Economic Research-Ekonomska Istraživanja

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rero20

Real options appraisal for a reactive CSR strategy: the case of Facebook

Mariano Méndez-Suárez, Abel Monfort & María de las Mercedes de Obesso

To cite this article: Mariano Méndez-Suárez, Abel Monfort & María de las Mercedes de Obesso (2023) Real options appraisal for a reactive CSR strategy: the case of Facebook, Economic Research-Ekonomska Istraživanja, 36:2, 2135557, DOI: 10.1080/1331677X.2022.2135557

To link to this article: https://doi.org/10.1080/1331677X.2022.2135557

Published online: 23 Oct 2022.

ECONOMIC RESEARCH-EKONOMSKA ISTRAŽIVANJA
2023, VOL. 36, NO. 2, 2135557
https://doi.org/10.1080/1331677X.2022.2135557

Real options appraisal for a reactive CSR strategy: the case of Facebook

Mariano Méndez-Suárez[a,b], Abel Monfort[a,b] and María de las Mercedes de Obesso[b,c]

[a]Market Research and Quantitative Methods Department, ESIC University, Pozuelo de Alarcón (Madrid), Spain; [b]ESIC Business & Marketing School, Pozuelo de Alarcón (Madrid), Spain; [c]Business Department, ESIC University, Pozuelo de Alarcón (Madrid), Spain

ABSTRACT

The present research values reactive corporate social responsibility (CSR) policies using the theory of Real Options (RO). Its main goals are to determine the role of RO methodology as a business risk hedging function on reactive CSR strategies and to analyse whether the application of RO adds value to companies with reactive CSR strategies. The study illustrates Facebook's reactive CSR policy and also demonstrates that RO can be used serve to hedge market risk (systematic risk), just like their equivalents in the financial markets but also to hedge business risks (non-systematic risk). In addition, it shows that despite the criticism that the use of reactive CSR strategies may arouse, they have a positive impact on the market when used at the right time in companies that do not have a brand positioning closely linked to CSR. Additionally, the article shows that decision-making is a fundamental part of managerial functions and whether the situation is considered as a structured or unstructured problem will determine the action to be taken. In this particular case the reactive CSR strategy relates to waiting as an outcome of a planned choice.

ARTICLE HISTORY
Received 16 April 2022
Accepted 9 October 2022

KEYWORDS
Corporate social responsibility; CSR; real options; business risks hedging; Facebook

JEL CODES
G32; M1; M14; M21

1. Introduction

Larry Fink, CEO of BlackRock, argued in his 2020 letter to CEOs: 'A strong sense of purpose and a commitment to stakeholders helps a company connect more deeply to its customers and adjust to the changing demands of society. Ultimately, purpose is the engine of long-term profitability' (Fink, 2020). Companies with high visibility, such as Facebook (FB), attract more attention and pressure from stakeholders and need to comply with social demands (Wu et al., 2021) and encourage corporate social responsibility (CSR) activities aiming to get along harmoniously with social

CONTACT Mariano Méndez-Suárez mariano.mendez@esic.university
This article has been republished with minor changes. These changes do not impact the academic content of the article.

institutions and other stakeholders (Mazo Salmerón, 2015). CSR is a relevant and important component of the dialogue between companies and their stakeholders (Servera-Francés & Piqueras-Tomás, 2019) based on the corporate purpose; the problem is that research on the economic impact of CSR shows equivocal empirical results (Galant & Cadez, 2017). In fact, although CEOs and government leaders privately admit that they do not know if in reality CSR pays off, they have intuition about the 'strategic value creation' of CSR, i.e. (Husted & Allen, 2007). For this reason, the return on CSR investment is perceived as highly uncertain by many CEOs; firms prefer to postpone decisions until the uncertainty resolves itself, waiting for new information to become available before making CSR investments (Bekefi & Epstein, 2011).

Literature on strategic management (Trigeorgis & Reuer, 2017) defines rights to postpone investment on future opportunities as real options (RO) and research has demonstrated that a significant part of the total value of companies is accounted for by its portfolio of RO, that is, by decisions yet to be made (De Andrés-Alonso et al., 2006). RO theory exploits the analogy between financial options and options on real investments, mirroring the financial options ability to add value either by leveraging investment opportunities or by hedging systematic or market risks. In this sense, RO on CSR provide a way of hedging stakeholders' downside non-systematic or business risk of firms and are an essential element in the risk management of corporations (Husted, 2005). Optimal exercising of RO implies delaying irreversible investments, i.e., in CSR, to wait for additional information, until a significant gap develops between the investments' expected benefits and costs (Kellogg, 2014).

This type of decision-making strategy is also closely related to CSR strategies. Firms that adopt better CSR practices can reduce their risk exposure by developing CSR actions (Boubaker et al., 2020); they can employ reactive or proactive CSR strategies (Wu et al., 2021). The reactive approach is used to redirect attention in times of business malpractice (Du, 2015) and recover from wrong behaviours (Koehn & Ueng, 2010) or reputational crisis (Brammer et al., 2009; Williams & Barrett, 2000). Companies such as Facebook, whose purpose does not have a clear component of CSR-based positioning (see Facebook, n.d.), may opt for reactive strategies in times of crisis, since it is known that reactive strategies can reduce negative impacts of misconduct (Koehn & Ueng, 2010) and improve positive attitudes (Brown & Dacin, 1997; d'Astous & Bitz, 1995; Lee et al., 2009)

Although recent studies have shown that there is a relationship between CSR and the stock market reaction (Arco-Castro et al., 2020; Capelle-Blancard & Petit, 2019; Zolotoy et al., 2019), most of these studies have been based in companies with a clear responsible brand positioning and purpose, being literature on stock market reactions to reactive CSR strategy scares. Thus, it is relevant to know if companies that use reactive strategies, applying the principle of decision making at the right time, or the RO theory approach, also receive the support of markets, since reactive actions have not been exempt from criticism because they may involve the use of greenwashing actions (Atkinson & Kim, 2015, e.g., Bowen & Aragon-Correa, 2014; Nyilasy et al., 2014; Seele & Gatti, 2017) and therefore, arouse adverse reactions among stakeholders.

Following the recommendation of Husted (2005) and continued by Cassimon et al. (2016) to further develop the RO-CSR theoretical framework with a more empirical approach, this article delves deeper into the RO-CSR relationship. Specifically, it aims to find out whether the RO framework is able to strengthen the business risk hedging function on reactive CSR strategies and whether the proper application of RO adds value to the company when it implements reactive CSR policies. As a secondary objective, this article highlights the role of passive investors when applying this type of strategy. In our case, we apply RO theory to hedging risks with CSR reactive investing and to find an optimal investment time. We illustrate our RO framework using the recent business case of the campaign against FB from different advocacy groups (Stop Hate for Profit, 2020) complaining about FB's inaction towards certain violent or racist content, inviting advertisers, and especially the top spenders, to withdraw their advertising from the platform during July 2020. The research analyses the impact of the boycott from the RO point of view.

The article is organised into several sections. The next section provides the theoretical background to support the research propositions. The materials and methods are presented in the third section, followed by a discussion of results and concluding remarks that are presented in the fourth section.

2. Theoretical framework

Literature suggests that firms can mitigate their business risk through better management of social and environmental issues. Thus, firms that adopt better CSR practices can mitigate their risk exposure through effective CSR policies (Boubaker et al., 2020). Additionally, previous research also shows that business risks are irrelevant in portfolio theory because of diversification (Hitch et al., 2014), but when dealing with a single firm and incomplete information, these risks are present (Merton, 1987) and can be hedged with RO (Cassimon et al., 2016). In this sense, Minor and Morgan (2011) demonstrated how a firm's CSR activities can partially insure against reputational risk, which implies a link with organisational legitimacy and RO.

Institutional theory has been an important approach in pursuing CSR policies in fields such as the environment (Niedertscheider et al., 2018) and CSR communication (Sadler, 2016). This approach holds that companies incorporate institutional and social beliefs to maintain legitimacy and stability in society (DiMaggio & Powell, 1991; Meyer & Rowan, 1977). Consequently, business decisions on CSR issues starting from problem identification are also the result of institutional pressure (Herold & Lee, 2019), given that activities linked to CSR are considered effective strategies to improve reputation and stakeholder relations (Aguinis & Glavas, 2012; Wang & Qian, 2011) and are conditioned by the existence of financial resources to act (Volkema, 1983). By practicing CSR, companies reach strategic positions to access resources and improve their business performance (Godfrey, 2005; Porter & Kramer, 2002) as well as to disseminate corporate purpose to stakeholders (Monfort & Villagra, 2016). In this context, CSR can be implemented through several approaches in order to reduce business risks, specifically, by following the so-called proactive or reactive strategies (Wu et al., 2021).

A proactive CSR strategy is based on reputational capital (Fombrun et al., 2000). It aims to fulfil stakeholders' expectations by having a very deep commitment with CSR principles and their alignment with business strategy via corporate purpose. A legitimate firm with high reputational capital is often protected from scrutiny and potential business risks (Bansal & Clelland, 2004). This implies a trustworthy CSR incorporation into the company's strategic processes because it seeks to build its positioning on the basis of CSR and its responsible purpose. This positioning as an organisation compels firms to become more proactive in meeting stakeholder expectations in terms of CSR performance (Bansal & Clelland, 2004). Companies with this approach usually build and strengthen their corporate brand and stakeholder relationships with a clear purpose that considers the principles of CSR in the core business. However, literature also highlights that those companies which communicate and reinforce a strong corporate purpose related to CSR can be subjected to criticism (Morsing & Schultz, 2006) and increase stakeholder scepticism (Du et al., 2010; Waddock & Googins, 2011).

2.1. Reactive strategies in the context of RO

Many companies that do not want to pursue a clear CSR positioning prefer to invest in CSR strategies when the time is right (reactive strategies), avoiding a clear brand positioning that compromises them with their stakeholders and can lead to reputational crises. These firms prefer not to be very proactive on CSR issues, choose a wait-and-see alternative from a business decision-making point of view (Lapiz, 2015), and take a fire-suppressing (or reactive) strategy, showing a certain degree of commitment with CSR only when potential crises arise. Fundamentally, the decision to invest in reactive strategies can be analysed from an RO point of view, since it implies a voluntary decision to start CSR policies at the right time. This is a substantial difference with reactive strategies, which can be seen as a long-term investment that is difficult to analyse from an RO point of view, since the repercussions are more uncertain as the investment is in reputational capital.

Thus, reactive strategies involve firms waiting until the time is right to invest in CSR. The strategy can be used as a crisis management strategy (Du, 2015) and instrumental tool to improve damaged reputation (Koehn & Ueng, 2010). Therefore, the reactive approach is used to divert public attention from CSR misconduct (Du, 2015) and used as moral window-dressing for restating suspect behaviours (Koehn & Ueng, 2010), in order to save their damaged reputation (Williams & Barrett, 2000), or offset bad perceptions (Brammer et al., 2009). Literature explains that reactive strategies can reduce the negative impact of corporate misconduct (Koehn & Ueng, 2010) and improve positive attitudes towards companies and activities (Brown & Dacin, 1997; Lee & Faff, 2009).

However, this approach and the motivations highlighted also entail certain hazards for the company. When CSR is not an integral part of the company's positioning, stakeholders may accuse the organisation of greenwashing. When a company is found to engage in greenwashing, it has a negative effect on consumer attitudes towards the brand (Atkinson & Kim, 2015; Nyilasy et al., 2014). In fact, the number of references to the topic of greenwashing has grown in recent years, as well as the study of its consequences (e.g., Bowen & Aragon-Correa, 2014; Seele & Gatti, 2017). Literature also shows that those firms suffering from reputation loss due to violating stakeholders' expectations and reputational crisis were found to recoup such loss by engaging in CSR (Fombrun & Shanley, 1990; Sen & Bhattacharya, 2001). Thus, a growing branch of literature has addressed the practices of CSR in alleviating negative impacts (Chen et al., 2008; Delmas & Burbano, 2011; Du, 2015; Koehn & Ueng, 2010). It is this trade-off between the benefits and pitfalls of CSR that underlines the relevance of implementing RO.

The relationship between CSR, business risks and RO has been studied by previous literature (e.g., Bosch-Badia et al., 2015; Husted, 2005; Peters et al., 2014). Considering RO investment on CSR as a tool to hedge business risks is very relevant to managers, because in many cases their survival may depend upon taking adequate policies to manage those risks (Husted, 2005). Bowman (1980) specifically mentions CSR as a means for managing business risk. Wood (1991) also includes in CSR the development of policies and programs designed to manage the firm's societal relationships and the social impacts of the firm's actions to anticipate and reduce potential sources of business risk.

In the field of RO, Husted (2005) developed the theoretical framework of conceiving of investing in CSR as an RO, and its possible applications to business risk management. This is an approach followed by other authors such as Peters et al. (2014) who explored the conceptual relationship between CSR orientation of firms and RO reasoning. In this sense, Bosch-Badia et al. (2015) create a systematic framework to classify RO embedded in CSR investment. This line of research was developed later, demonstrating then the value added by CSR options in market cap by comparing companies with CSR and no CSR investment (Lee, 2019). Cassimon et al. (2016) also used an RO framework to study CSR investment, extending previous models by adding the impact of opportunity costs on RO on CSR investment decisions, introducing the concept of the importance of the value added by the delay in CSR investments.

Considering the reactive and proactive approaches to CSR management, as well as the link with RO, it seems appropriate to argue that RO and its correct application can help organisations to overcome crises, especially in those organisations that do not have a clear corporate brand or reputational positioning (purpose) oriented to CSR, given that their stakeholders do not have very high expectations of their responsible behaviour. Thus, the use of CSR policies at the right time, applying the exercise of RO, can be a very appropriate instrument to face crises.

H1. The RO framework helps to unfold the business risk hedging function on reactive CSR strategies.

H2. Optimal exercising of RO adds value to the firm when applying reactive CSR actions.

One way to analyse the importance of RO and the relationship with CSR strategies is through the analysis of shareholders' reactions. As far as CSR activities are concerned, some studies have found a relationship between the development of CSR in Fortune 1000 companies and their financial performance on the stock market (Seifert et al., 2003). In addition, literature has shown that the effect of CSR on shareholders can differ depending on the sector and the expectations it raises (Arco-Castro et al., 2020; Gomez-Trujillo et al., 2020), having a greater effect when the company's activity exceeds the expectations for the sector (Zolotoy et al., 2019). These studies suggest that CSR reduces firms' costs and consequently leads to a stronger relationship between CSR and firm performance in stock markets (Zolotoy et al., 2019), meaning that CSR positively affects the market (Arco-Castro et al., 2020; Monfort et al., 2021). Furthermore, the literature indicates that investors consider CSR information in addition to financial information when making investment decisions (Gómez-Bezares et al., 2017; Noronha et al., 2018), showing thus, that there is a positive relationship between CSR disclosure and stock market value (Capelle-Blancard & Petit, 2019).

Although there is a solid line of research between CSR and market value, the literature on CSR and RO is scarce. In RO, the level of complexity in valuation is usually very high because of the lack of financial market measures (Amram & Kulatilaka, 1999, p. 99), but RO in whatever context should be valued. RO valuation uses the same methods as financial options, as all of them are based on the same principles and have the same limitations of the model or BSM formula (Black & Scholes, 1973; Merton, 1973). The best valuation method for each project depends on its complexity, and the goals of the analysts, the most common being as follows. BSM formula is appropriate in the valuation of plain vanilla call or put RO, i.e. (Brealey et al., 2008). RO binomial valuation (Cox et al., 1979) is also useful for complex projects or projects including different RO (e.g., Méndez-Suárez & Crespo-Tejero, 2021). However, the drawback of these methods is that the probabilities obtained with their application are risk neutral and cannot be used in the 'real world', as opposed to the Merton model (1974). Alternative methods are stochastic differential equations (Schwartz, 2004) and Monte Carlo simulation (Meinshausen & Hambly, 2004), but they are designed to be applied to more complex projects and are complicated to model, mathematically intensive and difficult to understand for non-experts in mathematics.

To analyse the relationship between the exercise of RO and CSR strategies, the role of shareholders can be taken into consideration, more specifically, the role of institutional shareholders. Institutional investors hold relatively illiquid and permanent ownership positions that give them strong incentives to actively influence corporations (Fichtner et al., 2017). Passive investors can exert influence through their large voting blocs, as declared by the CEO of Vanguard Group, owners in 2020 of 13% of FB: 'In the past, some have mistakenly assumed that our predominantly passive management style suggests a passive attitude with respect to corporate governance. Nothing could be further from the truth' (Grind & Lublin, 2015). In fact, other studies such as those conducted by Fichtner et al. (2017) have highlighted the role of these kind of investors, showing that firms such as BlackRock reported that 'meetings behind closed doors can go further than votes against management'.

Considering the potential positive effect of reactive CSR actions, the predominant role of institutional investors and the relevance of RO in taking CSR decisions at the right time, it seems appropriate to argue that when CSR actions are taken at the appropriate time of a crisis, the role of institutional investors can be key to solving crises arising from corporate misconduct.

H3. The role of passive investors is key in companies with high levels of capitalisation that apply reactive CSR strategies in times of crisis.

Table 1. Major holders.

Owner	Stake	Losses passive investors
FB's CEO Mark Zuckerberg	12.8%	7,182
Vanguard	12.8%	7,167
Fidelity	7.5%	4,234
Capital Research & Management	5.7%	3,201
BlackRock	4.3%	2,430
Rest of Major Holders	16.7%	9,357
Total Major Holders	47.2%	26,388

Note: Stake = Percentage of ownership of FB; Losses Passive Investors = Loss on 26 June 2020 in USD MM of major passive stockholders of FB. Source: CNN Business (2021) and own elaboration.

3. Materials and methods

3.1. Facebook boycott

On June 17, 2020, after FB's refusal to censor a post considered hate speech, the campaign #StopHateforProfit (Stop Hate for Profit, 2020) was launched by advocacy groups inviting advertisers to withdraw their advertising from the platform until the company changed in this respect. On June 19, The North Face was the first of several companies to announce its decision to stop advertising; the news caused a small drop in FB's market capitalisation of USD340 MM. At that time, FB's CEO Mark Zuckerberg told employees that his guess was that all advertisers would be back because the boycott was more a reputational issue than an economic one (Heath, 2020), without considering that reputation damaging events impact not only the customers, but also the investors that may not want to be associated with the firm under those circumstances, thus, potentially selling their shares, causing downward stock price pressure (Gatzert, 2015). In fact, on Friday June 26, after Unilever's announcement that they were halting advertising on FB, the company had a huge drop in market value of USD55.860 MM which resulted in an abnormal return of −8.3% (Villagra et al., 2021), representing a loss of USD26,388 MM for the major passive investors owning 47.2% of total FB shares (Table 1).

That Friday evening, as a response to these events, the CEO of FB (Zuckerberg, 2020) announced four actions: (1) Providing Authoritative Information on Voting During the Pandemic. (2) Additional Steps to Fight Voter Suppression. (3) Creating a Higher Standard for Hateful Content in Ads. (4) Labelling Newsworthy Content. After the announcement, the FB market capitalisation recovered its previous value in the following three days.

Facebook's corporate brand positioning does not stand out for having a set of values and corporate purpose related to CSR. Its mission says that the company 'give people the power to build community and bring the world closer together' and its values are: 'give people a voice', 'serve everyone', 'promote economic opportunity', 'build connection opportunity' and 'keep people safe and protect privacy' (Facebook, n.d.). In other words, their approach does not have a clear alignment with diversity, or the aspects linked to the motives derived from the crisis analysed in this study. For this reason, a CSR action linked to this theme, carried out at the right time, may provoke favourable reactions among stakeholders, especially institutional investors.

Table 2. Parameters for CSR RO valuation.

Date	Market cap	Change	Expected CF	V	I	T	σ	μ
17 June 2020	671,260	−340	−29	29	3,535	14	53%	8.6%
26 June 2020	615,830	−55,860	−4,826	4,826	3,535	5	53%	8.6%

Note: Values in Million USD; Market Cap = Facebook Daily Market Capitalisation; Change = Change of Market Capitalisation; Expected CF = Expected Cash Flow using Gordon-Shapiro model; V = Expected savings/benefit of CSR Investment; I = Investment needed in CSR; T = Time to option's expiration.
Source: Macrotrends (2022) and own elaboration.

3.2. Model

Husted (2005) and Cassimon et al. (2016) defined CSR investment as the exercise of the call option on the benefits of CSR (the underlying asset achieved upon exercise), by paying a particular investment cost of CSR (the exercise price of the RO). For FB, investing in CSR would mean to hedge the risks of the decrease in present value of future cash flows, i.e., changes in market capitalisation, related to the boycott campaign. The investment, I, required to change FB's policies to meet shareholders' demands is estimated to be USD3,535 MM considering the request of (Stop Hate for Profit, 2020) to a 5% of total FB's 2019 revenue of USD70,697 MM. The uncertainties surrounding the changes in market value are captured by the volatility of FB's stock of 53% (AlphaQuery, 2020) and represented by σ: The value of T is the time to expiration of the RO, or the number of days until July 1, date selected by the activist to start the one-month boycott of FB advertisers.

To estimate the savings/benefits of investing in CSR, V, we use the Gordon and Shapiro (1956) formula (Equation (1)), assuming that FB's market capitalisation is the present value of all future cash flows and that each change corresponds to the adjustment to new information affecting future cash flows (CF). Under this premise and rearranging to Equation (2), the change in expected CF corresponding to each change in market capitalisation can be calculated.

$$Change\ \ in\ \ Market\ \ Cap = \frac{Change\ \ in\ \ Expected\ \ CF}{wacc} \tag{1}$$

$$Change\ \ in\ \ Expected\ \ CF = Change\ \ in\ \ Market\ \ Cap \times wacc \tag{2}$$

Plugin to Equation (2) the FB's wacc (μ) of 8.6% (Gurufocus, 2021), and the decreases in market value on 17 and 26 June, corresponding to the date on which the boycott started and the date on which FB announced its investment in CSR, we may obtain the loss anticipated in the two most important dates of the boycott (Table 2).

To estimate the optimal trigger point to invest in CSR, we use the adaptation of Merton (1974) to the Black and Scholes (1973) and Merton (1973; BSM) model. The modification introduced by Merton (1974) in the BSM model allows calculation of the probability that at maturity the required investment will be greater than the benefit of investing, $Prob(I > V)$, that is, if it is worth investing in CSR. Merton (1974) substituted the risk-free rate in the BSM formula for the company's required rate of return μ (Equation (3)); this way, when the cumulative distribution function to the term $N(-d_2)$ is applied, the probability obtained is a real-world probability instead of a risk-neutral probability (Equation (4)).

$$d_2 = \frac{\log \frac{V}{I} + \left(\mu - \frac{\sigma^2}{2}\right)T}{\sigma\sqrt{T}} \tag{3}$$

$$Prob(I > K) = N(-d_2) \tag{4}$$

where V represents the expected benefit of investing in CSR, I the investment needed in CSR, σ the yearly volatility, that measures the expected changes in market conditions, μ the required rate of return of the company and T the window of opportunity to invest in the project. $N(-d_2)$ is the risk-adjusted probability that the option will be exercised, that is, the probability that at expiration the value of V is greater than the value of I.

3.3. Results

Plugin the values depicted in Table 2 in Equations (3) and (4), and we obtain the probability that the amount invested in CSR, I, is bigger than the expected benefit of investing in CSR, V. After inserting the expected benefits, V, of investing, I, on the 17 and 26 June, the required FB's rate of return, μ, and the uncertainties, σ, until expiration on July 1, we find that the probabilities that $(I > V)$ or the investment being greater than the expected benefit, were almost 100% for day 17 and almost 0% for day 26. From this perspective, the decision made by FB's managers to wait until June 26 to accept the conditions of the advocacy groups may be considered optimal.

The RO valuation point of view of the research shows the added value of the exercise of RO when hedging business risks using reactive CSR strategies, thus, giving support to H1. Additionally, the results support H2 regarding the added value of reactive CSR strategies for companies such as FB without a clear CSR positioning. Regarding H3, the study highlights the potential role of passive investors in the timing of the implementation of reactive CSR strategies.

4. Discussion and conclusions

Following the call of research from Cassimon et al. (2016), we illustrated the business case of the application of RO to CSR using information from the boycott of FB. Results underscore the hedging function of RO, the same as their financial counterparts, showing that CSR can act as an insurance on the downturn risk in revenues due to the call to boycott. Also the research has shown that optimising the timing of CSR-RO investments, managers can add value to the firm by reducing the probabilities of expected financial, social, or environmental crisis that could influence adversely firms' cash flows (Jo & Na, 2012). Findings contribute to the literature on CSR-RO as well as on strategic CSR.

Firstly, from the CSR-RO approach, the study shows that CSR investments may be managed in an optimal way exercising the option to defer decisions (Schwartz, 2013), and that is a common business decision (Moel & Tufano, 2002). Deferral has value because deferring a decision until the business situation clarifies reduces the uncertainty surrounding the decision; the more volatile the market, the more valuable the option, because downside exposure is limited, whilst the option can still benefit from the upside. This way, high uncertainty levels increase the value of the option of waiting and discourage investment, until the point in which managers find the optimal trigger for investing when expected benefits exceed the investment required. Although postponing the decision to invest, i.e., in CSR, to wait for new information adds value to the firm (Schwartz, 2013), the present research demonstrates that refraining for too long can push stakeholders, as customers or major stockholders, to disengage from the company, with potentially catastrophic effects on its market value because of stakeholders' reactions (Cassimon et al., 2016). Additionally, the present research also contributes to literature by clarifying the relation between socially responsible behaviour and financial performance and evidences its relevance to successful corporate performance (Burke & Logsdon, 1996). Also demonstrated is the reliability of the intuition about the 'strategic value creation' of CSR and this helps to increase the willingness of firms to support CSR investment due to its link with financial return (Husted & Allen, 2007).

From the strategic point of view of CSR, this study has strengthened the line related to the reactive and proactive possibilities of the implementation of CSR policies. Most CSR studies underline the importance of proactive CSR strategies that link corporate positioning, purpose, legitimacy and stakeholder relations from a reputational point of view (Fombrun et al., 2000; Morsing & Schultz, 2006) to reduce business risks (Bansal & Clelland, 2004). However, this research provides new information on the benefits of reactive strategies applied at the right time through an RO approach. Thus, the results support previous studies suggesting that reactive strategies can reduce the negative effects of corporate malpractice (Koehn & Ueng, 2010) and increase positive feedback to companies (Brown & Dacin, 1997; Lee et al., 2009), in this case through support in the financial markets.

The results also show that after a crisis such as the FB boycott, the company can opt for ad hoc decisions linked to CSR and use this intangible as a crisis management strategy (Du, 2015). Following previous studies related to reactive strategies, the results have shown that CSR can serve to improve damaged reputation (Koehn & Ueng, 2010) and shift the focus of attention after CSR misconduct (Du, 2015) and the generated misperceptions (Brammer et al., 2009; Koehn & Ueng, 2010; Williams & Barrett, 2000). As explained above, this benefit can be obtained if it is applied at the right time and by applying the RO methodology and in companies without a clear CSR positioning.

In addition, evidencing that application of CSR policies can have a positive effect on the stock market (e.g., Arco-Castro et al., 2020; Monfort et al., 2021; Pérez et al., 2019; Seifert et al., 2003; Zolotoy et al., 2019) has shed new light on the importance of applying CSR at the right time to promote the positive impact of markets on institutional investors. It has been seen that companies that do not have a clear corporate brand positioning linked to CSR, such as Facebook, must continue to invest in CSR in order to be able to implement it in an appropriate manner when the time is right.

The managerial implications of the study affect various units. From the brand and reputation manager's point of view, this study shows that even if a company does not have a strong corporate purpose linked to CSR, it should know how to manage CSR from a corporate risk point of view. Investing at the right time in CSR actions can be positively supported by stakeholders, in particular, institutional investors. Furthermore, the importance of both problem identification and problem categorisation has been highlighted. The nature or typology of problems has been widely studied by authors such as Simon (1979), Sanz and Sabater (2002), Bueno (2002), and Robbins and Coulter (2005), who define them as programmed or structured and unscheduled or unstructured, depending on whether the emphasis is placed on the planning of the decision or on the type of problem. Structured problems are those in which there is sufficient information, there is experience in the solution, or there is a procedure to solve them, and the decisions are usually reversible. On the other hand, in unstructured problems, information is insufficient or dispersed and decisions are generally irreversible. Each problem typology is related to a type of decision and therefore, to recommended decision-making techniques. Future lines of research would seek to analyse whether it should be treated as a structured or unstructured problem type and accordingly analyse whether different decision-making methods yield similar and conclusive decisions.

One of the limitations of the study is that it is applied to a single company that uses a reactive CSR strategy, on specific dates and focussing on the institutional investor stakeholder, so it can be observed that there is a positive reaction exclusively in the stock markets. The literature has pointed out the possible negative consequences of these types of reactive strategies not linked to the core of the company, as it can lead to adverse reactions in terms of reputation by accusing the company of greenwashing (e.g., Atkinson & Kim, 2015; Bowen & Aragon-Correa, 2014; Nyilasy et al., 2014; Seele & Gatti, 2017). Consequently, it would have been desirable to compare the effects in companies applying proactive and reactive strategies, as well as to analyse the impact in the longer term and on other stakeholders (reputational assessment), and to analyse specifically this problem in companies with proactive CSR strategies from the point of view of RO theory. In addition, it would be interesting to apply the methodology proposed in this article to measure the response, if any, in terms of CSR to other similar situations in which companies have been boycotted in corporate activism campaigns. However, these limitations can be understood as future lines of research that strengthen the contribution made in this study to the RO–CSR link.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

Mariano Méndez-Suárez and Maruchy de Obesso acknowledge the support of ESIC University under Grant 1-M-2017.

ORCID

Mariano Méndez-Suárez http://orcid.org/0000-0002-6018-6463
Abel Monfort http://orcid.org/0000-0002-3713-7102
María de las Mercedes de Obesso http://orcid.org/0000-0003-2165-7856

References

Aguinis, H., & Glavas, A. (2012). What we know and don't know about corporate social responsibility a review and research agenda. *Journal of Management*, *38*(4), 932–968. https://doi.org/10.1177/0149206311436079

AlphaQuery. (2020). *Facebook historical volatiltiy, 180 days*. alphaquery.com website: https://www.alphaquery.com/stock/FB/volatility-option-statistics/180-day/historical-volatility

Amram, M., & Kulatilaka, N. (1999). Real options: Managing strategic investment in an uncertain world. In M. Amram (Ed.), *Real options* (246 p.). Harvard Business School Press.

Arco-Castro, L., López-Pérez, M. V., Pérez-López, M. C., & Rodríguez-Ariza, L. (2020). How market value relates to corporate philanthropy and its assurance. The moderating effect of the business sector. *Business Ethics: A European Review*, *29*(2), 266–281. https://doi.org/10.1111/beer.12264

Atkinson, L., & Kim, Y. (2015). "I drink it anyway and i know i shouldn't": Understanding green consumers' positive evaluations of norm-violating non-green products and misleading green advertising. *Environmental Communication*, *9*(1), 37–57. https://doi.org/10.1080/17524032.2014.932817

Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal*, *47*(1), 93–103. https://doi.org/10.2307/20159562

Bekefi, T., & Epstein, M. J. (2011). Integrating social and political risk into ROI calculations. *Environmental Quality Management*, *20*(3), 11–23. https://doi.org/10.1002/tqem.20286

Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy*, *81*(3), 637–654. https://doi.org/10.1086/260062

Bosch-Badia, M. T., Montllor-Serrats, J., & Tarrazon-Rodon, M. A. (2015). Corporate social responsibility: A real options approach to the challenge of financial sustainability. *Plos One*, *10*(5), e0125972–37. https://doi.org/10.1371/journal.pone.0125972

Boubaker, S., Cellier, A., Manita, R., & Saeed, A. (2020). Does corporate social responsibility reduce financial distress risk? *Economic Modelling*, *91*(April), 835–851. https://doi.org/10.1016/j.econmod.2020.05.012

Bowen, F., & Aragon-Correa, J. A. (2014). Greenwashing in corporate environmentalism research and practice. *Organization & Environment*, *27*(2), 107–112. https://doi.org/10.1177/1086026614537078

Bowman, E. H. (1980). A risk/return paradox for strategic management. *Sloan Management Review*, *21*(3), 17–31.

Brammer, S. J., Pavelin, S., & Porter, L. A. (2009). Corporate charitable giving, multinational companies and countries of concern. *Journal of Management Studies*, *46*(4), 575–596. https://doi.org/10.1111/j.1467-6486.2008.00827.x

Brealey, R. A., Myers, S. C., & Allen, F. (2008). Brealey, Myers, and Allen on real options. *Journal of Applied Corporate Finance*, *20*(4), 58–71. https://doi.org/10.1111/j.1745-6622.2008.00204.x

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. *Journal of Marketing*, *61*(1), 68–84. https://doi.org/10.2307/1252190

Bueno, E. (2002). *Economía de la empresa. Análisis de las decisiones empresariales*. Pirámide.

Burke, L., & Logsdon, J. M. (1996). How corporate social responsibility pays off. *Long Range Planning*, *29*(4), 495–502. https://doi.org/10.1016/0024-6301(96)00041-6

Capelle-Blancard, G., & Petit, A. (2019). Every little helps? ESG news and stock market reaction. *Journal of Business Ethics*, *157*(2), 543–565. https://doi.org/10.1007/s10551-017-3667-3
Cassimon, D., Engelen, P. J., & Van Liedekerke, L. (2016). When do firms invest in corporate social responsibility? A real option framework. *Journal of Business Ethics*, *137*(1), 15–29. https://doi.org/10.1007/s10551-015-2539-y
Chen, J. C., Patten, D. M., & Roberts, R. W. (2008). Corporate charitable contributions: A corporate social performance or legitimacy strategy? *Journal of Business Ethics*, *82*(1), 131–144. https://doi.org/10.1007/s10551-007-9567-1
CNN Business. (2021). *Top 10 owners of Facebook Inc.* https://money.cnn.com/quote/shareholders/shareholders.html?symb=FB&subView=institutional
Cox, J. C., Ross, S. A., & Rubinstein, M. (1979). Option pricing: a simplified approach. *Journal of Financial Economics*, *7*(3), 229–263. https://doi.org/10.1016/0304-405X(79)90015-1
d'Astous, A., & Bitz, P. (1995). Consumer evaluations of sponsorship programmes. *European Journal of Marketing*, *29*(12), 6–22. https://doi.org/10.1108/03090569510102504
De Andrés-Alonso, P., Azofra-Palenzuela, V., & De La Fuente-Herrero, G. (2006). The real options component of firm market value: The case of the technological corporation. *Journal of Business Finance & Accounting*, *33*(1-2), 203–219. https://doi.org/10.1111/j.0306-686x.2005.00654.x
Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review*, *54*(1), 64–87. https://doi.org/10.1038/news.2010.631
DiMaggio, P. J., & Powell, W. W. (1991). The iron cage revisited: Isomorphism and collective rationality in organizational fields. In P. J. DiMaggio & W. W. Powell (Eds.), *The new institutionalism in organizational analysis* (pp. 1–38). The University of Chicago Press.
Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing Business returns to Corporate Social Responsibility (CSR): The role of CSR communication. *International Journal of Management Reviews*, *12*(1), 8–19. https://doi.org/10.1111/j.1468-2370.2009.00276.x
Du, X. (2015). Is corporate philanthropy used as environmental misconduct dressing? Evidence from Chinese family-owned firms. *Journal of Business Ethics*, *129*(2), 341–361. https://doi.org/10.1007/s10551-014-2163-2
Facebook. (n.d). *Company info | about Facebook*. Retrieved June 5, 2021, from https://about.facebook.com/company-info/
Fichtner, J., Heemskerk, E. M., & Garcia-Bernardo, J. (2017). Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk. *Business and Politics*, *19*(2), 298–326. https://doi.org/10.1017/bap.2017.6
Fink, L. (2020). A fundamental reshaping of finance. *Larry Fink's 2020 Letter to CEOS*. https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter
Fombrun, C. J., Gardberg, N. A., & Barnett, M. L. (2000). Opportunity platforms and safety nets: Corporate citizenship and reputational risk. *Business and Society Review*, *105*(1), 85–106. https://doi.org/10.1111/0045-3609.00066
Fombrun, C. J., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal*, *33*(2), 233–258. https://doi.org/10.2307/256324
Galant, A., & Cadez, S. (2017). Corporate social responsibility and financial performance relationship: A review of measurement approaches. *Economic Research-Ekonomska Istraživanja*, *30*(1), 676–693. https://doi.org/10.1080/1331677X.2017.1313122
Gatzert, N. (2015). The impact of corporate reputation and reputation damaging events on financial performance: Empirical evidence from the literature. *European Management Journal*, *33*(6), 485–499. https://doi.org/10.1016/j.emj.2015.10.001
Godfrey, P. C. (2005). The relationship between corporate philanthropy and shareholder wealth: A risk management perspective. *Academy of Management Review*, *30*(4), 777–798. https://doi.org/10.5465/amr.2005.18378878
Gómez-Bezares, F., Przychodzen, W., & Przychodzen, J. (2017). Bridging the gap: How sustainable development can help companies create shareholder value and improve financial performance. *Business Ethics: A European Review*, *26*(1), 1–17. https://doi.org/10.1111/beer.12135

Gomez-Trujillo, A. M., Velez-Ocampo, J., & Gonzalez-Perez, M. A. (2020). A literature review on the causality between sustainability and corporate reputation: What goes first? *Management of Environmental Quality*, *31*(2), 406–430. https://doi.org/10.1108/MEQ-09-2019-0207

Gordon, M. J., & Shapiro, E. (1956). Capital equipment analysis: The required rate of profit. *Management Science*, *3*(1), 102–110. https://doi.org/10.1287/mnsc.3.1.102

Grind, K., & Lublin, J. S. (2015). Vanguard and BlackRock plan to get more assertive with their investments. *The Wall Street Journal*. https://www.wsj.com/articles/vanguard-and-blackrock-plan-to-get-more-assertive-with-their-investments-1425445200

Gurufocus. (2021). *Facebook WACC % historical data*. https://www.gurufocus.com/term/wacc/NAS:FB/WACC-/Facebook

Heath, A. (2020). Zuckerberg tells facebook staff he expects advertisers to return 'soon enough.' *The Information*. https://www.theinformation.com/articles/zuckerberg-tells-facebook-staff-he-expects-advertisers-to-return-soon-enough?shared=55fd71efc87f385e

Herold, D. M., & Lee, K. H. (2019). The influence of internal and external pressures on carbon management practices and disclosure strategies. *Australasian Journal of Environmental Management*, *26*(1), 63–81. https://doi.org/10.1080/14486563.2018.1522604

Hitch, M., Ravichandran, A. K., & Mishra, V. (2014). A real options approach to implementing corporate social responsibility policies at different stages of the mining process. *Corporate Governance*, *14*(1), 45–57. https://doi.org/10.1108/CG-07-2012-0060

Husted, B. W. (2005). Risk management, real options, corporate social responsibility. *Journal of Business Ethics*, *60*(2), 175–183. https://doi.org/10.1007/s10551-005-3777-1

Husted, B. W., & Allen, D. B. (2007). Strategic corporate social responsibility and value creation among large firms. Lessons from the Spanish experience. *Long Range Planning*, *40*(6), 594–610. https://doi.org/10.1016/j.lrp.2007.07.001

Jo, H., & Na, H. (2012). Does CSR reduce firm risk? Evidence from controversial industry sectors. *Journal of Business Ethics*, *110*(4), 441–456. https://doi.org/10.1007/s10551-012-1492-2

Kellogg, R. (2014). The effect of uncertainty on investment: Evidence from Texas oil drilling. *American Economic Review*, *104*(6), 1698–1734. https://doi.org/10.1257/aer.104.6.1698

Koehn, D., & Ueng, J. (2010). Is philanthropy being used by corporate wrongdoers to buy good will? *Journal of Management & Governance*, *14*(1), 1–16. https://doi.org/10.1007/s10997-009-9087-8

Lapiz, G. B. (2015). Politics of decisions towards discernment. *European Scientific Journal*, *11*(17), 30–36.

Lee, D. D., & Faff, R. W. (2009). Corporate sustainability performance and idiosyncratic risk: A global perspective. *Financial Review*, *44*(2), 213–237. https://doi.org/10.1111/j.1540-6288.2009.00216.x

Lee, H., Park, T. K., Moon, H. K., Yang, Y. H., & Kim, C. (2009). Corporate philanthropy, attitude towards corporations, and purchase intentions: A South Korea study. *Journal of Business Research*, *62*(10), 939–946. https://doi.org/10.1016/j.jbusres.2008.08.007

Lee, K. J. (2019). The effects of social responsibility on company value: A real options perspective of Taiwan companies. *Economic Research-Ekonomska Istraživanja*, *32*(1), 3835–3852. https://doi.org/10.1080/1331677X.2019.1679213

Macrotrends. (2022). Meta Platforms Market Cap 2010-2022. https://www.macrotrends.net/stocks/charts/META/meta-platforms/market-cap

Mazo Salmerón, M. E. (2015). The communication gap in CSR between companies and social organisations. *ADResearch ESIC International Journal of Communication Research*, *12*(12), 46–63. https://doi.org/10.7263/adresic-012-03

Meinshausen, N., & Hambly, B. M. (2004). Monte Carlo methods for the valuation of multiple-exercise options. *Mathematical Finance*, *14*(4), 557–583. https://doi.org/10.1111/j.0960-1627.2004.00205.x

Méndez-Suárez, M., & Crespo-Tejero, N. (2021). Why do banks retain unprofitable customers? A customer lifetime value real options approach. *Journal of Business Research*, *122*, 621–626. https://doi.org/10.1016/j.jbusres.2020.10.008

Merton, R. C. (1973). Theory of rational option pricing. *The Bell Journal of Economics and Management Science*, *4*(1), 141–183. https://doi.org/10.2307/3003143

Merton, R. C. (1974). On the pricing of corporate debt: The risk structure of interest. *Journal of Finance*, *29*(2), 449–470.

Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information. *The Journal of Finance*, *42*(3), 483–510. https://doi.org/10.1111/j.1540-6261.1987.tb04565.x

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, *83*(2), 340–363. https://doi.org/10.1086/226550

Minor, D., & Morgan, J. (2011). CSR as reputation insurance: Primum non nocere. *California Management Review*, *53*(3), 40–59. https://doi.org/10.1525/cmr.2011.53.3.40

Moel, A., & Tufano, P. (2002). When are real options exercised? An empirical study of mine closings. *Review of Financial Studies*, *15*(1), 35–64. https://doi.org/10.1093/rfs/15.1.35

Monfort, A., & Villagra, N. (2016). Corporate social responsibility and corporate foundations in building responsible brands. *El Profesional de la Información*, *25*(5), 767–777. https://doi.org/10.3145/epi.2016.sep.07

Monfort, A., Villagra, N., & Sánchez, J. (2021). Economic impact of corporate foundations: An event analysis approach. *Journal of Business Research*, *122*, 159–170. https://doi.org/10.1016/j.jbusres.2020.08.046

Morsing, M., & Schultz, M. (2006). Corporate social responsibility communication: Stakeholder information, response and involvement strategies. *Business Ethics: A European Review*, *15*(4), 323–338. https://doi.org/10.1111/j.1467-8608.2006.00460.x

Niedertscheider, M., Haas, W., & Görg, C. (2018). Austrian climate policies and GHG-emissions since 1990: What is the role of climate policy integration? *Environmental Science & Policy*, *81*, 10–17. https://doi.org/10.1016/j.envsci.2017.12.007

Noronha, C., Guan, J., & Fan, J. (2018). Firm value and social contribution with the interaction of corporate governance. *Sustainability Accounting, Management and Policy Journal*, *9*(2), 165–200. https://doi.org/10.1108/SAMPJ-10-2016-0078

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *Journal of Business Ethics*, *125*(4), 693–707. https://doi.org/10.1007/s10551-013-1944-3

Pérez, A., del Mar García de los Salmones, M., & Liu, M. T. (2019). Maximising business returns to corporate social responsibility communication: An empirical test. *Business Ethics: A European Review*, *28*(3), 275–289. https://doi.org/10.1111/beer.12221

Peters, R., Waples, E., & Golden, P. (2014). A real options reasoning approach to Corporate Social Responsibility (CSR): Integrating real option sensemaking and CSR orientation. *Business and Society Review*, *119*(1), 61–93. https://doi.org/10.1111/basr.12025

Porter, M. E., & Kramer, M. R. (2002). The competitive advantage of corporate philanthropy. *Harvard Business Review*, *80*(12), 56–68, 133.

Robbins, S. P., & Coulter, M. (2005). *Administración* (Octava ed.). Pearson Educación.

Sadler, T. R. (2016). Institutional pressures and organizational characteristics: The case of polluting emissions and the toxics release inventory. *Journal of Interdisciplinary Economics*, *28*(1), 1–23. https://doi.org/10.1177/0260107915609826

Sanz, R., & Sabater, R. (2002). Fundamentos de la Dirección Estratégica de Recursos Humanos: Evolución del pensamiento en estrategia. *Dirección y Organización*, (27), 68–77.

Schwartz, E. (2004). Patents and R&D as real options. *Economic Notes*, *33*(1), 23–54. https://doi.org/10.1111/j.0391-5026.2004.00124.x

Schwartz, E. (2013). The real options approach to valuation: Challenges and opportunities. *Latin American Journal of Economics*, *50*(2), 163–177. https://doi.org/10.7764/LAJE.50.2.163

Seele, P., & Gatti, L. (2017). Greenwashing revisited: In search of a typology and accusation-based definition incorporating legitimacy strategies. *Business Strategy and the Environment*, *26*(2), 239–252. https://doi.org/10.1002/bse.1912

Seifert, B., Morris, S. A., & Bartkus, B. R. (2003). Comparing big givers and small givers: Financial correlates of corporate philanthropy. *Journal of Business Ethics*, *45*(3), 195–211. https://doi.org/10.1023/A:1024199411807
Sen, S., & Bhattacharya, C. B. C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research*, *38*(2), 225–243. https://doi.org/10.1509/jmkr.38.2.225.18838
Servera-Francés, D., & Piqueras-Tomás, L. (2019). The effects of corporate social responsibility on consumer loyalty through consumer perceived value. *Economic Research-Ekonomska Istraživanja*, *32*(1), 66–84. https://doi.org/10.1080/1331677X.2018.1547202
Simon, H. A. (1979). Rational decision making in business organizations. *American Economic Review*, *69*(4), 493–513. https://doi.org/10.2307/1808698
Stop Hate for Profit. (2020). *Stop hate for profit campaign*. https://www.stophateforprofit.org.
Trigeorgis, L., & Reuer, J. J. (2017). Real options theory in strategic management. *Strategic Management Journal*, *38*(1), 42–63. https://doi.org/10.1002/smj.2593
Villagra, N., Monfort, A., & Méndez-Suárez, M. (2021). Firm value impact of corporate activism: Facebook and the stop hate for profit campaign. *Journal of Business Research*, *137*, 319–326. https://doi.org/10.1016/j.jbusres.2021.08.052
Volkema, R. J. (1983). Problem formulation in planning and design. *Management Science*, *29*(6), 639–652. https://doi.org/10.1287/mnsc.29.6.639
Waddock, S., & Googins, B. K. (2011). The paradoxes of communicating corporate social responsibility. In Ø. Ihlen, J. L. Bartlett, & S. May (Eds.), *The handbook of communication and corporate social responsibility* (pp. 23–43). Wiley-Blackwell.
Wang, H., & Qian, C. (2011). Corporate philanthropy and corporate financial performance: The roles of stakeholder response and political access. *Academy of Management Journal*, *54*(6), 1159–1181. https://doi.org/10.5465/amj.2009.0548
Williams, R. J., & Barrett, J. D. (2000). Corporate philanthropy, criminal activity, and firm reputation: Is there a link? *Journal of Business Ethics*, *26*(4), 341–350. https://doi.org/10.1023/A1006282312238
Wood, D. J. (1991). Corporate social performance revisited. *The Academy of Management Review*, *16*(4), 691–718. https://doi.org/10.2307/258977
Wu, B., Jin, C., Monfort, A., & Hua, D. (2021). Generous charity to preserve green image? Exploring linkage between strategic donations and environmental misconduct. *Journal of Business Research*, *131*, 839–850. https://doi.org/10.1016/j.jbusres.2020.10.040
Zolotoy, L., O'Sullivan, D., & Klein, J. (2019). Character cues and contracting costs: The relationship between philanthropy and the cost of capital. *Journal of Business Ethics*, *154*(2), 497–515. https://doi.org/10.1007/s10551-017-3475-9
Zuckerberg, M. (2020). *Facebook post*. https://www.facebook.com/zuck/posts/10112048980882521