UNDERSTANDING STOCK MARKET RESPONSES TO FIRMS' CSR NEWS IN FAMILY VS. NON-FAMILY FIRMS

Naciye Sekerci

Utrecht University School of Economics, Kriekenpitplein 21-22, 3584 EC Utrecht, The Netherlands

n.sekerci@uu.nl

& Knut Wicksell Centre for Financial Studies, Lund University, Lund, Sweden

Jamil Jaballah

Grenoble Ecole de Management 12, rue Pierre Semard, 38000 Grenoble, France.
jamil.jaballah@grenoble-em.com

Marc van Essen

University of South Carolina, 1014 Greene Street, Columbia, USA,
Marc.vanessen@moore.sc.edu

& EMLYON Business School

Nadine Kammerlander

WHU – Otto Beisheim School of Management, Burgplatz 2, 56179 Vallendar, Germany,
nadine.kammerlander@whu.edu

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ABSTRACT

We study family firm status as an important condition for signaling theory; specifically, we propose that the market reacts more positively to positive and more negatively to negative CSR news (i.e., signals) of family firms than to similar news of non-family firms. Moreover, we propose that during recession, these relationships switch to the opposite direction. Based on an event study of 1,247 CSR news for all firms listed on the French SFB120 stock market index (2003-2013), we find support for our hypotheses. Moreover, a post-hoc analysis reveals that the relationships are contingent on whether a family CEO leads the firm.

Key Words: family firms, signaling theory, corporate social responsibility, market reaction, recession, family CEO.

INTRODUCTION

Much research on family firms has focused on the consequences of family firms' actions on family-owners and managers (e.g., Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007), non-family managers and employees (Tabor, Chrisman, Madison, & Vardaman, 2018), as well as partners in the family firm's value chain (Mitchell, Agle, Chrisman, & Spence, 2011). However, one important stakeholder has been largely ignored so far: outside (i.e., non-family) shareholders of listed family firms (Anderson & Reeb, 2004). For listed family firms, outside investors provide additional equity for growth (Kotlar, Signori, De Massis, & Vismara, 2018; La Porta, Lopez-de-Silanes, & Shleifer, 1999; Leitterstorf & Rau, 2014). Moreover, good firm valuation measured in high stock returns can lead to an enhanced reputation of the family firm, as well as of the family and the individual manager (Zellweger & Nason, 2008), and this improved firm reputation can be leveraged in the marketplace among suppliers, customers, or capital providers such as banks (Sirmon & Hitt, 2003).

The assessment of firms by outside investors is much affected by the signals that those investors receive on the behavior of the respected firms (e.g., Park & Mezias, 2005; Zhang & Wiersema, 2009). While signals displaying a high quality of the firm and indicating "good" behavioral intentions lead to positive assessment of firms by investors, negative signals indicating doubtful behavior intentions might ultimately decrease the firm's market value (e.g., Maung, Miller, Tang, & Xu, 2020). However, despite increasing academic knowledge on the signals–investor reaction relationship (Certo, 2003; Maung et al., 2020; Park & Mezias, 2005; Zhang & Wiersema, 2009), it is likely that insights gained in the context of listed non-family firms are not easily transferrable to family firms. The underlying reason is that investors might expect different strategic behavior of family firms from that of non-family firms (Miller, Le Breton-Miller, & Lester, 2013), and thus react differently on the stock market to similar signals referring to family vs. non-family firms (Maung et al., 2020). However, so far, we have only limited knowledge about how outside shareholders perceive signals from family firms and,

consequently, react to family firms' activities as compared to the same activities conducted by non-family firms (André, Ben-Amar, & Saadi, 2014; Chang, Wu, & Wong, 2010; Wong, Chang, & Chen, 2010). This constitutes an important research gap, given the relevance of family firms' stock market valuation for firm reputation, liquidity, and potentially also survival (Zellweger & Nason, 2008).

One particularly important context to study investors' perception of firm signals is the information they receive on the firms' corporate social responsibility (CSR), i.e., CSR news—new public information on the firm's socially responsible (or irresponsible) activities[1]. Prior research has shown that CSR has not only become increasingly common over the last few decades (Malik, 2015) for both, family and non-family firms, but that investors nowadays also strongly build on CSR-related signals when evaluating firms (Krueger, 2015; Renneboog, Ter Horst, & Zhang, 2008). In general, this stream of research suggests that investors favor positive CSR news as they are assumed to reflect high firm quality, yet their final evaluation might depend on their assessment of the firm's behavior and their underlying intentions (Connelly, Hoskisson, Tihanyi, & Certo, 2010; Filatotchev & Bishop, 2002), given that the real motives of the firm to engage in CSR may not be obvious to the third party.[2] Moreover, prior research suggests that the assessment of CSR-related signals might depend on the signal environment (Connelly, Certo, Ireland, & Reutzel, 2011), such as the economic conditions in which the firms operate. Hence, we ask the following research questions: *How does family firm status matter for outside investors' perception of signals and thus for their reactions to positive and negative CSR news*? *How do those relationships depend on the signal environment and change in times of recession?*

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[1] While firms might send signals on their CSR activities by themselves, e.g., through press releases, this article focuses on signals on family firms' and non-family firms' CSR activities sent by a third party (CSR rating agency) in order to account for comparability among firms and to also include information on negative CSR news.

[2] For instance, it might not be entirely clear to the investors as signal receivers if firms really focus on social responsibility as part of their (long-term) strategy or if the CSR activities can be seen as "greenwashing" PR-related activities.

We integrate research on signaling theory (Connelly et al., 2011; Spence, 1973, 2002) and family firms (Kotlar et al., 2018; Leitterstorf & Rau, 2014) to theorize on how outside investors interpret similar signals from family and non-family firms differently, specifically in the CSR context (Maung et al., 2020). Our first two hypotheses posit that outside investors react more positively to positive CSR news and more negatively to negative CSR news from family firms than from non-family firms. When receiving signals such as CSR news, investors need to evaluate the behavioral intentions of the firm. We propose that, due to family firms' long-term focus (Lumpkin & Brigham, 2011) and stakeholder orientation (Cennamo, Berrone, Cruz, & Gómez-Mejía, 2012; Mitchell et al., 2011), positive CSR news are in line with the expected behavior, hence increasing the signal *honesty* and *credibility* and ultimately leading to a more positive reaction. In a similar vein, negative CSR news run counter to the expected family firm behavior, decreasing signal honesty and credibility, resulting in an even more negative investor reaction. Moreover, we propose that the effectiveness of signaling is dependent on the signaling environment (Connelly et al., 2011), specifically the overall economic situation. We hypothesize that the influence of family firm status reverses in times of recession, since the recession alters what investors might perceive as expected or desired firm behavior. We test our hypotheses in an event study of 1,247 positive and negative CSR news for French public firms from 2003 to 2013 and find support for our hypotheses. Moreover, post hoc tests convey substantial heterogeneity among family firms, revealing that the identified effects also depend on whether the family firm is led by a family CEO or a non-family CEO.

Our study makes the following contributions to the literature, especially regarding family firms and signaling theory. First, we contribute to the important yet still emerging literature stream on signaling in the family firm context (e.g., Maung et al., 2020) by hypothesizing how outside investors react differently to similar signals from family firms and non-family firms. We thereby advance research by theorizing on outside investors' specific interpretations of what is authentic and legitimate (or 'expected') for family firms, leading to different interpretations of

signal honesty of signals and credibility sent by family firms vs. non-family firms. We also contribute to signaling theory in general and family firm signaling in particular by studying negative CSR news, which can be seen as *unintentional* signals, as well as recession as signaling environment—both of which relate to underresearched areas in the signaling research stream (Connelly et al., 2011). Second, we contribute to the research on family firms and entrepreneurship by investigating the consequences of CSR news, and especially their effect on the stock market (Jayamohan, McKelvie, & Moss, 2017). Specifically, we show that, in general, positive CSR news of family firms is perceived positively and negative CSR news is perceived negatively by outside investors—a finding, which also carries important practical implications. These findings might also help disentangle the so far puzzling effect of positive and negative CSR news on the stock market (e.g., Ramchander, Schwebach, & Staking, 2012) through including family firm status as well as the economic environment as crucial influencing factors. Such insights are also important for entrepreneurship research because some environmental and social entrepreneurial initiatives (such as "green innovations" or social business models) will increase a firm's CSR and thus lead to positive CSR news. Third, we contribute to the entrepreneurship literature by showing that liquidity shocks that family firms face during the financial recession adversely affect outside investors' perception of the CSR-related signals, which might ultimately impact the firms' access to capital in the long run. Lastly, we show in our post-hoc tests that the identified relationships depend on whether the firm is managed by a family CEO, thereby contributing to the research on family firm heterogeneity (Chua, Chrisman, Steier, & Rau, 2012).

LITERATURE REVIEW

Stock market reaction to family firms and non-family firms: The role of signaling theory

Shareholders are important stakeholders for any listed firm (Sauerwald, van Oosterhout, & van Essen, 2016), including listed family firms (Fernando, Schneible, & Suh, 2014), which are

defined as firms in which multiple members of the same family, jointly or subsequently, own a controlling stake (Sraer & Thesmar, 2007) and which are the dominant form of firm ownership around the world (La Porta et al., 1999). Notably, besides their opportunity to challenge important firm activities[3], outside, non-controlling shareholders are active in selling and buying shares on a continuous basis, thereby affecting the stock market value of the company.

Outside shareholders[4] are thus continuously seeking signals that show firms' quality and intentions and are eager to gather timely information about whether they should invest in a specific company or whether they should maintain or sell their existing shares (Connelly et al., 2011). Signaling is particularly essential in the presence of information asymmetry (Spence, 2002). As outside investors have limited information about the underlying value of the firm (i.e., information asymmetry between the firm and the investors), they seek signals (such as on earning announcement, acquisition behavior, or CSR) in the market to build their perceptions about the firm on. Hence, to understand shareholders' investment behavior, signaling theory promises to be a useful theoretical lens. The signaling theory originates from the seminal work by Spence (1973) who demonstrated that job market candidates aim to signal their underlying abilities and skills to the prospective employers. To account for being a signal, information shared needs to be *relevant* for the decision to be made (e.g., education is likely relevant in the job application context, whereas preferred music style is not), *observable* (i.e., the receiver must notice the signal), and *costly* to imitate in order to distinguish themselves from the low-quality peers. Through signaling, the sender (e.g., a job application candidate or a firm seeking investment) reduces the information asymmetry between the sender and the receiver, especially about the quality or intentions of the sender (Spence, 2002) and hence might influence the receiver in their decision-making (e.g., about which candidate to hire or which firm to invest in).

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[3] For instance, through making requests at annual meetings (Easterbrook & Fischel, 1996), voting for or against directors (Hillman & Keim, 2001), and (dis-)approving proposals suggested by the board (Bebchuk, 2005).

[4] In this manuscript, we define outside shareholders as shareholders that are not members of the controlling family (Amit, Ding, Villalonga, & Zhang, 2015; Burkart, Panunzi, & Shleifer, 2003; Lins, Volpin, & Wagner, 2013). We use the terms outside investors and outside shareholders interchangeably.

Specifically, research treats outside shareholders as important receivers of signals that are intentionally or unintentionally sent by listed companies and their controlling shareholders (Certo, Daily, & Dalton, 2001; Goranova, Alessandri, Brandes, & Dharwadkar, 2007). As a consequence, outside shareholders typically react almost instantaneously to such signals—especially when they perceive the signals as true reflections of the firm's mindset and behavior (Botero, 2014; Ehrhart & Ziegert, 2005; Kahlert, Botero, & Pruegl, 2017; Tabor, Madison, Daspit, & Holt, 2019) rather than PR—through adapting their buy, hold, and sell behaviors, mirrored in changes in the firm's stock price (Sauerwald et al., 2016). As such, it is no surprise that an increasing number of scholars have paid attention to studying how certain signals, such as M&A announcements (Francis, Hasan, & Sun, 2008) or releases of earning surprises (Karpoff, Lee, Martin, 2008), affect the respective firm's stock price.

Research on signaling theory has revealed a multitude of factors that affect how receivers react to signals that they notice. The interpretation of the signal, that is the process of translating the signal into perceived meaning, depends on *signal credibility* (also often referred to as reliability) (Connelly et al., 2011). According to Connelly et al. (2011), a signal's credibility is determined by the combination of two concepts: i) the signal *fit* (also known as signal quality) which refers to the extent to which the signal is correlated with the unobservable quality, and ii) the signal *honesty*, which is associated with the extent to which the signaler indeed has the unobservable quality that is being signaled. More specifically, the signal honesty refers to the assessment whether the signal might reflect the expected behavior of the sender and thus reveals "true intentions." For example, if firms that signal stock repurchases do not actually repurchase stocks in future, this behavior results in a discrepancy between the signaled action and the realized action, often referred as decoupling (Westphal & Zajac, 2001). Firms or individuals who engage in such decoupling may develop a reputation for dishonesty, and therefore their future signals would be likely interpreted as dishonest by receivers.

Besides the characteristics of the signal and the sender (which affect signal credibility

and thus its interpretation), also the signaling environment has been identified as an important boundary context in signaling theory (Connelly et al., 2011). For instance, management research has shown that stock market reacts more favorably to alliances in a signaling environment characterized by a lack of munificence (Park & Mezias, 2005). Moreover, Gulati and Higgins (2003) study how young firms' partnerships with VCs and the resulting IPO success depend on the equity market condition (i.e., hot or cold) which is an important signal environment.

A nascent research stream has paid attention to family firm status as an important boundary condition in signaling theory. In particular, this stream of research has studied the effect of family firm status on signal perceptions of consumers (Martinez, Galván, Botero, González-López, & Mateos, 2019), job applicants (Arijs, Botero, Michiels, & Molly, 2018; Kahlert et al., 2017), and investors (Duncan & Hasso, 2018; Maung et al., 2020), especially in initial public offering situations (Chandler, Payne, Moore, & Brigham, 2019; Huang, Li, & Zhang, 2019). Moreover, they studied signaling in succession situations (Dehlen, Zellweger, Kammerlander, & Halter, 2014). Specifically, listed family firms have family members as controlling shareholders, who are characterized as long-term and dedicated investors in the family firm (Faccio & Lang, 2002; van Essen, Engelen, & Carney, 2013) and who are generally known to the public (Sauerwald et al., 2016). In many cases, the family shareholders possess only a—though controlling—fraction of their firm's shares (La Porta et al., 1999), while the remaining shares belong to outside shareholders, such as institutional and individual investors, that frequently sell and buy stocks (Fernando et al., 2014) based on their perceptions of future firm value. Prior family firm research has frequently pointed to family shareholders' behind-the-scenes access to boards and managers, their access to private information, as well as their ability to extract private benefits from the firm (Becht, Franks, Mayer, & Rossi, 2009), making this organizational form an important boundary condition for signaling theory.

So far, research on signaling in family firms has mostly treated family firm status as an isolated signal, that can be either seen as positive (e.g., due to authenticity of their behavior [e.g.,

Maung et al., 2020] or due to family owners' investing in their own firm [e.g., Huang et al., 2019]) or negative (e.g., due to family owners being assumed to be more risk averse [Chandler et al., 2019]). In our study, we go one step beyond this current research, thereby following a recent study by Maung et al. (2020). Instead of treating family firm status as a signal by its own, we argue that family firm status affects how other, relevant signals (specifically CSR news) are perceived by signal receivers. In other words, we see family firm status as an important boundary condition in signaling research. Such theorizing is important given prior empirical evidence that found that family firm status triggers a more positive stock market reaction to signals of M&A announcements (André et al., 2014) but a more negative reaction to announcements of corporate venturing activities (Wong et al., 2010) and a more negative reaction to innovation announcements (Chang et al., 2010), hence pointing to family firm status as relevant boundary. Specifically, we will argue that family firm status will affect signal credibility, and in particular family honesty, as family firms differ from other forms of organizations (e.g., Feldman, Amit, & Villalonga, 2016; Koenig, Kammerlander, & Enders, 2013; Miller et al., 2013) given their idiosyncratic governance (principal-agent alignment and specific principal-principal conflicts (Anderson, Duru, & Reeb, 2009)), their socioemotional wealth considerations (Gómez-Mejía et al., 2007), and the goals that they pursue (Berrone, Cruz, & Gómez-Mejía, 2012). Those idiosyncrasies typically result in a stakeholder orientation (Cennamo et al., 2012; Mitchell et al., 2011), a long-term perspective (Lumpkin & Brigham, 2011), and substantial differences with regard to the prevalent agency costs (Schulze, Lubatkin, Dino, & Buchholtz, 2001) compared to other firms. As such, investors might attribute a specific ('expected') behavior to family firms, which affects their perceptions of signals sent by family firms.

CSR as important signal

CSR is defined as "context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social, and

environmental performance" (Aguinis, 2011, p. 855). CSR news, that is the communication of a firm's changes in CSR, constitute an important signal to outside investors (i.e., receivers) (Akpinar, Jiang, Gómez-Mejía, Berrone, & Walls, 2008) because of the following reasons: first, CSR signals are *relevant* for the investors since investors incorporate non-financial information in their investment decisions (e.g., Certo, 2003), and CSR is one of the essential non-financial information that investors care about nowadays (Krueger, 2015). CSR is also a relevant signal because an increasing number of outside investors are bound to investments in firms that care about socially and ecologically sustainable standards (Renneboog et al., 2008). Hence, CSR news might be seen as a signal of firm quality and hence reduce outside investors' information asymmetry when pondering about which firm to invest into. Second, CSR activities are *costly* for the firms that conduct them, at least in the short term, given the amount of human and financial resources required to conduct such activities. In particular, sending positive CSR signals is costly for firms with inferior CSR activities (Certo, 2003; Schell, Groote, Moog, & Hack, 2019).

Third, CSR signals are (nowadays) *observable* to the investors as reporting standards on firms' CSR have been heightened over the last years, and rating agencies, such as KLD for U.S. firms (Krueger, 2015) and Vigéo for European firms (Cellier & Chollet, 2016; Dupré, Girerd-Potin, Jimenez-Garces, & Louvet, 2006; Ferrell, Liang, & Renneboog, 2016), have emerged. As such, CSR news now becomes immediately visible to the public in general and to outside investors in particular because CSR agencies adapt their ratings in almost real time, which raises the observability of this signal (Warner, Fairbank, & Steensma, 2006). In other words, when firms engage in CSR activities, these (often initially hidden) signals are turned into observable signals distributed by the agencies. The CSR signals sent by firms (and distributed by agencies) can be either positive (e.g., information about firms' investments in employee health programs or initiatives to reduce the carbon footprint) or negative (e.g., information about employee layoffs or environmental scandals as well as the downscaling or abandonment of prior

stakeholder-oriented programs). Hence, they serve to reduce the investors' information asymmetry regarding the firm's quality.

What makes CSR news even more interesting from a signaling perspective is that not only the relevance and the visibility (Ramaswami, Dreher, Bretz, & Wiethoff, 2010) of this signal have increased over the last years, but the interpretation of CSR might also be ambiguous and context-dependent. While negative CSR news has previously been shown to trigger negative (Krueger, 2015) or insignificant (Fernandez-Izquierdo, Arago-Manzana, Matallin-Saez, & Nieto-Soria, 2009) reactions by investors, the effect of positive CSR news is more complex (e.g., Barnea & Rubin, 2010; Margolis, Elfenbein, & Walsh, 2009). While some researchers argue for an alignment of interests between shareholders and other stakeholders and thus propose that managers can "do well by doing good" (e.g., Falck & Heblich, 2007; Fatemi, Fooladi, & Tehranian, 2015; Flammer & Ioannou, 2015), resulting in a positive market reaction, others are more pessimistic. They accuse firms and in particular their managers of "greenwashing" activities that seek to benefit the managers instead of the shareholders (Barnea & Rubin, 2010; Petrenko, Aime, Ridge, & Hill, 2016) and that divert much needed resources from other, core firm activities (see Barnett, 2007 for an overview), ultimately leading to a negative market reaction.[5] Such ambiguous findings point to the need to study contingency factors to disentangle the CSR-stock market valuation puzzle.

Moreover, the specific literature upon CSR signaling in family firms is rather scarce. The few available studies investigate CSR mission statements of the firm (Block, Stiglbauer, Kuhn, & Wagner, 2015), charitable donations by the CEO (Maung et al., 2020), and the legal dimensions of CSR (i.e., business legality; Dawson, Ginesti, & Sciascia, 2020). These articles reveal that family firms use CSR related signals to communicate messages to their stakeholders

[5] In line with such opposing theoretical arguments, the empirical evidence is ambiguous (see Malik, 2015, for an overview of studies): while some researchers have revealed a positive effect of firms' positive CSR news on firm performance (Arya & Zhang, 2009; Ramchander et al., 2012), others have revealed a negative effect (Krueger, 2015), and still others have not detected a significant effect (Capelle-Blancard & Petit, 2019; Fernandez-Izquierdo et al., 2009).

about trustworthiness and their contribution to economy, society, and environment. However, this literature also suggests that family firms might send CSR signals in order to cover up of unethical financial firm behavior such as earnings management (Gavana, Gottardo, & Moisello, 2017). Despite those advancements, the effect of CSR-related signals on investors, differentiating between family firms and non-family firms, is still unknown.

HYPOTHESES DEVELOPMENT

Stock market responses to signals of positive and negative CSR news in family vs. non-family firms

Researchers have argued that outside investors, in general, react positively to signals indicating positive CSR news (Ramchander et al., 2012). Building on signaling theory, positive CSR news, such as news regarding investments in environmental programs, can be seen as a signal that the firm values sustainability practices and cares about its stakeholders (Connelly et al., 2011)—which results in improved social capital and reputation that might ultimately benefit the investors (Maung et al., 2020). In addition, positive CSR news might serve as a signal for a firm's general high level of quality (Ding & Pukthuanthong, 2013), as research assumes that effective stakeholder management leads to a firm's competitive advantage (Ramchander et al., 2012), which, in the long term, despite some potentially unavoidable costs, increases value for the firm's shareholders (Hillman & Keim, 2001). Indeed, this argumentation of positive CSR news as a positive signal that "fits" with overall firm quality (Block et al., 2015; Gavana et al., 2017; Lamb & Butler, 2016) is in line with prior literature proposing that "it pays to be green" (e.g., Dimson, Karakas, & Li, 2015; Edmans, 2011; Orlitzky, Schmidt, & Rynes, 2003; Russo & Fouts, 1997; Waddock & Graves, 1997).

Building on literature that found that family firm status is important for signal interpretation by investors (Chandler et al., 2019; Ding & Pukthuanthong, 2013; Duncan & Hasso, 2018; Huang et al., 2019), we argue that the positive CSR news of family firms is seen as

a *particularly* positive signal by outside investors because family firm status increases the signal honesty, and thus signal credibility, and hence determines how the outside investors interpret the received signal (Connelly et al., 2011). In general, the interpretation of the CSR signal can be blurred with the presence of greenwashing activities (Mahoney, Thorne, Cecil, & LaGore, 2013). Therefore, investors need to carefully analyze the signal credibility in terms of signal fit and honesty, and determine if the signal and signaler reflect the true nature of the business or not.

We propose that family firm status affects the signal honesty and credibility and hence the way how investors assess the CSR signals from family firms in the following specific ways. First, positive CSR signals might be perceived as particularly favorable in case of family firms because investors might assess such signal as credible and reflecting the true nature and intentions of the family firm (Huang et al., 2019) as family firms are expected to send positive CSR signals due to their commitment to gain acceptance and approval of their stakeholders and the society at large (Mahoney et al., 2013). Specifically, family firms are known to pursue not only financial goals but also non-financial goals (Kets de Vries, 1993; Tagiuri & Davis, 1992), including the desire to build sustainable connections with stakeholders and enhance the family's reputation through the firm (Berrone et al., 2012). Because of their socioemotional wealth considerations, which differentiate family firms from non-family firms, family firms are generally associated with socially (Cennamo et al., 2012) and environmentally (e.g., Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana, 2010) friendly activities. As a consequence, we expect that outside investors perceive signals of positive CSR news regarding family firms as highly legitimate (Deephouse & Jaskiewicz, 2013) and as an authentic signal reflecting genuine firm strategy and vision rather than as a mere outcome of (dishonest) 'greenwashing campaigns,' as is often the perception for positive CSR news of non-family firms.

Second, we theorize that the low levels of principal-agent costs in family firms (Chrisman, Chua, & Litz, 2004) and the "insider-status" of family owners, who know the family

firm quality and its intentions very well, also increase the perceived signal credibility and thus lead to overall more positive shareholder assessments of positive CSR news. Given that CEOs in family firms are either intrinsically aligned with the owners' goals (e.g., through family membership) or closely monitored (in the case of non-family ownership because of the family owner's wealth concentration and the resulting incentive and power to engage in close monitoring; Anderson, Mansi, & Reeb, 2003), there is a high level of goal alignment among owners and managers in family firms (Anderson & Reeb, 2003). This increases the legitimacy, and thus perceived honesty, of the emitted signal. In other words, CEOs of family firms are particularly trustworthy when sending CSR-related signals because it is assumed that their CSR is not driven by a self-maximizing motivation of agents, as would be the case in non-family firms (Petrenko et al., 2016). As research has shown that investors react positively to an alignment of core beliefs and values with one's actions (Du, Bhattacharya, & Sen, 2007), and hence the authentic demonstration of firm's social norms add value (Godfrey, 2005), we propose that family firm status enhances outside shareholders' positive assessment of positive CSR news, as the family firm status strengthens the signal credibility.

Last, we theorize that family firms' often observed good stakeholder management enhances the signal honesty (Durcikova & Gray, 2009). As signal honesty further drives signal credibility (Connelly et al., 2011), this leads to more positive reactions of outside investors. While many non-family firms also dedicate efforts and time to improve their stakeholder relations, leading to improved shareholder evaluations (Hillman & Keim, 2001), family firms have often been associated with *extraordinarily* levels of stakeholder management (e.g., Cennamo et al., 2012; Mitchell et al., 2011), partly due to their long-term commitment. Researchers have, for instance, highlighted the "community" perspective of family firms (Miller & Le Breton-Miller, 2005). In other words, family firms might use their family-specific resources (Habbershon & Williams, 1999; Sirmon & Hitt, 2003) to create enduring, sustainable value from CSR for the family business that is valued by outside shareholders (Maung et al.,

2020). As such, we argue that outside investors might attribute particularly high levels of credibility to the positive CSR news of family firms, given their embeddedness in the family firm culture (McShane & Cunningham, 2012). In summary, we propose the following:

> **Hypothesis 1a:** *Investors react more positively to signals of positive CSR news from family firms than to similar signals from non-family firms.*

Research on signals mostly focuses on positive, intentionally sent signals (e.g., Deephouse, 2000) because firms generally aim to hide any negative aspects related to their business. However, research also acknowledges that firms may send out negative signals (e.g., Fischer, & Reuber, 2007), for instance, as byproducts of their strategic activities. We propose that negative CSR news induced, for instance, through cuts in employee programs, the installation of an environmentally unfriendly factory, or through governance scandals, are negative signals (unintentionally) sent by firms to outside investors. Extending the arguments proposed for H1a, we suggest that outside investors generally react negatively to signals of negative CSR news (Ramchander et al., 2012). Negative CSR news[6] might be interpreted as deviations from what is considered socially responsible behavior by the general public, including outside investors, and thus as a signal that lacks fit, as negative CSR news are not correlated with superior firm quality. Outside investors might also speculate that signals of negative CSR news, which is often associated with cuts in CSR budgets, is a sign of a firm's latent competitive or financial challenges and might thus signal a lack of firm quality. Hence, outside investors likely react negatively to signals of negative CSR news, as previous CSR literature revealed (Krueger, 2015).

We continue to argue that outside investors react *even more negatively* to the signal of negative CSR news of family firms than to that of non-family firms as they consider such signal as inconsistent with the family firms' expected behavior, thus further harming signal credibility.

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[6] such as information on "environmental pollution, discriminatory human resource practices, [or] corporate tax avoidance" (Hoi, Wu, & Zhang, 2018, p. 650) or the partial or full termination of previously conducted CSR initiatives.

The reason is that the public image of family firms consists of 'good stewards' (Neckebrouck, Schulze, & Zellweger, 2018) with a focus on social responsibility (Godfrey, 2005). Moreover, CEOs of family firms typically have high levels of power to enforce their intended CSR activities within the firm (Marques, Presas, & Simon, 2014). As such, outside investors might assess the negative CSR news of family firms as being in stark contrast to their idiosyncratic goals and values, as violating what is considered the true self of family firms and, as such, as dishonest signals. Moreover, outside investors might even speculate that negative CSR news of family firms is a signal of family firm owners expropriating other investors through maximizing their wealth (e.g., through increased dividend payments) rather than investing in CSR (Sekerci, 2020). For non-family firms, given their clear and exclusive focus on economic goals, investors might anticipate short-term-oriented decisions resulting in negative CSR news and thus react less negatively than they would to similar signals of family firms. In sum, as a consequence of perceived nonconforming firm behavior (Miller et al., 2013) and hence a perceived "misfit" of the signal and what is the expected behavior for high quality (family) firms, outside investors might assess such signals of family firms even more negatively than that of other firms.

> **Hypothesis 1b:** *Investors react more negatively to signals of negative CSR news from family firms than to similar signals from non-family firms.*

Recession as a contingency factor

In the following, we argue that the outside investors' interpretation of signals related to CSR depends on signal environment, particularly the overall economic situation. Specifically, we argue that in times of recession, outside investors interpret signals of CSR news of firms in an opposite way, and this effect is even stronger in the case of family firms. The economic situation is a particularly important signaling environment, as bad economic situations, such as recessions increase the level of uncertainty in society and economics (Davidsson & Gordon, 2016), leading to generally increased information asymmetries (De Haas & Van Horen, 2010), and thus an increased relevance of emitted signals, and the interpretation thereof (Edelman & Yli-Renko,

2010).

In times of recession, which typically come along with liquidity shortages (Garcia-Appendini & Montoriol-Garriga, 2013), the expectation amongst outside investors of which signals are associated with firm quality—and thus constitute high levels of "fit"—is likely reversed. Specifically, during recession, outside investors might expect firms to concentrate more on the immediate economic well-being of their firms than on the long-term sustainability with regard to stakeholder relationships (Chu & Siu, 2001). In other words, instead of 'doing well by doing good,' signals related to positive CSR news in times of recession might be perceived as 'doing *worse* by doing good' (Lins et al., 2013), as they detract the firm's focus from core business units and divert resources to non-core areas. While signals of positive CSR news, such as information on investing additional money into voluntary measures to reduce environmental pollution, might be seen as a positive signal in times of economic prosperity (see our argumentation above), investors might interpret such signals as lacking legitimacy in times of recession because they expect firms to engage in different types of activities, that is, firm actions that lead to cutting costs and stabilizing revenues (Souto, 2009). In other words, there is a misfit" of the signal (i.e., positive CSR news) and the expected behavior (i.e., focusing on firm survival and cutting budgets) when the signal environment is characterized by recession.

We expect that the outside investors' negative interpretation of signals of positive CSR news during recession is even stronger for family firms. The underlying reason is that the characteristics, and subsequent stereotypes, of family firms lead investors to expect that those firms focus particularly on saving resources (and hence avoiding positive CSR news) in times of recession. Family firms have been found to be more concerned about firm survival and bankruptcy risk than other firms in general (e.g., Chrisman & Patel, 2012; Kempers, Leitterstorf, & Kammerlander, 2019) due to the owning families' socio-emotional concerns[7] (Gómez-Mejía

[7] While non-family firms might be sold to other businesses in case of illiquidity or hired managers might just leave the firm in case of an imminent bankruptcy, family firm owners do not consider such options. A loss of the family

et al., 2007) and their wealth concentration (Anderson et al., 2003). Hence, we argue that outside investors might assess signals of positive CSR news of family firms as particularly dishonest, and non-fitting signal, given the general expectation that family firms should engage in any action that increases efficiency, reduces cost, and ensures survivability throughout the recession. Such expectations of investors likely lead to an overall more negative reaction. In summary, we argue the following:

> **Hypothesis 2a:** *Investors react more negatively to signals of positive CSR news from family firms than to similar signals from non-family firms in times of recession.*

We further suggest that negative CSR news is viewed as a positive signal of firm quality by outside investors in times of recession. As argued above, in times of recession, firms are expected to focus on their (short-term) stability and survivability (van Essen et al., 2013) as recessions are typically associated with a large number of illiquid or over-indebted firms that ultimately suffer from insolvency or acquisition (Claessens, Djankov, & Klapper, 2003). Negative CSR news, such as information on cutting voluntary employee benefit programs or voluntary environmental programs that exceed legal standards, signal to investors that the firm takes the required means to cut costs and increase efficiency. In essence, outside investors likely interpret negative CSR news in times of recession as a signal that firms are aware of the economic situation and are willing to professionally handle the challenges at hand in order to benefit the firm financially in the short term and, as such, ensure its mid- and long-term survival. As a consequence, we suggest that outside investors react positively to signals of negative CSR news in times of recession due to the high levels of perceived signal fit.

We argue that this relationship is even stronger in the case of family firms. As already indicated above, family firms, more than other firms, are incentivized to ensure their long-term survival. As such, cutting costs through reducing CSR activities—hence emitting signals of

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firm in general—e.g., due to insolvency or take-over by another company—implies not only financial but also socioemotional losses to the family.

negative CSR news—particularly aligns with the behavior that investors expect of high quality firms in times of recession. As a consequence, outside investors might be particularly favorable about those signals from family firms. Moreover, investors typically assume that family owners, despite their positive aspects such as long-term commitment, are prone to take firm actions that are primarily beneficial to the family (instead of the firm) through increased family reputation, improved stakeholder relationships, and other benefits that might harm outside investors (Villalonga & Amit, 2006). Negative CSR news in times of recession might be interpreted as a clear signal that the family firm prioritizes economic goals at such times (as opposed to non-financial goals) and that it possesses experienced and professional management that has the ability to handle such crises. As a consequence, investors might perceive negative CSR news of family firms during recession as a signal of high firm quality. Hence, we propose the following:

> **Hypothesis 2b:** *Investors react more positively to signals of negative CSR news from family firms than to similar news from non-family firms in times of recession.*

METHODOLOGY

Sample and data collection

The dataset includes all firms listed on the French stock market SBF120 index[8] for at least one year in the 2003–2013 period. Due to missing data, the dataset was reduced from initially 153 firms to 133 firms. We use upgrades and downgrades in the Vigéo[9] CSR ratings over the 2003–2013 period to identify *positive* and *negative CSR news*, which constitute the independent variables in our event study (see description below). Vigéo is a French-based, internationally active company that was established more than 15 years ago and adopts a strategy similar to that

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[8] SBF 120 is a stock market index consisting of the 120 most actively traded stocks listed in the French stock market in Paris.
[9] http://www.vigeo-eiris.com/. After the merger of Vigéo and Eiris in 2015, Vigéo-Eiris is now positioned as a global player in ESG research. As Vigéo-Eiris has been one of the leading ESG data providers, Moody's acquired a majority stake in Vigéo-Eiris early in 2019 (http://vigeo-eiris.com/vigeo-eiris-and-moodys-investors-service-join-forces-to-celebrate-the-recognition-and-the-value-of-non-credit-evaluations/).

of credit rating agencies. According to Agefi[10], Vigéo is the French market leader in ESG research, with 87% of institutional investors using this platform and its updates. Vigéo rates and monitors the CSR of listed companies and immediately changes the assigned rating if and only if it observes a change in the firm's CSR. Specifically, Vigéo is an intermediary provider of social performance information (CSR news) that adopts an investor-pay model. Hence, investors pay the agency a fixed cost in exchange for information about the social performance of rated firms. This type of payment model should prevent the rating agency from any conflict of interest with the rated entities and ensure a timely update of the rating to the investors. Therefore, we assume that investors receive timely and neutral information about the rated entities.

For each firm analyzed, Vigéo provides ratings (on a scale from 0 to 100) regarding six CSR evaluation dimensions (Environment, Human Resources, Business Behavior, Human Rights, Community Involvement, and Corporate Governance) based on the in-depth evaluation of the sub-dimensions for each firm.[11] Then, it compares this numerical value of the firm to the sector average. Afterwards, Vigéo categorizes the firm into one of five groups, depending on whether its score is (substantially) higher than, equal to, or (substantially) lower than the mean score of the sector[12].

In addition to Vigéo, Datastream was used as the main source for collecting data on stock market reactions and firm controls. Moreover, we relied on hand-collected information from company websites and annual reports, e.g., on family firm status and family CEO status.

Variables

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[10] Agefi is a French press agency that focuses on providing financial information to banks, insurance companies, institutional investors, and private investors. It publishes timely news through its website (press release) and daily newspapers about the financial market.

[11] Please see Appendix 1 for these six main dimensions and their sub-dimensions based on universally defined social responsibility objectives and managerial action principles. The Vigéo rating methodology is supported by internationally recognized CSR standards. Vigéo obtained the European Union certification CSRR QS, which affirms its independent research and views.

[12] The notation of Vigéo for the five categories is ++, +, =, -, and --, which we turned into 2, 1, 0, -1, and -2 for better handling of the data. Please note that the differentiation between ++ and + as well as between -- and - is based on a qualitative evaluation of the Vigéo experts.

Positive and negative CSR news. The variable positive CSR news is set to "1" if Vigéo upgraded a firm's CSR rating and "0" otherwise. Similarly, the variable negative CSR news is set to "1" if Vigéo downgraded the firm's CSR rating and "0" otherwise.[13]

Stock market reaction. We use the 21-day cumulative abnormal return (CAR) (-10; +10) as the dependent variable (Krueger, 2015). The choice of studying such event windows is in line with research best practices, in particular in the finance literature (e.g., MacKinlay, 1997).[14] The underlying reason for the focus on immediate stock market reactions is that it allows us to isolate the effect of positive and negative CSR news on stock value to the best possible degree, avoiding confounding effects (such as those of acquisition or earnings announcements) as much as possible. The reason why we also include days prior to the event is that we would like to capture the possibility that the information leaks to the market prior to the event—an assumption that is quite common in event studies (e.g., Kothari & Warner, 2007; MacKinlay, 1997; Riley et al., 2017). Following MacKinlay (1997) and Krueger (2015), we also compute alternative event windows ([-5; +5]; [0; +5]; [0; +10]) and use them in our robustness checks.

Family firm. We use a dummy variable to code family firms ("1") compared to other types of organizations ("0"). Following the extant literature (e.g., Sraer & Thesmar, 2007), we categorize firms as family firms if one or more individuals connected by either blood or marriage, jointly or subsequently, possess at least 20% of the firm's equity[15]. When coding this

[13] Positive CSR news includes, for instance, rating upgrades from -2 to 1, from -2 to 0, from 0 to 1, or from 1 to 2. Similarly, negative CSR news includes rating downgrades, for instance, from 2 to 0, from 0 to -1, or from -1 to -2. We did not control for the starting point of the upgrade/downgrade (whether positive, neutral, or negative) or include information on the scope of the upgrade/downgrade (only 1 unit or more). This approach is in line with prior research (Benlemlih, Jaballah, & Peillex, 2018; Holthausen & Leftwich, 1986). A descriptive analysis of the sample shows for positive events around 90% of the changes refer to one slot of a time, whereas around 10% refer to two slot changes. For negative events, around 93% of the changes refer to one slot of a time, whereas around 7% refer to two slot changes. In a robustness test, we re-ran the main analyses by excluding observations with two slot changes. All results remained stable.

[14] MacKinlay (1997)'s seminal work on event studies is described by Riley, Michael, and Mahoney (2017, p. 1906) as follows: "Event studies originated in Finance, with more than 500 papers published using the technique. For further perspective from that literature, two primarily methodological papers, MacKinlay (1997), and Kothari and Warner (2007), offered both a good overview of the method and citations to reviews of specific subjects of finance and accounting."

[15] In line with public opinion (https://www.forbes.com/pictures/553028c1e4b0bacdbd746efb/16-casino-guichard-perrac/#7c3171507ab2), we considered Casino Guichard-Perrachon, which was sold to Jean-Charles Naouri in

variable, we scrutinized firms with single, individual owners to obtain information on potential predecessors involved in the firm or family members involved in management in order to identify and exclude lone-founder firms.[16] This approach is in line with the procedure proposed by Maury (2006) as well as Isakov and Weisskopf (2014).

Recession. We focus on the liquidity aspect of the financial recession, that is, the liquidity shock that the financial recession caused, as we argue that a liquidity shock can threaten the survival of the family empire. Therefore, we consider the starting point of the financial recession by taking the liquidity situations of French listed companies into account. Following the definitions from the literature (Chudik & Fratzscher, 2011; Garcia-Appendini & Montoriol-Garriga, 2013), we define the starting point of the financial recession as August 2007 because the liquidity situations of firms substantially deteriorated at that point in time. Following Barron, Hultén, and Hudson (2012), we consider December 2009 as the end of the recession in France. Hence, we code the dummy variable "recession" as "1" if a positive or negative CSR news event occurred between August 2007 and December 2009 and "0" otherwise.

Control variables. Following the extant literature (e.g., Krueger, 2015), we control for the following variables that might affect a firm's stock value. *Leverage* is measured as total debt over total assets. *ROA* (return on assets) is measured as net income over total assets. *Liquidity* is measured as cash over total assets. *Size* is measured as the logarithm of market capitalization. Moreover, we control for *industry* using 2-digit SIC codes. We also include two further control variables to reflect a firm's CSR history as investors' reaction to positive and negative CSR news might depend on the firm's past CSR (Godfrey, Merrill, & Hansen, 2009): i) the firm's global CSR rating ("GlobalCSR_Rating") as provided by Vigéo (scale from 0 to 100), and ii) a

1998, as a family firm. When re-running our analyses excluding such cases, in which a family firm was owned by a family that did not found yet bought the firm (N=3), we found no significant differences from the results reported in this paper.

[16] As lone founders have been found to differ from "true family firms," in which more than one family members are, either subsequently or jointly, active in the firm (Miller, Le Breton-Miller, Lester, & Cannella Jr, 2007), we manually searched our data set for lone founder firms. We identified one such firm, and excluded it from all our regressions.

dummy variable to demonstrate whether the firm is included in the ASPI (Advanced Sustainable Performance Indices) Eurozone index, which is an index that is created by Vigéo. ASPI is one of the leading sustainability indices in Europe, and hence firms that belong to the list of top European CSR firms are included in it. “ASPI_CSR_Index” is a binary variable taking the value “1” if the firm is included in the index and “0” if not.

EMPIRICAL FINDINGS

Descriptive statistics

Table 1 provides the summary statistics of our variables for both the full sample and the subsamples split based on positive vs. negative CSR news. In our sample, we have 661 positive CSR news and 586 negative CSR news. The percentage of family firms with positive or negative CSR news (over the studied time period, an average of 35% of firms with negative CSR news and 31% of firms with positive CSR news are family firms) is in line with the general numbers regarding family firm presence on stock markets (La Porta et al., 1999). Table 1 presents those percentages—as well as the mean values of the ROA, leverage, size, and liquidity variables—per year to reveal potential historical trends[17].

< Insert Table 1 about here >

Empirical model

We employ an event study methodology (Arya & Zhang, 2009; Krueger, 2015; Ramchander et al., 2012) to estimate the stock market reaction to positive and negative CSR news. We therefore follow the classic MacKinlay (1997) study and use an estimation window of 120 trading days from t-140 to t-20, with the event date set at the date when Vigéo announces the CSR rating news.[18] In our multivariate analyses, we include industry and year fixed effects to control for any

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[17] For instance, in 2003, 29.6% of the positive CSR are related to family firms, whereas 70.4% of the positive CSR news occurring in 2003 are related to non-family firms.

[18] As in all event studies, we compare returns from “typical” times (i.e., returns from the estimation window) to returns from the event window that captures the time around the release of new information. As is common for event studies, those two windows (estimation window and event window) do not overlap with each other so we can isolate the effect of the event on the stock market.

industry- and year-specific factors that could affect stock market reactions. Accordingly, our model investigates the cross-sectional variation in the sample. In other words, following the family firm literature (e.g., Anderson & Reeb, 2003; Isakov & Weisskopf, 2014; Sraer & Thesmar, 2007), we do not use firm fixed effects in our model since the variation in the family variable over time is limited. Moreover, we control for heteroskedasticity using robust heteroscedasticity standard errors (Huber-White Standard errors).

Market reaction to positive and negative CSR news: Regression analyses

In this section, we test the hypotheses with multivariate regressions. The results are presented in Table 2. Hypothesis 1a proposes that investors in general react more positively to positive CSR news from family firms than to those from other firms. In Model 1, we find a positive and significant relationship (beta = 0.017, p = 0.034), leading us to support H1a. The negative and significant coefficient (beta = -0.029, p = 0.004) of the family firm variable in the negative event regression Model 2 supports H1b that investors react more negatively to negative CSR news from family firms as compared to similar news from other firms.[19]

< Insert Table 2 about here >

The interaction of family firm and recession in Model 1 (beta = -0.054, p = 0.028) shows that positive CSR news from family firms during the recession are perceived more negatively by investors, providing support for H2a. Moreover, the interaction term in Model 2 in Table 2 (beta = 0.070, p = 0.001) shows that negative CSR news from family firms during the recession is perceived more positively by investors, thus supporting H2b.

Robustness tests

In this section, we conduct a series of tests to ensure the robustness of our findings.

[19] Following the extant research (e.g., Anderson & Reeb, 2003; Duncan & Hasso, 2018; Fahlenbrach, 2009), we assume that many investors know about the family firm status of the firms that they invest in, that they have access to this information, and that they take this information into account in their investment decision. Specifically, the SBF index contains of the 120 biggest firms in France—many of which are often prominently featured in the media, including the families standing behind them. Moreover, for some of the included firms the eponymy of family and firm name indicates the family firm status.

< Insert Tables 3 and 4 about here >

First, we use alternative event windows for our CAR (see Table 3). Following MacKinlay (1997) and Krueger (2015), we use (-5; +5) as an alternative event window to examine the possibility that the reaction is more concentrated around the event. We also test (0; +10) and (0; +5) windows to allow for the possibility that the information may not leak to the market prior to the news release. The results presented in Table 3 are overall in line with the main analyses, with the exception of H1a, which is not supported when we narrow down the event window prior to the event. This suggests that investors anticipate positive CSR news because such news may be "less unexpected" and react to it slightly earlier. One potential source of such leakage are employees involved in the respective firm decisions (e.g., decision, to increase investment into environmentally friendly production) and talking about such firm behavior before the change is officially communicated to the external world and, hence, before Vigéo updates the rankings. The empirics show that such leakage effect is stronger for positive CSR news as compared to negative CSR news. One interpretation of this finding is that firms encourage their stakeholders, in particular employees, to communicate positive CSR behavior, yet urge them to remain silent about negative CSR behavior.

Second, we check whether our results are contingent on the specific family firm definition used. In Table 4, we re-estimate our models by using alternative ownership thresholds for the family firm variable. Specifically, we employ 5% and 10% as other frequently used blockholder thresholds as well as 50% as the majority threshold, thereby following prior research (e.g., Maury, 2006; Miller et al., 2007; Sacristán-Navarro, Gómez-Ansón, & Cabeza-García, 2011). The results of these tests, as shown in Table 4, reveal that our models remain stable for ownership cutoffs below the majority stake. This finding shows that investors, when interpreting signals, are indifferent regarding how much ownership stake the family possesses—as long as there are substantial stakes in the hands of outside investors. Interestingly, as soon as the family owns the majority of the firm, the investors' assumption about family owners'

underlying quality and intention alters. This finding is also very much in line with the premise from Franks and Mayer (2001) that 25% and 50% are critical control levels and that the owner's power between these critical points provides similar levels of control over firm decisions.

We further check the robustness of our findings to any potential confounding effects. To this end, we manually searched the Factiva database for events occurring over the event windows of CSR news that might also affect firm value, such as mergers and acquisitions as well as earnings and dividends announcements and updates (following the best practices of the literature: El Nayal, van Oosterhout, & van Essen, 2019; McWilliams & Siegel, 1997). To identify newspaper articles about confounding events in Factiva, we performed searches in both the French and English languages by using the name of the firm and various key words. Specifically, we selected the company and the dates (of the respective event windows) and entered one of the following key words: "mergers and acquisitions," "M&A," "earnings," or "dividends." We repeated this process for all the firms in our sample. In total, we identified 73 negative and 109 positive CSR news that might be contaminated by confounding events. To ensure that market reactions were not confounded with these firm-specific events, we ran additional calculations excluding all positive and negative CSR news that overlapped with one of the previously identified event windows of positive or negative CSR news (detailed analyses available from the authors upon request). Our regressions overall remain stable after the exclusion of these potentially contaminated observations, with the exception of H1a that becomes insignificant. This result might be explained by humans' general tendency to react more strongly to negative as opposed to positive news (Soroka, 2006).

Post hoc test: Family CEO as a contingency factor

Next, we scrutinize whether stock market reactions to signals of positive and negative CSR news depend not only on who *owns* the firm but also on who *runs* the firm (Le Breton-Miller & Miller, 2016; Martinez-Ferrero, Rodriguez-Ariza, & Garcia-Sanchez, 2016). Prior research has noted that investors might perceive signals sent by family-member managers differently from

that of family-external managers (Chandler et al., 2019; Duncan & Hasso, 2018). Moreover, such a post hoc test is in line with recent calls for more research on family firm heterogeneity (e.g., Chua et al., 2012; Neubaum, Kammerlander, & Brigham, 2019) and research showing that family firms' CSR is dependent on whether the CEO of a family firm is a family member or not (Cui, Ding, Liu, & Wu, 2018). We used binary variables to distinguish family CEOs from non-family CEOs working in family firms (e.g., Anderson & Reeb, 2003; Sraer & Thesmar, 2007).

Table 5 reports the results. First, Model 1 shows that investors react more positively to positive news from family firms run by a non-family CEO (beta = 0.020, p = 0.079), while the family CEO dummy is insignificant. Model 2 shows that markets react more negatively to negative CSR news from family firms if the CEO is a family member (beta = -0.024, p = 0.040). The interaction terms in Model 1 show that in times of recession, the stock market reacts more negatively to positive CSR news if the CEO is a family member (beta = -0.088, p = 0.001). Moreover, Model 2 reveals no differences in the interaction terms of family vs. non-family CEOs and recession with regard to negative CSR news, as both interaction coefficients in Model 2 are positive and significant with similar effect sizes, which are not significantly different from each other.

< Insert Table 5 about here >

DISCUSSION

Employing an event study with data on French listed firms from 2003 to 2013, we investigate stock market reactions to signals of positive and negative CSR news regarding family vs. non-family firms. We find that, as hypothesized, the stock market reacts more positively to signals of positive CSR news and more negatively to signals of negative CSR news of family firms than to similar news of non-family firms. In times of recession, however, outside investors react more negatively to positive CSR news and more positively to negative CSR news of family firms than

to similar news of other firms. Our study makes several contributions to the literature, in particular the research on signaling of family businesses and entrepreneurial firms.

First, we contribute to the emerging debate about whether and why outside investors might react differently to signals of family firms than to similar signals of non-family firms (e.g., André et al., 2014; Chang et al., 2010; Wong et al., 2010). Based on signaling theory, we argue that due to family firms' idiosyncrasies, outside investors hold specific beliefs about what is legitimate and authentic for those firms. In other words, we propose that outside investors apply different standards to family firms than to non-family firms, specifically with regard to their expectations of CSR and, thus, the signal credibility of CSR news is different for family firms as compared to non-family firms. More specifically, while prior research has primarily focused on the impact of family firm idiosyncrasies on firm behavior (e.g., Chrisman & Patel, 2012; Duran, Kammerlander, van Essen, & Zellweger, 2016), we reveal that outsiders' expectations about family firm behavior differ from their expectations about other types of firms, impacting how signals of those firms are interpreted. Outside investors in generally value the stakeholder-oriented behavior of family firms given family firms' intrinsic focus on various stakeholders (Cennamo et al., 2012; Mitchell et al., 2011); as such, they perceive positive CSR news as very credible signals of firm quality. During recession, however, outside investors may assess prudent CSR budget cuts as appropriate, reflecting signal fit and credibility, due to family firms' parsimony (Carney, 2005) and wealth concentration considerations (Gómez-Mejía, Cruz, Berrone, & De Castro, 2011).

Second, we advance the extant research by investigating the consequences of positive and negative CSR news for family firms. Prior research has predominately focused on whether family firms engage in more or less CSR than other types of firms (e.g., Berrone et al., 2010; Dyer & Whetten, 2006; Richards, Zellweger, & Gond, 2017) and revealed the antecedents of such engagement (e.g., Déniz & Cabrera-Suárez, 2005; Le Breton-Miller & Miller, 2016; Niehm, Swinney, & Miller, 2008). We take one step further by studying the *consequences* of

CSR engagement for family firms. In particular, we show that the stock market interprets signals of family firms' CSR in a particularly strong way and reacts negatively to the negative CSR news of family firms in general and negatively to the positive CSR news of family firms during recession. Moreover, we show that outside investors react positively to the positive CSR news of family firms in general and positively to the negative CSR news of family firms during recession. Hence, we show a "preference reversal" of outside investors when the signal environment is characterized by recession (Giannarakis & Theotokas, 2011) because investors might have a different perception of "signal fit" in those times. This finding is relevant not only for those interested in family firms' strategic actions (Kotlar et al., 2018) but also for the entrepreneurship literature in general, as it reveals insights into the financing of entrepreneurial family firms. In particular, our results show that family firms might suffer from investors' "downgrades" if they increase their CSR spending during recessions, which might ultimately hamper their access to financial capital in the long run. Outside investors might hence reward family firms for decreasing CSR investments in times of recession (Cruz, Larraza-Kintana, Garcés-Galdeano, & Berrone, 2014; Lins et al., 2013).

Moreover, we contribute to research disentangling family firm heterogeneity (Chua et al., 2012; Neubaum et al., 2019) by showing how signals of firms led by a family CEO are interpreted differently from those of other firms, including those that are owned yet not led by family members. Since CSR is an investment decision that is made at the managerial level, investors might value CSR signals depending on who manages the firm. For example, Le Breton-Miller and Miller (2016) suggest that the level of sustainability practices by family firms is contingent on factors such as who the CEO of the firm is, that is, whether he/she is a family member or not. Similarly, Martinez-Ferrero et al. (2016) mention that future research should examine CSR in family firms by taking into account whether the CEO is an outsider or not. Interestingly, the results of our post hoc test reveal that outside investors react slightly more positively to signals of positive CSR news of *non*-family CEOs running family firms. We might

speculate that the combination of positive CSR news of family firms and the presence of a non-family CEO signals the authentic stakeholder orientation (due to the family firm character; Mitchell et al., 2011), while at the same time signaling a potential business case and thoughtful economic consideration, given the professional nature of the non-family CEO (Stewart & Hitt, 2012), overall suggesting high levels of signal credibility.

Our results further reveal that, in the case of family CEOs, the stock market reacts more negatively to negative CSR news. Prior research has emphasized family CEOs' emotional attachment to the family firm, their stock of personal socioemotional wealth (Zellweger, Kellermanns, Chrisman, & Chua, 2012), and their identification with the family firm (Davis, Schoorman, & Donaldson, 1997), which might, in conjuncture, lead to an increased focus on stakeholder management (Kammerlander & Ganter, 2015). As such, outside investors might consider the negative CSR news of firms led by a family CEO as particularly illegitimate, and hence lacking signal credibility, ultimately leading to lower stock valuations. The results of our post hoc test further reveal a significantly more negative outside investor reaction to signals of positive CSR news of firms led by family CEOs during recession. Positive CSR news in recession carried out by family CEOs might be considered to reflect a lack of managerial cognition of the extant challenges, potentially a lack of managerial competencies, and family shareholders' neglect of the interests of other, minority shareholders (Anderson et al., 2009). Indeed, investors might anticipate family CEOs' tendency to expropriate minority shareholders through mechanisms such as tunneling (Burkart et al., 2003; Morck, Wolfenzon, & Yeung, 2005), especially in times of crisis, such as recession (Johnson, Boone, Breach, & Friedman, 2000). The anticipation of such expropriation behavior in times of recession might increase the perceived "mis-fit" of the signals sent and what investors would assess as appropriate firm action.

Further contributing to insights on family firm heterogeneity, we could not identify different results when applying alternative blockholder threshold cutoffs, such as 5% or 10%.

These results show that family owners might use their power regardless of the absolute equity in their hands and that investors share stereotypes of family firms irrespective of the actual equity stake in the family's hands. Interestingly, our results also show that the significant reactions to positive CSR news vanish for families with majority control. One might expect that due to the extraordinary wealth concentration in such cases, outside investors would tend to assume that family shareholders consistently pursue specific stakeholder-oriented approaches. Moreover, with regard to further understanding the heterogeneity within our sample, our results show a significant influence of a firm's prior CSR. Somewhat surprisingly, there is a positive correlation between high CSR ratings and reactions to negative CSR news (see Table 2). One might speculate that investors favor moderate-high levels of CSR yet punish extraordinarily high values, following research that investors, as risk-averse decision-makers (which is the assumption of modern portfolio theory: Markowitz, 1952), favor moderate over extreme decisions. Additionally, the results of Table 2 show that firms with higher firm performance experience substantially less positive reactions to their positive CSR news. One could assume that in such cases of overperformance in recent years, investors might despise CSR efforts as temporary, greenwashing activities, hence attributing lower credibility to signals of these firms.

Last, our study also contributes to a better understanding of ambiguous findings on how outside investors react to positive and negative CSR news. Generally, our regression analyses reveal insignificant intercepts for both, positive and negative CSR news (see Table 2), which is in line with the previous findings of Capelle-Blancard and Petit (2019) and Fernandez-Izquierdo et al. (2009). Moreover, our research findings contribute to disentangling the stock market implications of CSR by showing that investors' reactions to such news substantially depend on factors that affect the signal credibility (such as family firm status) or determine the signal environment and thus the signal fit (i.e., the economic situation) As such, we inform and advance the current CSR debate by shifting it towards a discussion of *contingency* factors rather than a question of general directionality. In particular, our findings about preference reversals

(i.e., different expectations of outside investors regarding what is legitimate during recession) provide important insights on why current studies might have come to inconclusive results when studying stock market reactions to positive or negative CSR news: to fully understand investors' CSR preferences, the context of the firm and its environment need to be considered. This more detailed understanding of stock market reactions to signals of positive and negative CSR news is also important for entrepreneurship research because ongoing social and environmental entrepreneurial activities (York, O'Neil, & Sarasvathy, 2016) might lead to new business models that are more stakeholder-oriented (e.g., green innovation, social sharing businesses) and thus affect the CSR ratings of start-ups and established businesses alike.

Our study also reveals relevant implications for practice. First, when considering pursuing CSR activities, family firms need not only to think about the implications for firm-internal and –external stakeholders, yet they also need to consider the potential impact on the stock market evaluation. As our results revealed, firm decision makers need to further reflect upon the financial situation as well as firm leadership when making decision to intensify (or downgrade) their CSR activities. Taking the outside investors' perception of CSR news into account is important as it affects the family firm's stock price, smoothens or complicates its access to further equity, and, indirectly also determines the family firm's reputation as well as power in negotiations such as with banks. Despite the often-circulated myth that investors mainly care about financial return, our findings reveal a different, and more nuanced, picture: especially for family firms, and in case of absent recession, outside investors do indeed value "good corporate citizenship." Our findings might also help family firm decision makers in their communication. Specifically, while positive CSR news should be promoted heavily in "good economic times" as they are valued specifically by outside investors, and might even lead to a stock market competitive advantage of family firms, family firms are advised to remain rather silent about CSR news in times of recession.

Limitations and areas for further research

Similar to any other empirical work, our study has several limitations, most of which open up fruitful areas for further research. First, we relied on a sample from a single country and a single—albeit renowned—CSR rating agency. Researchers might investigate whether our results are generalizable to other contexts (Banalieva, Eddleston, & Zellweger, 2015; Duran, van Essen, Heugens, Kostova, & Peng, 2019), which might differ with regard to what outside investors perceive as credible CSR signals. Second, in line with most prior studies (e.g., Francis et al., 2008; Karpoff et al., 2008; Krueger, 2015; Maung et al., 2020), we relied on an event study methodology to carve out the specific effect of signals of positive and negative CSR news on stock market valuation. Future studies might take further accounting and other market measures into account. In particular, it would be appealing to study long-term performance benefits and answer the question of whether some firms, such as family firms, are better able to align shareholder and stakeholder needs in the long run. Moreover, researchers might shift their attention to other, nonfinancial consequences of positive and negative CSR news, such as CEO dismissal (Hubbard, Christensen, & Graffin, 2017) and employee workplace behavior (Flammer & Luo, 2017).

Additionally, researchers might advance our scholarly knowledge by focusing on the heterogeneity among family firms with regard to their effect on signal credibility. For instance, researchers might focus on whether public knowledge about conflicts and bifurcation biases (Verbeke & Kano, 2012) affect how shareholders evaluate family firms' positive and negative CSR news. Other factors to include in further analyses might comprise eponymy, long-lasting history of the family firm, or family firm image, which might all have an effect on signal credibility. Moreover, future studies might consider whether and how a strong focus on values (Rau, Schneider-Siebke, & Günther, 2019) or SEW dimensions in publicly available documents might influence investors' interpretation of CSR signals sent by family firms. Another interesting research avenue to pursue in further studies is the differentiation between various

types of positive and negative CSR news, relating, for instance, to ecological, social, or governmental issues or distinguishing between primary and non-primary stakeholders (Hillman & Keim, 2001). Moreover, it would be interesting to shed light on other dominant owner types, such as institutional owners (Johnson & Greening, 1999; Saleh, Zulkifli, & Muhamad, 2010) or state-owned firms (Li & Zhang, 2010). Given firms' specific governance structure and underlying goal systems, a systematic study might further advance our knowledge on why and how investors of all types vary in their valuation of firms' signals of positive and negative CSR news.

Our study reveals that outside investors react differently to signals of positive and negative CSR news of family firms than to similar signals of non-family firms. This opens up an interesting research lacuna of determining which behavior outside investors generally consider to be particularly legitimate and authentic for family firms, going beyond CSR. Prior research, especially work applying a signaling lens, has revealed certain "clichés" regarding family firm behavior shared by, for instance, job seekers (Block, Fisch, Lau, Obschonka, & Presse, 2019) or potential customers (Andreini, Bettinelli, Pedeliento, & Apa, 2020). In addition, research has revealed that listed family firms tend to behave in a particularly conforming manner (Miller et al., 2013). Given that our study shows that outside investors' expectations of the legitimate and authentic behavior of family firms might differ from their expectations regarding non-family firms, it would be of utmost interest and relevance to the entrepreneurship and family firm community to scrutinize which (entrepreneurial) firm actions of family firms are considered as desirable (or credible) signals by outside investors.

Most extant signaling research has focused on the effect of intentional signals (such as positive CSR news emphasizing the firm's care about its stakeholders). However, our analyses of all French SFB120-listed firms from 2003 to 2013 also reveal a surprisingly high number of negative CSR news—signals, which, as one might speculate, were not deliberately emitted. More research is required to better understand why and under which conditions firms and, in

particular, family firms engage in actions that lead to unintentional signals of negative CSR news, especially in good economic times, during which such signals will be badly perceived by media and outside investors alike.

Additionally, further studies investigating the consequences of negative stock market reactions to family firms would be fruitful. While some prior studies have highlighted the conformist behavior of family firms (Miller et al., 2013), others have stressed the long-term orientation of family firms (e.g., Lumpkin & Brigham, 2011) as well as their independence (Koenig et al., 2013) and their patient capital (Sirmon & Hitt, 2003). Hence, qualitative and quantitative studies of family firms' reactions to negative stock market reactions might be insightful.

Conclusion

Outside investors have specific expectations about family firms; their beliefs about what signals refer to legitimate and authentic firm actions with regard to CSR might differ for family vs. non-family firms. We theoretically argue and empirically reveal that outside investors react more strongly to signals of positive and negative CSR news of family firms than to similar signals of non-family firms and that their reaction crucially depends on the signaling environment, particularly the economic situation as well as on whether the firm is managed by a family or non-family CEO. We hope that our theorizing and testing will encourage fellow scholars to tackle the multitude of extant research lacunas in this area.

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Table 1: Summary statistics of variables sorted by the type of CSR news

Year	Obs.	Mean CAR	Family Firm	ROA	Leverage	Size	Liquidity	Obs.	Mean CAR	Family Firm	ROA	Leverage	Size	Liquidity
			Panel A: Positive News								**Panel B: Negative News**			
2003	54	0.011	0.296	0.036	0.603	8.719	0.129	105	-0.014	0.438	0.040	0.640	8.390	0.114
2004	58	-0.032	0.345	0.029	0.703	9.227	0.082	33	-0.021	0.303	0.051	0.612	8.910	0.070
2005	71	0.011	0.409	0.058	0.594	8.830	0.104	64	-0.002	0.234	0.045	0.661	8.170	0.119
2006	45	0.002	0.244	0.043	0.661	9.256	0.086	41	-0.021	0.244	0.050	0.666	9.219	0.065
2007	62	-0.046	0.359	0.064	0.667	9.251	0.074	50	-0.033	0.300	0.064	0.781	8.872	0.075
2008	34	-0.021	0.206	-0.001	0.684	9.072	0.076	40	0.004	0.425	0.049	0.629	9.366	0.068
2009	63	-0.014	0.238	0.008	0.672	9.109	0.085	55	0.015	0.346	0.037	0.873	8.647	0.097
2010	82	0.008	0.366	0.047	0.615	9.004	0.081	55	0.013	0.400	0.045	0.606	9.114	0.094
2011	65	-0.022	0.277	0.049	0.796	9.991	0.065	48	-0.020	0.326	0.037	0.638	9.848	0.073
2012	80	-0.003	0.338	0.032	0.658	10.374	0.075	53	-0.008	0.453	0.018	0.627	10.347	0.081
2013	47	-0.008	0.156	0.040	0.627	15.878	0.069	42	0.014	0.214	0.037	0.618	16.426	0.092
MEAN	661	-0.009	0.307	0.038	0.660	9.711	0.084	586	-0.006	0.348	0.043	0.669	9.481	0.090
STD		0.073	0.462	0.055	0.293	2.517	0.058		0.084	0.477	0.060	0.357	2.731	0.064

The table reports summary statistics of selected variables sorted by the CSR news type. Year refers to the years in our sample. Observations are number of certain news each year. Mean CAR is the mean cumulative abnormal returns. All the variables are defined in the Section “Variables”.

Table 2: Family firms and CAR from CSR news

	Positive Events	Negative Events
	(1)	(2)
Intercept	-0.048	-0.071
	(0.360)	(0.135)
Family Firm	0.017*	-0.029**
	(0.034)	(0.004)
Recession	-0.030†	0.003
	(0.079)	(0.831)
Family Firm*Recession	-0.054*	0.070**
	(0.028)	(0.001)
GlobalCSR_Rating	0.003	0.020**
	(0.591)	(0.006)
Dummy_ASPI_CSR_Index	-0.010	-0.017
	(0.282)	(0.129)
Leverage	0.015	0.038
	(0.590)	(0.289)
ROA	-0.222*	0.080
	(0.049)	(0.473)
Liquidity	0.025	0.150†
	(0.747)	(0.05)
Size	0.004†	0.003
	(0.055)	(0.150)
Industry FE (2digitSIC)	Yes	Yes
Time FE	Yes	Yes
Obs.	661	586

In this table, we regress 21-day CAR (-10; +10) on ownership, recession, and firm characteristics. All the variables are defined in the Section "Variables". We use industry and time fixed effects (FE). P-values are in parentheses. **, *, † denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 3: Family firms and CAR: Robustness Test 1 (Different Event Windows)

	Positive Events			Negative Events		
	CAR(-5;+5)	CAR (0;+10)	CAR (0;+5)	CAR(-5;+5)	CAR (0;+10)	CAR (0;+5)
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.106*	0.052	0.097**	-0.004	-0.046	0.007
	(0.027)	(0.187)	(0.000)	(0.898)	(0.107)	(0.700)
Family Firm	0.005	0.007	0.006	-0.014*	-0.016*	-0.009†
	(0.416)	(0.207)	(0.181)	(0.017)	(0.032)	(0.074)
Recession	-0.043**	-0.031**	-0.022*	-0.033**	-0.006	-0.021**
	(0.001)	(0.008)	(0.014)	(0.004)	(0.593)	(0.006)
Family Firm*Recession	-0.028†	-0.040**	-0.024*	0.071**	0.028*	0.051**
	(0.089)	(0.002)	(0.024)	(0.000)	(0.031)	(0.000)
GlobalCSR_Rating	0.008*	0.006	0.008*	0.006	0.004	0.002
	(0.045)	(0.175)	(0.012)	(0.214)	(0.403)	(0.669)
Dummy_ASPI_CSR_Index	-0.019**	-0.010	-0.015**	-0.013†	-0.024**	-0.010†
	(0.008)	(0.181)	(0.002)	(0.068)	(0.002)	(0.082)
Leverage	-0.027	-0.021	-0.049**	0.024	0.007	0.021
	(0.205)	(0.228)	(0.001)	(0.333)	(0.765)	(0.235)
ROA	-0.030	-0.157	-0.081	0.074	0.002	0.104†
	(0.642)	(0.108)	(0.107)	(0.320)	(0.984)	(0.066)
Liquidity	-0.149**	-0.115*	-0.112**	-0.020	0.065	-0.048
	(0.002)	(0.026)	(0.003)	(0.659)	(0.253)	(0.218)
Size	0.000	0.000	0.000	0.002	0.003**	0.001
	(0.875)	(0.970)	(0.888)	(0.183)	(0.006)	(0.212)
Industry FE (2digitSIC)	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	661	661	661	586	586	586

In this table, we regress CAR with different event windows (i.e., [-5; +5], [0; +10], and [0; +5]) on ownership, recession, and firm characteristics. All the variables are defined in the Section "Variables". We use industry and time fixed effects (FE). P-values are in parentheses. **, *, † denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 4: Family firms and CAR: Robustness Test 2 (Different Family Firm Definitions)

	Positive Events			Negative Events		
	Family (5%)	Family (10%)	Family (50%)	Family (5%)	Family (10%)	Family (50%)
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.048	-0.050	-0.023	-0.086†	-0.083†	-0.112*
	(0.368)	(0.344)	(0.655)	(0.071)	(0.081)	(0.017)
Family Firm	0.017*	0.018*	0.005	-0.019†	-0.020*	-0.029*
	(0.028)	(0.024)	(0.679)	(0.051)	(0.041)	(0.030)
Recession	-0.030†	-0.030†	-0.046**	0.003	0.005	0.027†
	(0.078)	(0.082)	(0.009)	(0.865)	(0.721)	(0.099)
Family Firm*Recession	-0.055*	-0.056*	0.024	0.071**	0.067**	0.147**
	(0.027)	(0.026)	(0.424)	(0.001)	(0.002)	(0.000)
GlobalCSR_Rating	0.004	0.004	0.003	0.020**	0.020**	0.018*
	(0.558)	(0.554)	(0.642)	(0.009)	(0.009)	(0.017)
Dummy_ASPI_CSR_Index	-0.011	-0.011	-0.013	-0.013	-0.014	-0.012
	(0.254)	(0.256)	(0.178)	(0.232)	(0.205)	(0.253)
Leverage	0.014	0.015	0.001	0.045	0.044	0.039
	(0.624)	(0.588)	(0.965)	(0.209)	(0.224)	(0.319)
ROA	-0.223*	-0.225*	-0.232*	0.080	0.081	0.146
	(0.048)	(0.046)	(0.048)	(0.472)	(0.471)	(0.197)
Liquidity	0.024	0.026	0.006	0.162*	0.159*	0.180*
	(0.760)	(0.736)	(0.938)	(0.039)	(0.043)	(0.017)
Size	0.005†	0.005*	0.005*	0.003	0.003	0.003
	(0.051)	(0.048)	(0.043)	(0.181)	(0.181)	(0.162)
Industry FE (2digitSIC)	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	661	661	661	586	586	586

In this table, we regress 21-day CAR (-10; +10) on ownership, recession, and firm characteristics. All the variables are defined in the Section "Variables". Columns 1-3 and 4-6 present different family firm definitions based on the respective minimum percentage of firm shares family holds: 5%, 10%, or 50%. We use industry and time fixed effects (FE). P-values are in parentheses. **, *, † denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 5: Type of CEO and CAR from CSR news

	Positive Events	Negative Events
	1	2
Intercept	-0.015	-0.076
	(0.773)	(0.117)
Family CEO	0.013	-0.024*
	(0.164)	(0.040)
Non-family CEO	0.020†	-0.018
	(0.079)	(0.154)
Recession	-0.020	-0.003
	(0.270)	(0.859)
Family CEO*Recession	-0.088**	0.072**
	(0.001)	(0.002)
Non-family CEO*Recession	0.008	0.063†
	(0.673)	(0.062)
GlobalCSR_Rating	0.005	0.022**
	(0.406)	(0.003)
Dummy_ASPI_CSR_Index	-0.015	-0.022†
	(0.142)	(0.053)
Leverage	-0.014	0.032
	(0.653)	(0.402)
ROA	-0.204*	0.020
	(0.049)	(0.864)
Liquidity	-0.041	0.132
	(0.616)	(0.117)
Size	0.003	0.004†
	(0.131)	(0.081)
Industry FE (2digitSIC)	Yes	Yes
Time FE	Yes	Yes
Obs.	661	586

In this table, we regress 21-day CAR (-10; +10) on type of CEO, recession, and firm characteristics. *Family CEO* is a dummy variable taking value of "1" if the family firm is managed by a family CEO, that is if the CEO is a member of the controlling family and "0" otherwise. *Non-family CEO* is a dummy variable taking value of "1" if the CEO of the family firm is not a member of the controlling family and "0" otherwise (including for CEOs of non-family firms). All the other variables are defined in the Section "Variables". We use industry and time fixed effects (FE). P-values are in parentheses. **, *, † denote statistical significance at the 1, 5, and 10% levels, respectively.

APPENDIX 1: Dimensions and sub-dimensions of the Vigéo CSR rating

Environment

ENV1.1 Environmental strategy and eco-design
ENV1.2 Pollution prevention and control
ENV1.3 Development of green products and services
ENV1.4 Protection of biodiversity
ENV2.1 Protection of water resources
ENV2.2 Minimizing environmental impacts from energy use
ENV2.3 Environmental supply—chain management
ENV2.4 Management of atmospheric emissions
ENV2.5 Waste management
ENV2.6 Management of environmental nuisances: dust, odor, noise
ENV2.7 Management of environmental impacts from transportation
ENV3.1 Management of environmental impacts from the use and disposal of products and services

Human resources

HRS1.1 Promotion of labor relations
HRS1.2 Encouraging employee participation
HRS2.1 Career development
HRS2.2 Training and development
HRS2.3 Responsible management of restructurings
HRS2.4 Career management and promotion of employability
HRS3.1 Quality of remuneration systems
HRS3.2 Improvement of health and safety conditions
HRS3.3 Respect and management of working hours

Business behavior (Customer and supplier)

C&S1.1 Product safety
C&S1.2 Information to customers
C&S1.3 Responsible Contractual Agreement
C&S2.1 Integration of corporate social responsibility in purchasing processes
C&S2.2 Sustainable Relationship with suppliers
C&S2.3 Integration of environmental factors in the supply chain
C&S2.4 Integration of social factors in the supply chain
C&S3.1 Prevention of corruption
C&S3.2 Prevention of anticompetitive practices
C&S3.3 Transparency and integrity of influence strategies and practices

Human rights

HR1.1 Respect for human rights standards and prevention of violations
HR2.1 Respect for freedom of association and the right to collective bargaining
HR2.2 Elimination of child labor
HR2.3 Abolition of forced labor
HR2.4 Nondiscrimination

Community involvement

CIN1.1 Promotion of social and economic development
CIN2.1 Social impacts of company's products and services
CIN2.2 Contribution to general interest causes

Corporate governance

CGV1.1 Board of directors
CGV2.1 Audit and internal controls
CGV3.1 Shareholders' rights
CGV4.4 Executive remuneration