179

IMPACT OF BANKS' CSR TWEETS ON EMERGING ECONOMIES' CAPITAL MARKETS DURING DIFFERENT PHASES OF THE COVID-19 PANDEMIC

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Resumo/Abstract
The crisis resulting from the Covid-19 pandemic influenced organisations' decisions and investors' judgement about CSR. This paper analysed the effects of banks' CSR tweets on their stock prices before and during the distinct phases of the Covid-19 crisis. Using a sample of tweets and stock prices of Brazilian, Indian, and South African banks, IV 2SM and GMM regression were employed to estimate the effect of tweeting CSR on stock prices during different phases of the Covid-19 pandemic. Results stressed that the impact of disclosing CSR online changed not only in strength but also in direction due to the differences in the socio-economic context caused by the coronavirus crisis. These outcomes underscore the active role of SM in the process of disseminating organisations' CSR practices by showing that CSR tweets are affecting stock prices in different ways in different scenarios. In practical terms, the findings provide information about the impact of disclosing CSR on SM during a crisis, feeding managers in the banking industry and the investment community with valuable knowledge to be used during their investment decision process. Theoretically, the positive relationship between popular CSR tweets and positive changes in stock prices, with distinct impacts during different pandemic periods, contributes to developing the yet incipient scholarship concerning CSR disclosure on SM in emerging economies.

Modalidade/Type
Artigo Científico / Scientific Paper
Área Temática/Research Area
Contabilidade Financeira e Finanças (CFF) / Financial Accounting and Finance

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ABSTRACT

The crisis resulting from the Covid-19 pandemic influenced organisations' decisions and investors' judgement about CSR. This paper analysed the effects of banks' CSR tweets on their stock prices before and during the distinct phases of the Covid-19 crisis. Using a sample of tweets and stock prices of Brazilian, Indian, and South African banks, IV 2SM and GMM regression were employed to estimate the effect of tweeting CSR on stock prices during different phases of the Covid-19 pandemic. Results stressed that the impact of disclosing CSR online changed not only in strength but also in direction due to the differences in the socio-economic context caused by the coronavirus crisis. These outcomes underscore the active role of SM in the process of disseminating organisations' CSR practices by showing that CSR tweets are affecting stock prices in different ways in different scenarios. In practical terms, the findings provide information about the impact of disclosing CSR on SM during a crisis, feeding managers in the banking industry and the investment community with valuable knowledge to be used during their investment decision process. Theoretically, the positive relationship between popular CSR tweets and positive changes in stock prices, with distinct impacts during different pandemic periods, contributes to developing the yet incipient scholarship concerning CSR disclosure on SM in emerging economies.

Keywords: Legitimacy Theory; CSR; Social Media; Stock Price;

1. INTRODUCTION

The crisis resulting from the COVID-19 pandemic is expected to influence organisations' corporate social responsibility (CSR) practices and actions. While the shrink of resources at disposal could indicate reductions in CSR investments (Giacomini et al., 2021), this kind of event also represents an opportunity for organisations to exhibit a favourable image through the alignment between their social practices and the social expectation (Laranja Ribeiro & Zaidan Gomes, 2021).

It is worth noting that the Covid crisis changed how corporations and individuals behave. It includes their judgement and decision-making. The behavioural changes brought by the crisis especially affected the demand for CSR commitment and the consequence of CSR reports on investors' judgments (Humphreys & Trotman, 2022).

Recently, growing attention has been devoted to analysing social media (SM), mainly due to its unique way of connecting organisations with their stakeholders and the incredible amount of information already feeding scholars and managers (Blankespoor, 2018). From a theoretical perspective, analysing CSR through SM has been linked to the Legitimacy Theory framework (Khalil & Patrick, 2017).

The Legitimacy Theory deals with the rationale behind CSR practices. According to the theory, organisations continually try to fulfil societal expectations, and CSR investments and practices generally raise Legitimacy (Giacomini et al., 2021), following several benefits, including operational and financial ones. Panwar et al. (2014) defend that the link between CSR and Legitimacy is very close as Legitimacy can generate and reinforce the so-called organisations' reputational capital.

To better understand the relation between CSR and Legitimacy, an intriguing industry to be examined is the Banking Industry. Banks usually hold prominent positions in the international CSR investment index (Pérez et al., 2013), a characteristic probably related to the high interdependence between their reputation and CSR programs and practices (Poolthong & Mandhachitara, 2009).

Laranja Ribeiro and Zaidan Gomes (2021) analysed the CSR disclosure of Brazilian banks on Twitter during the COVID-19 pandemic. Their findings showed that banks used Twitter to disclose CSR practices related to COVID-19 to cope with uncertainty and grant reputational benefits. Moreover, banks took advantage of the social commotion to shift the negative image commonly attached to them.

Nevertheless, from a more pragmatic standpoint, it still poses the question: While legitimating through disclosing CSR results in reputational advantages and creates value along time, how does the disclosure of CSR practices on SM affect the stock market reaction, impacting banks' stock prices? Furthermore, is this alleged impact affected by the level of social uncertainty, as was the case with the distinct phases of the COVID-19 pandemic?

The discussion regarding the influence of SM CSR disclosure on stock prices is not a novelty in the academic literature. Almost a decade ago, Zhang et al. (2011) discussed the correlations between Twitter users' emotional outbursts and the next day's stock prices. Fatma et al. (2014) explain that banks disclose CSR practices on digital media to shift society's negative perception of their business.

Only a minimal part of the CSR literature has devoted time to exploring the relationship between CSR disclosure on SM and stock prices in developing countries (Miralles-Quirós & Miralles-Quirós, 2018; Sorour et al., 2020). However, the pandemic specifics circumstances generated a unique chance to question the role of CSR disclosure for investors in an uncertain scenario. For instance, Broadstock et al. (2021) analysed the Chinese stock market, finding that the ESG performance mitigated the risk during the pandemic crisis. They also confirmed the incremental importance of ESG performance during a crisis.

Exploring the nuances brought by this unprecedented scenario is imperative. Hence, this work aims at investigating the effects of banks' CSR tweets on their stock prices before and during the distinct phases of the Covid-19 crisis. For this, we relied on two Instrumental Variables (IV) models estimated by a two-stage M (2SM) estimator and the generalised method of moments (GMM) to estimate the effect of CSR tweets on stock price changes over one and three days' time windows. Our sample comprised CSR-related tweets of Brazilian, Indian, and South African larger banks listed.

Understanding how uncertainty during a crisis affects the market reaction to CSR brings practical and theoretical contributions. The practical relevance of this work relies on grasping the relevance of disclosing CSR on SM and the indirect financial outcome of legitimate through this strategy. Theoretically, it sheds light on the applicability of Legitimacy Theory tenets for analysing indirect implications of Legitimacy strategies on the stock market.

2. LITERATURE REVIEW

2.1. CSR AND LEGITIMACY THEORY

CSR represents a kind of social contract that connects an organisation to the society it operates, including some sort of moral philosophy (Gray et al., 1988). Social responsibility implies fulfilling economic, legal, ethical, and philanthropic responsibilities (Carroll, 1979).

It embodies a duty from companies to minimise negative impacts on society and, at the same time, maximise positive effects on it (Vitolla et al., 2019). In practice, CSR disclosure is related to an organisation's communication about its conduct, the environment, community, and employees (Gray et al., 1995). For Ribeiro et al. (2019), CSR represents a vital instrument for the dialogue between organisations and society.

From a developing country perspective, CSR is intrinsically attached to the new role assigned to the private sector in official development assistance. It has proven to be an attractive option to regulative approaches in practice. The increase in business regulatory autonomy, the transfer of responsibility from Governments to organisations, and the resultant saving of public resources are some benefits of improved CSR attention in developing countries (Barkemeyer, 2007).

From a theoretical point of view, CSR has been assessed through different theoretical perspectives such as stakeholder theory, agency theory, social contract theory and Legitimacy Theory (Crane et al., 2008).

Legitimacy is the widespread perception that organisations' actions are desirable and appropriate inside a system of norms and principles. It is related to observers' reactions to the organisation as they see it (Suchman, 1995). Legitimacy represents organisations' social acceptance (Etter et al., 2018). Organisational Legitimacy is a constantly evolving process in which different settings can be observed at different times (Deephouse et al., 2017).

According to Legitimacy Theory, organisations must react to social expectations to ensure society recognises their actions as legitimate (Khalil & Patrick, 2017). Meeting societal expectations is a requirement for companies to succeed (DiMaggio & Powell, 1983). Thereby, companies are seen bearing an embedded social contract, operating in line with expectations. Conversely, if they do not meet these expectations, society invalidates the contract, restraining their businesses (Guthrie & Parker, 1989). Because of that, organisations use social disclosures to provide information about their social activities and thereby legitimate themselves (Khalil & Patrick, 2017).

Legitimacy theory unveils the reasoning behind CSR practices. Organisations persistently try to be perceived as fulfilling societal expectations, leading to CSR investments to boost their Legitimacy (Giacomini et al., 2021). Moreover, the relationship between CSR and Legitimacy is close because CSR practices have the power to create and reinforce reputational capital (Panwar et al., 2014).

Nowadays, organisations are increasingly focusing on SM as an innovative and high engagement platform that allows very effective legitimacy strategies. For Russo et al. (2021), organisations disclose CSR practices on SM to harvest the associated benefits.

CSR can play a central role during crises and uncertain times, such as during the COVID-19 pandemic (Giacomini et al., 2021). In a more pessimistic view, the outcomes of the pandemic could turn companies to focus on short-term investments in the search for immediate profits, reducing their commitment to social challenges (Haessler, 2020). Nevertheless, a crisis can be assumed as a chance for social responsibility programmes to manage challenging financial conditions and improve organisational reputation by showing companies' commitment to society and stakeholders.

During a crisis, firms have a meaningful opportunity to legitimate themselves (Morsing & Schultz, 2006), winning reputational advantages over time. For instance, Mattera et al. (2021) observed that Spanish companies that adopted long-term CSR strategies and demonstrated a solid commitment to sustainable development had less trouble overwhelming the COVID-19 crisis.

2.2. CSR AND THE BANKING INDUSTRY

The financial sector plays an important part in any economy, with a mature financial sector having a meaningful contribution to economic development and supporting overall economic growth. Banks, in particular, operate as intermediaries with the potential to accelerate the pace of economic development (Lodhia & Mitchell, 2022).

The expanding interest in CSR is linked to its strategic importance (Carroll & Shabana, 2010), a point corroborated by organisations' vast amounts of money directed to CSR activities (Luo & Bhattacharya, 2006). A mediating factor for enterprises participating in CSR is perceiving that socially responsible actions can improve reputation (Lii & Lee, 2012). Indeed, developing and managing a good reputation in the banking industry is vital due to the intangible nature of banking services and banks' need to create trusting relationships with their stakeholders (Pérez et al., 2013).

The recent tendency toward integrating CSR practices in organisational activities is related to the rising complexity of business and the burgeoning concern about sustainable development. The rising scandal number in developing economies has, for instance, coerced businesses operating in those markets to be collectively and ethically accountable (Marin et al., 2009). In this scenario, it is difficult for businesses to accurately select strategic CSR orientation to achieve their aims (Fatma et al., 2015).

It is especially true for banks since, unlike other businesses, these organisations have much visibility in society, even though the individual perception of these institutions is more oriented to the negative side (Fatma et al., 2014). According to Omar and Zallom (2016), the CSR notion and its impact on profitability is a critical issue for the financial sector. CSR is believed to be one of the key branding and promotional instruments for banks to legitimise their position in society to turn into socially and environmentally responsible organisations (Tasnia et al., 2020).

While most industries typically adopt CSR practices in response to external pressures, the banking industry is known for its proactivity and engagement with CSR (Marin et al., 2009). Nowadays, banks are sharing social concerns and activities online. As a result, decisions and actions advantageous to their image have been successfully disclosed (Vilar & Simão, 2014). Disclosing CSR practices online is an effective way for companies to inform and involve stakeholders, gain Legitimacy, and earn profits from practising CSR (Georgiadou & Nickerson, 2020).

Prior literature has suggested that organisations respond to major social and environmental incidents perceived as significant threats to organisational Legitimacy through an increase in CSR disclosures (Cho, 2009; Summerhays & de Villiers, 2012). Lodhia and Mitchell (2022) found that four large Australian banks extensively disclosed CSR to reduce perceived offensiveness misdemeanours after being accused of deficient banking practices and neglecting customers' welfare.

In a developing country context, Laranja Ribeiro and Zaidan Gomes (2021) found that during the COVID-19 jolt, Brazilian banks disclosed CSR on Twitter as a strategic tool to maintain Legitimacy during a time of crisis. Besides, their outcomes indicate that banks intensified CSR disclosure during major uncertainty and greater social commotion.

In times of uncertainty, disseminating CSR practices can play a crucial role for organisations. Crises represent opportunities for them to improve their reputations by proving their commitment to society and the most urgent needs of their various stakeholders (Morsing & Schultz, 2006). For instance, Brazilian banks kept themselves aware of the most appealing social demands by tracking SM with a crisp concentration of their posts on days of greater social commotion (Laranja Ribeiro & Zaidan Gomes, 2021).

2.3. *CSR DISCLOSURE AND STOCK MARKET REACTION*

Although there is extensive literature on the effects of CSR on organisations operating in developed countries, the literature is devoted to its influence on the prices of assets listed in developed markets (Miralles-Quirós & Miralles-Quirós, 2018). It is usual to confront mixed results on this strand of research, leading to two opposing theories. The first support CSR's enhancing role for firm value, and the second supports CSR as a shareholder expense.

CSR disclosure on SM has been positively linked with financial benefits and positive changes in companies' stock prices (Deng & Cheng, 2019), but overall results remain inconclusive. For instance, Buallay et al. (2020) found that CSR disclosure negatively affects the market performance of European banks, whilst El-Mohr et al. (2021) did not find any relation between CSR and stock returns in Egypt. Nevertheless, Suttipun et al. (2021) used the legitimacy theory to expose the benefits of disclosing CSR practices for listed Thai companies, while Roy et al. (2022) found that Indian firms facing CSR regulation have superior stock market liquidity and obtain higher market valuations.

Nowadays, a growing number of studies support the enhancing value of CSR (Miralles-Quirós & Miralles-Quirós, 2018). Their findings suggest that organisations that publicise CSR practices have been obtaining financial gains in the short term. In this vein, Broadstock et al. (2021) assert the benefits of good ESG performance in the context of the Chinese stock market during the Covid-19 crisis, while Ding et al. (2021) explored corporations characteristics across 61 countries during the Covid-19 pandemic to found that in the context of stock markets, more CSR activities reverted in greater immunity to the effects of the crisis.

However, it is essential to consider that there are particularities in the analysis of markets, especially those of emerging countries, insofar as developing economies are at a different stage of maturity, which implies dissimilar stages of CSR development (Miralles-Quirós & Miralles-Quirós, 2018).

Corporations increasingly use SM to deliberately disseminate information to stakeholders (Nuseir & Qasim, 2021). In his study, Khlifi (2021) asserts that using Twitter for organisational disclosure is associated with decreased information asymmetry. Due to the high level of uncertainty attached to the pandemic scenario, some authors championed that digital media coverage exceeded the pandemic's effect on stock markets (Nepp et al., 2022), highlighting the pervasive power of SM during this period. More than ever, pieces of information could affect public sentiment, thus impacting the stock market's reaction. In this sense, Udeaja and Isah (2022) assert that disclosing the number of new cases of COVID-19 could impact African stock markets.

2.4. HYPOTHESES DEVELOPMENT

Considering the evidence in the literature about CSR disclosure and stock prices (Buallay et al., 2020; Roy et al., 2022; Suttipun et al., 2021) and its development during the Covid-19 pandemic (Broadstock et al., 2021; Ding et al., 2021), and the relevance of CSR disclosure for Legitimacy (Giacomini et al., 2021; Khalil and Patrick, 2017), the first hypothesis was established based on the value-enhancing role of CSR (Miralles-Quirós & Miralles-Quirós, 2018) as follows:

- *H1. During the pandemic, the popularity level of a CSR tweet had stronger effects on banks' stock prices.*

Thereby, given the necessity of going deeper into the specificities surrounding the market reaction to CSR disclosure on SM, the classification proposed by Garcia Filho et al. (2020) dividing the pandemic jolt into two distinct periods was used for the following hypotheses. The authors defined the first 100 days of the pandemic as the cut-off point for the pandemic periods (early and late pandemic period), a classification that has been used by researchers interested in capturing the consequences and impacts of the COVID-19 jolt while and after it was a novelty (Garcia Filho et al., 2020; Okuku et al., 2021).

- *H2a. During the early pandemic period, disclosing CSR on Twitter had stronger effects on banks' stock prices than in the pre-pandemic period.*
- *H2b. During the late pandemic period, disclosing CSR on Twitter had weaker effects on banks' stock prices than in the early pandemic period.*
- *H2c. During the late pandemic period, disclosing CSR on Twitter had stronger effects on banks' stock prices than in* the *-pandemic* period.

According to Laranja Ribeiro and Zaidan Gomes (2021), banks changed their online disclosure strategy during the early pandemic days, reinforcing the number of tweets about CSR, resulting in more attention from Twitter users. Additionally, Nepp et al. (2022) underscore the media effect on stock market reaction during the COVID-19 pandemic, which in conjunction with the central role of CSR disclosure during uncertain times (Giacomini et al., 2021), supported H2.

Finally, while these hypotheses point to general effects regardless of the market, the socio-normative relevance for constructing the idea of Legitimacy (Etter et al., 2018) implies different reactions from different societies concerning CSR practices and disclosure. In practice, it is unknown which specific factors would create differences. For example, could Brazil's widespread adherence to scientific negationism for political-religious reasons (Kibuuka, 2020) impact its market reaction? Or had the Indian corporates' critical role in providing financial assistance in the Prime Minister Citizen Assistance and Relief in Emergency Situation fund impacted India's results during the pandemic? Would the conjunction of a young population with a disregard for the covid lockdown signal less concern about CSR during the pandemic from South African society?

Although we are not aiming at specific responses for these questions, due to the intrinsic socio-economic difference between countries and the fact that the relevance of non-financial disclosure is highly influenced by normative values (Dagilienė and Nedzinskienė, 2018), we expect to find differences related to the countries specificities in the results, leading to the construction of the third hypothesis.

- *H3. The impact of tweeting CSR practices is distinct between countries.*

3. METHODOLOGY

We analysed the effect of CSR-related tweets of Banks from Brazil, India, and South Africa on their stock prices. The selected banks were the big four of Brazil and South Africa and the big five of India, among those with shares negotiated in their national stock market. Data from Itaú, Banco do Brasil, Bradesco, and Santander were collected regarding Brazil. We applied data from HDFC Bank, State Bank of India, ICICI Bank, Axis Bank, and Kotak Mahindra Bank for India. Lastly, for South Africa, we used information from Standard Bank Group, FirstRand, Nedbank, and Investec.

The choice of countries considered the relevance of their economies and cultural diversity, which leads to different social pressures, potentially enriching the results. According to the International Monetary Fund, these countries are among the larger developing economies considering their GDP (International Monetary Fund, 2020). Besides, Brazil and India are two of the countries most affected by the Covid pandemic considering the number of deaths. At the same time, South Africa has the highest caused by the Coronavirus (Statista Research Department, 2021), leading to emerging economic, social, and political tensions (Neiva et al., 2020).

Our sample was composed of CSR-related tweets and stock prices at marketing closure retrieved from Bloomberg's database, from January 01, 2019, to November 12, 2021. The tweets were scrapped using the Python package snscrape. After that, we filtered the tweets applying the keywords 'CSR', 'social', 'social responsibility, 'environment', 'sustainability', 'sustainable', 'human rights, 'activism', 'COVID-19', 'pandemic' and 'coronavirus' as well as their corresponding in Portuguese for the tweets of Brazilian Banks, resulting in a total of 14469 tweets that composed our database. These keywords were adapted from Thorisdottir and Johannsdottir (2020), who underlined the most frequent keywords for corporate social responsibility research.

The model was composed of the explanatory variables 'Like count', 'Period', and 'Market. 'Like count' refers to the daily number of likes to CSR-related tweets, representing the level of popularity achieved by the analysed posts (Laranja Ribeiro and Zaidan Gomes, 2021), signalling a kind of positive sentiment of Twitter users regarding banks' CSR posts 'Period' is a categorical variable representing the time of the tweet ('before the pandemic', 'early pandemic' or 'late pandemic'), and 'Market' is a categorical variable indicative of the country where the bank operates. Equation 1 presents the general notation supporting the models used in this study.

$$\Delta\%Stock = \alpha + \beta 1 Like\ count + \beta 2 Period + \beta 3 Market + \beta 4 Like\ count * Period \qquad (1)$$

Where '*Δ%Stock*' represents the percentage change in stock prices, α is the linear coefficient and β1... β4 are the estimated slopes.

Two distinct models were built using the Instrumental Variables (IV) method: one using a two-stage M estimator (2SM) and another using the iterative version of the Generalised Method of Moments (GMM) to ensure the robustness of the results (Hansen et al., 1996; Susanti et al., 2014). Each model was estimated with two different time windows. One window used the change in stock prices for one market day after a CSR-related tweet was posted, while the other used the change in stock prices after three market days of a post.

The robust version of IV estimated by 2SM and GMM are robust when heteroskedasticity is present, as in the case of this study sample. Besides, the absence of non-normal errors and the presence of endogenous variables are not an issue as with the traditional Ordinary Least Square (OLS) estimation (Baum et al., 2002).

For the 2SM model, Sargan and Weak Instruments tests were carried out (Baum et al., 2002), showing the adequacy of the model and the exogenous instruments. For the GMM model, Hansen's J test was performed (Hansen & Lee, 2021), and no model misspecification was detected.

The interaction between the variables 'Reply Count' and 'Period and between the variables 'Retweets Count' and 'Perio and the variable 'Followers' were used as the exogenous instrumental variables. 'Reply Count' refers to the tweet level of the interaction, whilst 'Retweets Count' refers to the tweet level of virality. Lastly, 'Followers' indicate the bank's number of followers on Twitter. The first two variables are expected to reflect the general interest regarding the analysed tweets during different periods, while the last control the results by the relevance of each bank on Twitter. Equation 2 shows the instrumental variables utilised in the models.

$$I = \textit{Reply count} * \textit{Period} + \textit{Retweet count} * \textit{Period} + \textit{Followers} \quad (2)$$

Where 'I' is representative of the instrumental variables employed in the models.

4. RESULTS

4.1. RESULTS OVERVIEW

Analysing stock price changes after a CSR tweet during different periods provided evidence regarding a change in the trend with the surge of Covid-19. It is shown in Table 1. The question is whether this new trend can be partially explained by the pandemic crisis and the commotion caused by it.

Table 1. Average Percentual Change in Stock Prices

	d +1				d + 3			
Period/Country	**India**	**S. Africa**	**Brazil**	**Total**	**India**	**S. Africa**	**Brazil**	**Total**
Before pandemic	-0.04%	-0.21%	-0.18%	-0.14%	-0.13%	-0.55%	-0.33%	-0.28%
Early pandemic	0.19%	0.24%	0.55%	0.32%	0.50%	1.12%	1.17%	0.90%
Late pandemic	0.20%	0.16%	0.02%	0.13%	0.37%	0.44%	0.12%	0.32%

Source: Research database

The outcomes of the 2SM and GMM models suggest that the Covid-19 crisis impacted how the market responds to banks' CSR tweets. Both models show that a larger number of likes for a CSR tweet is significantly attached to negative changes in stock prices, regardless of the time window. However, the interactive term in the 2SM model shows that an increasing number of likes during the early and late pandemic periods produced positive stock price changes compared to before the pandemic. This result is fully confirmed by the GMM model results for the one-day-window estimate and partially confirmed for the three-days-window since increasing the number of likes before or during the early pandemic periods did not significantly relate to stock price changes. Tables 2 and 3 display the outputs of the models.

Table 2. IV – 2SM results

	d +1		d + 3	
Variables	**Coef**	**P-value**	**Coef**	**P-value**
(Intercept)	0.005	0,31	-0.005	0.40
Like Count	-0.001***	0.01	-0.001*	0.08
Period (early)	0.004***	0.01	0.012***	0.01
Period (late)	0.002***	0.01	0.006***	0.01
Market (S. Africa)	-0.002	0.14	-0.001	0.78
Market (Brazil)	-0.021	0.23	0.009	0.64
Like Count *Period (early)	0.001***	0.01	0.001	0.14
Like Count *Period (late)	0.001***	0.01	0.001*	0.06

Sig codes: '***' 0.01; '**' 0.05; '*' 0.1.
Source: Research database

Table 3. IV – GMM results

	d +1		d + 3	
Variables	**Coef**	**P-value**	**Coef**	**P-value**
(Intercept)	0.004*	0.08	-0.001	0.73
Like Count	-0.001***	0.01	-0.001**	0.02
Period (early)	0.003***	0.01	0.003*	0.06
Period (late)	0.001***	0.01	0.003***	0.01
Market (S. Africa)	-0.002*	0.06	-0.002	0.20
Market (Brazil)	-0.04***	0.01	0.002	0.93
Like Count *Period (early)	0.001***	0.01	0.001***	0.01
Like Count *Period (late)	0.001***	0.01	0.001**	0.02

Sig codes: '***' 0.01; '**' 0.05; '*' 0.1.
Source: Research database

The results above underscore how the market reaction to banks' CSR tweets differs among the periods with a positive impact during the pandemic period, especially during the early pandemic period, when it showed stronger effects on stock prices. Concerning the differences between countries, while 2SM suggest stronger effects on stock prices from Indian banks' CSR tweets, these outcomes are not confirmed in the three-day window nor by the GMM model.

4.2. *DISCUSSION ON RESULTS*

The world of volatility, uncertainty, complexity, and ambiguity (VUCA), web 2.0, and the COVID-19 pandemic provided the perfect backdrop for studying legitimacy strategies on digital media and its implications. This study underscores the need to grasp the financial effects of CSR disclosure on SM during atypical and extreme circumstances such as those caused by the COVID pandemic.

In this regard, the analysis of banks' CSR-related tweets from three developing countries provided new insights regarding particularities that surround stock market reaction to CSR disclosure on SM during a crisis

The descriptive analysis of the stock prices revealed a general trend concerning the stock market reaction to CSR tweets. However, if the trend was for negative changes before the pandemic, it turned to the positive side during the early pandemic period. Furthermore, during the late pandemic period, when the pandemic scenario was no longer a novelty, the positive reaction from the market to CSR tweets stayed.

The significance of the estimated coefficient for the interactive term of the variables 'Period' and 'Like count' led to the non-rejection of H1. It shows that investors adapted their behaviour not only during the pandemic but throughout its distinct phases. While a rise in the popularity of CSR tweets is naturally seen as positive for Legitimacy purposes (Khalil & Patrick, 2017), the same cannot be said about its financial outcomes, as shown by the negative slope of the 'Like count' variable. The combined analysis of these results shows that it is during a crisis that the benefits of disclosing CSR flourish.

Moreover, results underscore banks' successful endeavour on SM, where those institutions have relied on carving a better image of themselves (Vilar & Simão, 2014) during the pandemic crisis. Outcomes also corroborate the vision drawn from the Legitimacy Theory since disclosing CSR on SM produced positive impacts on stock prices during the pandemic, inverting the trend seen before the Covid-19 with an emphasis on the pandemic early period when the social commotion was at its peak. These findings align with Garcia Filho et al., 2020 and Okuku et al., 2021 conclusions, resulting in the non-rejection of H2a., H2b. and H2c. Table 4 displays a summary of this study's hypotheses and their conclusions.

Table 4. Hypotheses Summary

Hypotheses	Conclusion
***H1*: During the pandemic, the popularity level of a CSR tweet had stronger effects on banks' stock prices.	**Non-rejected**
***H2a*: During the late pandemic period, disclosing CSR on Twitter had weaker effects on banks' stock prices than in the early pandemic period.	**Non-rejected**
H2b: During the late pandemic period, disclosing CSR on Twitter had weaker effects on banks' stock prices than in the early pandemic period.	**Non-rejected**
H2c: During the late pandemic period, disclosing CSR on Twitter had stronger effects on banks' stock prices than in the -pandemic period.	**Non-rejected**
H3: The impact of tweeting CSR practices is distinct between countries.	**Rejected**

Source: Research database

Although further investigation is still necessary, we believe the results shed light on the importance of long-term investment in CSR, l*et al*one its disclosure, as a way of overpowering unanticipated crises (Ding et al., 2021). Moreover, the analysis of the banking industry in developing economies indicates that the more uncertain the socio-economic scenario, the more it pays off to focus on disclosing CSR practices on SM, not only for Legitimacy but also for financial purposes, even if indirectly. In this sense, the results align with Broadstock et al. (2021) and Ding et al. (2021).

As already stated, it is essential to consider that Legitimacy is intrinsically connected with social values and beliefs more than economic factors (Khalil & Patrick, 2017). However, results did not indicate differences in the impact of CSR tweets on stock prices across markets. It is surprising due to the profound socio-economic distinctions and the varying extent the pandemic has affected the countries studied. In the face of this result, H3 was rejected.

At this point, a distinction must be made. While the rejection of H3 indicates that the three different stock markets presented no distinction regarding CSR tweets, it does not mean that disclosing CSR on SM presents no difference among these countries when it comes to Legitimacy purposes. Since Legitimacy strategies aim at a broader audience than investors and given that the market reaction to CSR disclosure can be seen only as an indirect outcome of the legitimation process (Suttipun et al., 2021), this finding does not indicate that CSR tweets produce similar general effects across countries.

5. CONCLUSION

5.1. FINAL REMARKS

Recently, digital transformation drastically altered the way organisations operate, nurturing them to adopt new technologies. For example, social media, such as Twitter and Facebook, have become important because of the creation, sharing and exchange of information with innumerable counterparts (Russo et al., 2021). Thus, one of the key benefits of SM relies on enhancing and communicating CSR practices, leading to competitive advantages.

This paper investigated the effects of banks' CSR tweets on their stock prices before and during the distinct phases of the Covid-19 crisis. Data retrieved from Twitter and Bloomberg of the biggest Brazilian, Indian and South African Banks were analysed throughout 2SM and GMM models with estimation windows of one and three market days.

By addressing the unique scenario resulting from the pandemic and investigating the effects of banks' CSR disclosure on Twitter before and during different phases of the COVID-19 crisis on stock markets of developing countries using the Legitimacy Theory lens, this study presented significant empirical findings, contributing to the Legitimacy Theory and the CSR academic literature, especially regarding the implications of disclosing CSR on SM in distinct scenarios.

Results stressed that the impact of disclosing CSR on SM changed not only in strength but also in direction due to the differences in the socio-economic context. If before the Covid-19 pandemic, popular CSR tweets negatively impacted banks' stock prices, the impact became positive during the pandemic, with greater strength during the early phase of the crisis, probably due to the high level of uncertainty attached to this period. These findings are in line with Ding et al. (2021), who asserted the capacity of CSR to grant organisations a relative amount of immunity during a crisis. They also underscore the active role of SM in the process of disseminating organisations' CSR practices by showing that CSR tweets are affecting stock prices in different ways in different scenarios.

5.2. CONTRIBUTIONS, LIMITATIONS AND FUTURE AVENUES

This work contributed to the CSR practice and scholarship by presenting several implications. In practical terms, the findings provide information about the impact of disclosing CSR on SM during a crisis, feeding managers in the banking industry and the investment community with valuable knowledge to be used during their investment decision processes. Unveiling the specificities of the relationship between CSR disclosure on SM during distinct phases of the Covid-19 pandemic can lead to internal and external benefits for organisations. Internally, managers become aware of the power of relying on SM for CSR disclosure. Externally, organisations detect investors' reactions among different contexts, allowing managers to align CSR organisational strategy with stakeholders' expectations.

It is crucial to observe that the positive relationship between popular CSR tweets and positive changes in stock prices, with distinct impacts during different pandemic periods, contributes to developing the yet incipient scholarship concerning CSR disclosure on SM in developing economies during crisis. While there is sound evidence that banks disclose CSR on SM to legitimate, create value and improve reputation (Giacomini et al., 2021), there is little evidence about the effects of online disclosing CSR on the stock market in developing countries (Miralles-Quirós and Miralles-Quirós, 2018), especially during a crisis. In this sense, the results presented here contribute to the literature by expanding the analysis to distinct periods of the Covid-19 crisis, highlighting the role of the uncertain socio-economic scenarios in creating behavioural nuances that affect investors' perception of CSR disclosure. Furthermore, outcomes solidify the yet underexplored role of SM as a modern channel for CSR disclosure.

This study presented some limitations that future studies may address. First, it only analysed a particular sector, which constrains generalising the findings, even for the countries studied. Besides, SM data were strictly composed of tweets, meaning that, although Twitter is one of the leading social media for the communication between investors and organisations (Russo et al., 2021), the strategies adopted by banks on SM were only partially addressed.

Due to the novelty of the subject and the atypicality of the COVID-19 crisis, future research could explore in-depth the relationship between CSR disclosure on SM and stock price changes by cross-comparations of distinct industries and organisations from developed and from developing countries during the pandemic.

Finally, comparing CSR disclosure strategies on different SM and analysing their impact on the stock market would benefit those who nurture an interest in the subject.

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