s (2017) argument that social capital built through CSR investment pays off during a financial crisis.

Our study goes a further step to show that continuing CSR investment during the crisis is also beneficial to companies' financial well-being. Yoshino et al.'s (2020) study agrees with this argument and suggests that both investors and governments should focus on companies' CSR engagement in the post COVID-19 era for achieving Sustainable Development Goals. This result also echoes He and Harris' (2020) expectation that companies with authentic and genuine CSR strategies will thrive after the pandemic based on evidence from stock markets. Positive abnormal stock returns during the crisis manifest key stakeholders' positive attitudes toward corporate decisions to commit to societal well-being and their willingness to support these companies.

These positive effects of CSR activities on firm values are consistent with findings of previous studies using samples in other countries or in non-crisis conditions (e.g., Chen et al., 2017; Ender and Brinckmann, 2019; Lee et al., 2014; Rhou and Singal, 2020; Wang and Chen, 2017). Unlike the finding of Lee et al. (2013) that philanthropic activities negatively affect financial performance during economic recessions, this study finds that in China's stock market this type of CSR is the most effective in stabilizing stock returns during a pandemic. This result indicates that CSR may have different effects on stock returns and other financial performance indicators such as Tobin's Q. Unlike recessions caused by other types of crisis, the COVID-19 pandemic makes stakeholders particularly sensitive to hospitality companies' activities that protect public health, which in turn contribute to stock returns due to significantly increased stakeholder attention (Madsen and Rodgers, 2015).

Therefore, although CSR toward communities may not bring sufficient benefit to financial performance in unfavorable economic conditions (Lee et al., 2013), it can help companies in stock markets as long as this CSR can generate further stakeholder attention. For example, during industrial crises caused by disasters (e.g., pandemics), companies that contribute to disaster relief tend to draw attention, especially from potential investors (Henderson, 2007; Madsen and Rodgers, 2015).

Previous studies show that CSR activities work differently in different types of crisis (e.g., economic, financial, natural disaster) (e.g., Lee et al., 2013; Lins et al., 2017; Madsen and Rodgers, 2015) and this study contributes to this field by demonstrating its functions in a pandemic. Consistent with Lins et al.'s (2017) argument that CSR activities can provide companies more social capital to resists a financial crisis that destroys trust, this study shows that social capital obtained through caring for most vulnerable stakeholders supports hospitality firms whose normal operation is at risk in a pandemic. At the same time, community-related CSR that offers assistance to society significantly and quickly benefits stock returns in both natural disasters and pandemics by raising stakeholder attention (Madsen and Rodgers, 2015). This type of CSR, however, may not work better than CSR toward customers or employees during economic recessions (Lee et al., 2013) because it may not draw as much attention as it does during a disaster.

5.2. Managerial implications

Several managerial implications can be derived from this research to help hospitality firms prepare for future pandemics. Publicly traded hospitality firms are encouraged to invest in CSR during pandemics to protect their firm value in stock markets. Although the future profitability of the hospitality industry becomes highly uncertain under the weight of the COVID-19 pandemic, firm CSR activities that help protect public health can generate high stakeholder attention and investor evaluation. Noticeably, our results suggest that hospitality firms should not only invest in CSR when a crisis happens but also commit to CSR regularly to increase the effectiveness of CSR investment during the crisis.

In addition, although taking care of all stakeholders during a pandemic is important, companies may realize that different CSR activities have varying effects on stock returns. Initiatives such as charitable giving and public health protection to limit or prevent virus transmission are more likely to attract external stakeholder attention, which then enhances potential investor evaluation. However, those potential investors may be less sensitive to CSR news that targets internal stakeholders (e.g., employees). Or they may be concerned about that the financial benefit of employee protection cannot justify the extra cost when the whole industry is under financial pressure. However, CSR toward employees also deserves investment to guarantee healthy operation (Mao et al., 2020).

Finally, shareholders should be confident in holding the stocks of companies with good CSR records during industrial crises. Potential investors must pay attention to CSR press releases in searching for stock exchange opportunities during industrial crises. Current shareholders can keep or sell their shares on the basis of the CSR performance of their companies during difficult times. Companies that engage in charitable giving and more rigorous hygiene standards may generate faster returns for stock investors than those that commit to employee protection in response to a pandemic.

5.3. Limitations and future studies

This study has certain limitations. The CSR activities are limited to those performed by companies listed on the China Stock Market and are classified into three types according to the main stakeholders who are affected. Only the activities during the total lockdown period are examined. Future research with a larger sample size and longer event period may allow researchers to observe other types of CSR activities; the results from different countries can also be compared to paint a comprehensive picture.

Another limitation is that only public companies are investigated; thus, the findings may not apply to private companies that also need investment during crises. The effect of stakeholder attention on the financial performance of private companies is rarely investigated in the literature. Given that ESM measures the impact of events on stock market reaction, examining the long-term impact of CSR activities is impossible in this study. Thus, the positive stock returns should not be generalized to extended periods. Future research can examine the effect of CSR activities during the COVID-19 pandemic on corporate financial performance in the following years. Moreover, ESM makes the comparison of stock price movement difficult between companies that engage in CSR activities and those that do not. To extend the findings, future studies may apply other methods to determine whether or not there is a difference in stock returns between the two types of companies.

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Declaration of Competing Interest

The authors report no declarations of interest.

Appendix A. List of sample firms

Code	Company name	Main business
000007	Shenzhen Quanxinhao	Hotel; Catering
000008	China High-Speed Railway	Tourist transportation; Catering
000428	Huatian Hotel	Hotel
000430	Zhang Jia Jie	Attraction operation; Travel agent
000524	Lingnan Holdings	Hotel; Travel agent
000610	Xi'an Tourism	Attraction operation; Travel agent
000613	Dadonghai A	Hotel; Travel agent
000721	Xi'an Catering	Catering
000796	CAISSA TOURISM	Catering; Travel agent; Souvenirs
000802	BJCT	Attraction operation
000888	Emei Shan A	Attraction operation; Hotel
000978	Guilin Tourism	Attraction operation; Travel agent
002033	Lijiang Yulong Tourism	Tourist transportation
002059	Yunnan Tourism	Attraction operation; Tourist transportation
002159	Sante Cableways	Tourist transportation; Hotel
002186	Quanjude	Catering
002306	CLTG	Catering
002558	Giant Network	E-commerce platform
200613	Dadonghai B	Hotel; Travel agent
300144	Songcheng	Attraction operation
300178	Tempus Global	Tourist transportation; Travel agent
600054	Huangshan Tourism	Attraction operation; Hotel; Catering
600138	China CYTS	Travel agent; Tourism development
600258	BTG Hotels	Travel agent; Hotels
600358	China United Travel	Attraction operation

(continued on next page)

(*continued*)

600555	HNA INNOVATION	Attraction operation; Hotel
600593	Sunasia	Attraction operation
600640	Besttone Holding	Hotel; Travel agent
600706	Qujiang Cultural Tourism	Attraction operation
600749	Tibet Tourism	Attraction operation; Travel agent
600754	JINJIANG HOTELS	Hotels
601007	Jinling Hotel	Hotels; Catering
601888	China International Travel	Travel agent
603043	Guangzhou Restaurant	Catering
603099	Changbai Mountain	Attraction operation; Tourist transportation
603199	Jiuhuashan Tourism	Tourist transportation; Hotel
603869	ENC Digital Technology	E-commerce platform
900929	Jinjiang International Travel B	Travel agent; Hotel
900934	JINJIANG HOTELS B	Hotel
900942	Huangshan Tourism B	Attraction operation; Hotel; Catering
900955	HNA INNOVATION B	Attraction operation; Hotel

Appendix B. List of CSR activities

Code	Company name	Community	Customer	Employee	CSR
000007	Shenzhen Quanxinhao	√			√
000008	China High-Speed Railway	√	√	√	√
000428	Huatian Hotel		√	√	√
000430	Zhang Jia Jie	√	√		√
000524	Lingnan Holdings				
000610	Xi'an Tourism	√			√
000613	Dadonghai A				
000721	Xi'an Catering	√	√	√	√
000796	CAISSA TOURISM	√	√		√
000802	BJCT				
000888	Emei Shan A	√			√
000978	Guilin Tourism	√		√	√
002033	Lijiang Yulong Tourism		√		√
002059	Yunnan Tourism	√	√		√
002159	Sante Cableways	√		√	√
002186	Quanjude			√	√
002306	CLTG		√		√
002558	Giant Network				
200613	Dadonghai B				
300144	Songcheng				
300178	Tempus Global	√			√
600054	Huangshan Tourism	√	√	√	√
600138	China CYTS		√		√
600258	BTG Hotels	√	√		√
600358	China United Travel				
600555	HNA INNOVATION				
600593	Sunasia			√	√
600640	Besttone Holding	√	√	√	√
600706	Qujiang Cultural Tourism	√	√		√
600749	Tibet Tourism				
600754	JINJIANG HOTELS	√	√	√	√
601007	Jinling Hotel	√	√	√	√
601888	China International Travel	√	√		√
603043	Guangzhou Restaurant		√	√	√
603099	Changbai Mountain		√	√	√
603199	Jiuhuashan Tourism	√	√		√
603869	ENC Digital Technology		√		√
900929	Jinjiang International Travel B				
900934	JINJIANG HOTELS B				
900942	Huangshan Tourism B				
900955	HNA INNOVATION B				
Total		19	20	13	28

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