Stakeholders *versus* Firm Communication in Social Media: The Case of Twitter and Corporate Social Responsibility Information[*]

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This draft: December 2019

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Abstract

Building on legitimacy theory and prior work on stakeholder management, we study firm Corporate Social Responsibility (CSR) communication in social media. In particular, we analyze the content of over a million microblogs on Twitter relating to CSR in the banking industry. We focus on key issues considered by banks in their CSR reports, which we classify into Core or Supplementary depending on their connection with core business activities. We find that the use of Twitter to communicate CSR information in social media suggests that significant differences exist between the information interests of companies and stakeholders. Outside stakeholders focus on Core CSR issues, whilst firm insiders are relatively more likely to communicate Supplementary CSR issues. Firm insiders' information dissemination appears biased towards favorable information, and consistent with a legitimacy-based use of social media. Event studies conducted on dates with significant exogenous CSR news confirm the findings of 'parallel' talking, and no resemblance in the CSR issues communicated by firms and stakeholders in social media.

Keywords: *Corporate Social Responsibility (CSR); Stakeholder management*; *Social Media; Twitter; Banking Industry*

1. Introduction

We study Corporate Social Responsibility (CSR) communication in social media. Prior work analyses whether social media communication captures market sentiment and predicts stock prices (Chen et al., 2014, Bartov et al., 2017), but as noted in Cade (2018) little is known about whether and how firms interact with stakeholders who voice their concerns on social media, or more generally, about firms' responses to the expectations and interests of stakeholders (Unerman & Chapman, 2014). We manually map out the *content* of Twitter communication by firm insiders and outside stakeholders to provide a more granular understanding and characterization of the use of this medium. We also study Twitter communication surrounding the release of negative news that exogenously affect CSR information in the market, with potentially damaging consequences to firm reputation and stakeholders trust.

Social media are channels of high interest because their use has become widespread. They allow permanent real-time interaction and promote the initiative of stakeholders.[1] Indeed, a unique feature of social media that separates it from traditional disclosure channels is that outside stakeholders often initiate the communication,[2] engaging 1) other stakeholders about their legitimate concerns (Friedman & Miles, 2006); and 2) firm insiders, who may feel compelled to engage with other users, not necessarily key stakeholders, such as individual customers and investors. The study of social media thus permits examining whether firms seek to timely respond to stakeholders' concerns and information demands, or if they divert attention by introducing other less controversial issues or staying silent.

Against this backdrop, we study firm insiders and outside stakeholders CSR-based communication in Twitter, a medium permeated by conflict and diverse viewpoints. We

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[1] Social media enhance the flow of reviews, complaints, recommendations and comments addressed to inform about a product, brand or company, and even to influence the behaviour or attitudes of users and consumers (Jeacle & Carter, 2011; Jansen et al., 2009).

[2] Prior research analyses communication with stakeholders primarily through the study of firms' websites (Gomez & Chalmeta, 2011; Capriotti & Moreno, 2007; Unerman & Bennett, 2004).

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analyse both general CSR-based communication, as well as communication on days when potentially reputation-damaging information is released.[3] To conduct our analyses, we first identify the stakeholders initiating the communication, i.e., *who* talks, and differentiate between outside stakeholders (mass media, public administrations, Non-Governmental Organizations, civic associations, trade unions, or individual Twitter users) and firm insiders (managers and employees). Then, we study the content of their blogging and distinguish between Core and Supplementary CSR, i.e., *what* is talked about.[4] Core CSR relates to CSR information directly linked to the firm core business, while Supplementary CSR relates to information about social action, cultural, and environmental activities that are detached from the core business and that usually have a marked positive bias. We base this separation on extant research that identifies the relationship between CSR and core business activities as key to understand CSR practices (e.g., Burke & Logsdon, 1996; Porter & Kramer, 2006). This distinction across users and topics permits understanding conflicts, diverging viewpoints and dynamics in social media, and thus, firms' communication with their stakeholders.

To develop our predictions, we build on legitimacy theory and the literature on stakeholder management, which predicts that firms voluntarily disclose positively biased information to change the perceptions of stakeholders (Cho et al., 2010; 2012; Deegan, 2002), and predict that firm insiders use social media to disseminate Supplementary CSR information to deal with legitimacy threats. When facing conflict and threats to firm reputation (O'Donovan, 2002; Milne & Patten, 2002), we expect firms likely adopt reticent strategies, i.e., stay silent, to avoid exacerbating negative reactions and to retain stakeholders' trust. In contrast, we expect outside stakeholders use social media to gain access to, and disseminate, valuable information about the firm core business and activities that are directly related to their concerns, i.e., they are

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[3] Similar to the work of Lee et al. (2015), who analyse whether firms use social media to react to negative events related to their products, we delve into social media use in reaction to crises, focusing on reputational ones.
[4] We follow, in applying these labels of 'Core' and 'Supplementary' CSR, the work of Gomez-Carrasco et al. (2016), which links Carroll's (1991) 'Pyramid of CSR' theory with the strategic *versus* non-strategic CSR debate (e.g., Burke & Logsdon, 1996). Using these labels helps to simplify our discussion.

expected to talk about Core CSR. This is particularly true in the presence of CSR legitimacy-damaging events. If legitimacy concerns drive firm insiders' use of social media, while outsiders' use reflects their specific interests (Correa et al., 2010), 'parallel talking' may happen, whereby different users concurrently talk about different topics.

Our empirical analyses focus on the Spanish banking industry in the aftermath of the financial and euro zone crisis. We choose this sector because of its high social impact and mobilization, and its long and profound crisis (CIS, 2012). Crisis periods bring to the attention of stakeholders the unflattering side of firm activities, which may prompt investigation about their cause and intense public scrutiny (Friedman & Miles, 2006). This industry is also relevant because of the increasing evidence of consumers' concerns on the importance of ethics in finance. 'Ethical banking' has experienced an exponential growth in terms of customers, deposits and loans in recent years.[5] Therefore, CSR has become an essential tool to adapt to the new market conditions and mitigate reputational risk concerns in this industry.

We find that CSR is a material topic discussed in Twitter, as measured by number of tweets. Core CSR is the predominant CSR content in social media. This is as expected at such a critical moment in a sector with high social impact. Consistent with our predictions, we find that firm insiders talk about Supplementary CSR. However, this does not appear to raise the interest of outside stakeholders in this type of information. Outside stakeholders consistently focus on Core CSR issues, and often include mentions to firm insiders in their tweets, which may indicate attempts to initiate conversations about Core CSR issues. However, it is also possible that the primary objective of this communication is not to elicit a response, but simply to call the attention of interested outside stakeholders, or more generally, to denounce firm behaviour. This divergence in communication interests is particularly evident during negative

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[5] According to the Observatory of Ethical and Solidarity Finance Association, between 2008 and 2012, the assets held in these entities multiplied by 4.5, reaching almost one billion euro. The disappearance of savings banks and their social welfare projects left a gap in the market that other types of banking institutions seek to occupy.

CSR events. During events that enhance negativity and may cause significant reputational damage, firm insiders keep silent or divert attention by tweeting about Supplementary CSR.

We make several contributions. First, we contribute to the understanding of CSR information dissemination through social media and the interaction between companies and stakeholders in this new media. As noted in Thomson and Bebbington (2005), understanding how firms respond to conflict is key in stakeholder management, as inappropriate responses may result in legal action, loss of shareholder confidence and market value decreases (Friedman & Miles, 2006). We develop novel theoretical insights into CSR disclosure in social media and how firms deal with conflict in communicating with their stakeholders. This adds to the emerging literature in accounting that views external communication in a broader light, considers the importance of social media channels within firm communication strategies, and responds to recent calls for work that analyses the role of social media to build up relationships between companies and their audiences (Merkl-Davies and Brennan, 2017). We also provide large sample (granular) descriptive evidence showing the extended use of social media to disclose CSR information and the divergence of CSR issues addressed by outside stakeholders and firm insiders. Our results differ from the findings in Manetti and Bellucci (2016) which focus on firm-initiated communication and suggest low levels of CSR discussion. Our evidence confirms and complements the experiment-based findings of Cade (2018), who reports on strategies that firms may use in the face of criticism in social media. Furthermore, we show that companies fail to align their communication strategy with the interests of outside stakeholders, and we interpret that firm insiders' communication is consistent with legitimacy attempts.

The rest of the paper is structured as follows: Section 2 describes the theoretical framework and the development of hypotheses. Section 3 includes the empirical models and data construction. Sections 4 and 5 presents the results on stakeholder management and communication analyses. Section 6 presents the discussion of our results and conclusions.

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2. Literature Review and Hypotheses Development

2.1. Legitimacy theory, stakeholder engagement and CSR communication

Companies disclose CSR information to legitimize their role in society and their behaviour towards their stakeholders (Cho et al, 2012; Mahon, 2002; Patten, 1992a; 1992b). Legitimacy theory builds on the idea that a 'social contract' exists with society, which binds the firm to develop its activity according to a set of accepted values, principles and standards (Deegan, 2006; Deegan & Samkin, 2009), otherwise, the firm would be in 'breach of contract,' leading to a loss of legitimacy which may threaten its survival. To avoid these negative outcomes, managers strive to communicate the actions that demonstrate that they are socially responsible and guided by the values which society advocates. This does not mean that the firm meets the expectations of *all* stakeholders. Stakeholder engagement provides a framework to understand why. As noted in Freeman (1994), firms decide "*who or what really counts*," that is, who (or what) are the stakeholders to whom managers pay attention. Those stakeholders meet three key criteria associated with salience (Mitchell, et al. 1997) and have: 1) power to influence the achievement of firm objectives or its continued survival; 2) a legitimate relationship; and 3) there is urgency to their claim on the firm.[6] Thus, stakeholders are entities that the organization seeks to influence and that acting formally or informally, individually or collectively, can affect or be affected by its operations (Freeman, 1984; Murray & Vogel, 1997).

Different stakeholders are likely to have different attitudes, beliefs and expectations (Clarkson, 1995; Freeman, 1984) but, in communicating with them, firms are particularly reactive to potential legitimacy threats. For example, managers may voluntarily report CSR information in response to negative media attention, specially, if associated with environmental or social incidents (Deegan, 2002). The underlying expectation is that, by voluntarily disclosing CSR information, managers can influence stakeholders' perceptions.

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[6] These are the stakeholders to whom to pay attention. In practice, however, managers may not pay attention to them, as they "may not perceive the stakeholder field correctly" (Mitchel et al., 1997, p. 871).

Recent research explores how stakeholder management drives CSR communication.[7] CSR disclosures may be used to gain, maintain or repair firm legitimacy, particularly in the face of significant threats (O'Donovan, 2002; Milne & Patten, 2002), when they act as 'legitimising disclosures.' However, these communication practices are, oftentimes, mere exercises of stakeholder management and corporate spin (Cooper & Owen, 2007; O'Dwyer, 2005; Owen et al., 2001). In such sub-optimal practices, social media may play a role.

2.2. Social media: A unique setting to analyse corporate communication with stakeholders

Firm communication is costly and time consuming and, thus, "*to engage in a dialogue with all relevant stakeholders is beyond the capacity of any company*" (Pedersen, 2006, p. 151). However, the internet enhances communication, as it permits reaching stakeholders at large at relatively little marginal cost (Unerman & Bennett, 2004). Social media such as Twitter are internet-based channels with unique interactive features where stakeholder-initiated communication is outside firm control, but at the same time, in full view of it, as users refer to the firm when they communicate publicly. Prior work suggests an increase in such communication, with internet-based social activism gaining in strength and presence (Yang, 2013; Kahn & Kellner, 2004). This, coupled with the evidence of massive-scale contagion through social networks (Kramer et al. 2014), means that communicating with stakeholders becomes essential to ensure firm survival (Vasi & King, 2012; Morsing & Schultz, 2006; Ruf et al., 2001).[8] Whilst the impacts of social media are still not well understood, their effects are likely to be economically significant and far-reaching. King and Soule (2007) show that activists' protests negatively affect securities prices when they involve the firm main stakeholders and have a high impact on mass media, a finding that is confirmed by Gomez-

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[7] Stakeholder management involves managing expectations (Mitchell et al., 1997), leading to a communication in which both ends share information, learn, and revise their expectations (Manetti 2011), ultimately leading to the creation of a network of mutual responsibility (Manetti & Bellucci, 2016; Unerman & Bennett, 2004).

[8] For example, Friedman and Miles (2006) argues that, during a crisis event, public and media perceptions are driven by emotions enhanced by the feeling of risks, loss, tragedy and corporate deception.

Carrasco and Michelon (2017) in the specific context of social media. Jansen et al. (2009) and Kane et al. (2009) argue that this new scenario demands immediate and consistent communication to prevent reputational damage.

Therefore, social media represent a channel where legitimate stakeholders can organize themselves for further protest and action.[9] This, in turn, leads to increased power to affect firm outcomes if these actions signal future cash flow constraints (King & Soule, 2007). A further consequence is that, by finding others who share their views, stakeholders may feel more legitimized in their claims, leading to the exercise of greater pressure. This is what Mitchell et al. (1997) denote as 'urgency,' whereby stakeholders feel that their claims call for more immediate attention.

Based on the above discussion, it could be expected that managers and insiders use social media to communicate with outside stakeholders. Indeed, firms can rapidly respond to stakeholder concerns through this medium, either by directly replying, or by linking to images, videos, press releases, letters to stakeholders, or Webpage content (Hogan, 2011; Blankespoor et al., 2014), where additional space exists to respond in a timely and detailed way.[10] In this manner, the message acts as a heading and sub-heading of the substantive content, linked with a significant preview. Therefore, firms may use this channel to address, re-shape and re-frame stakeholders' concerns, and social media such as Twitter are a powerful tool for stakeholder management. We turn to the question of whether they are used for this purpose next.

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[9] For example, the petition website Change.org has more than 100 million unique users in 196 countries. This is a platform to start or support a petition, creating social pressure. An example of their power is the petition of a customer of Bank of America, requesting the removal of a $5 monthly fee in debit cards. This petition had over 300,000 supporters in a month, likely influencing the company to eliminate it ("Tell Bank of America: No $5 Debit Card Fees" <http://www.change.org/petitions/tell-bank-of-america-no-5-debit-card-fees>, accessed October 2019).

[10] As an example, Twitter permits posting URL links or direct content by uploading documents, such as letters in reply to stakeholders. See, for example, a reply of The White House (@WhiteHouse) sent out in response to concerns about Zika of an individual stakeholder (<https://twitter.com/WhiteHouse/status/769930430917316608>, accessed October 2019).

2.3. CSR communication and stakeholder management in social media

Unregulated voluntary disclosure is often positively biased (Cho et al., 2010; Verrecchia, 2001). This is a source of concern in CSR communication, which can be employed to improve firm reputation and the identification of stakeholders with the firm (Morsing, 2006), but also, to opportunistically manage public impressions (Dhaliwal et al., 2011; Highhouse et al., 2009; Jenkins, 2004). Certain types of CSR lend themselves to these latter practices, where the potential for stakeholder management likely hinges on the underlying relationship between CSR and core business activities (e.g., Jenkins, 2009; Peloza, 2006; Porter & Kramer, 2006; 2002). Burke and Logsdon (1996, p. 496) argue that CSR "*is strategic when it yields substantial business-related benefits to the firm, in particular by supporting core business activities and thus contributing to the firm's effectiveness in accomplishing its mission.*" Such 'Core CSR' activities have positive consequences, and thus information about Core CSR is likely to be more credible and not a good candidate for stakeholder management.

However, oftentimes, CSR actions are disconnected from the core business, such as philanthropic initiatives (Brammer & Millington, 2008; Wang et al., 2008; Seifert et al., 2004). These 'Supplementary CSR' activities relate to social action, cultural and/or environmental projects often channelled strategically through firm charitable foundations (Petrovits 2006). These programs usually lack focus and coherence, lowering their social impact and positive effect on long-term competitiveness (Porter & Kramer, 2002; 2006), as their extrinsic motives are more evident (Du et al., 2010). However, the (usually positively biased) information about philanthropic activities enjoys great media visibility through sponsorships and/or cause-related marketing (McAlister & Ferrell, 2002). The disclosure of Supplementary CSR information thereby fits with the courses of action identified in Downling and Pfeffer's (1975) and Deegan (2002) that an organization may take to retain legitimacy, and in particular, with attempts at 1) changing the perceptions of stakeholders, without changing actual behaviour, and 2) managing

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perceptions by deflecting attention from the issues of concern to other related issues, through the appeal, in this case, to philanthropic action with deep and abiding ethical roots (albeit unrelated to the business). In disclosing Supplementary CSR, firms may draw attention to philanthropic action, while neglecting, or down-playing, information concerning negative implications of their activities (Gomez-Carrasco et al., 2016).

2.4. Main predictions

Under a stakeholder management view, companies may respond to the concerns of outside stakeholders in social media about CSR issues. However, given the above discussion, it is possible that CSR communication in social media is used opportunistically as an instrument to achieve legitimacy and repair reputational damage rather than as a means of understanding stakeholders' concerns (and to respond to them appropriately). Indeed, legitimacy can be considered a resource necessary for firm survival (Dowling & Pfeffer, 1975), and thus, one that the organization can impact or manage (Woodward et al., 2001).

Considering the previously reviewed evidence, we expect that firm insiders[11] communicate both Core and Supplementary CSR in social media. However, as they likely use social networks for legitimacy purposes, we expect that they will focus on Supplementary CSR issues. This includes promoting their philanthropic facet to try to repair and maintain their legitimacy, particularly when negative news about the firm is being discussed. This expectation is in line with the conclusions of Yang and Liu (2017), who find that, when disclosing financial information in Twitter, companies tend to minimise the negative information and emphasize the positive information. Conversely, outside stakeholders (mass media, public administrations,

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[11] We consider as firm insiders the official Twitter accounts that companies use. We also add the personal accounts of managers and other staff members who declare their affiliation with the firms on their Twitter bio. Since this information is public and the affiliation is publicly declared, other users can easily identify managers and staff as corporate accounts. In Online Appendix A section "2) Criteria description: Twitter users," we describe all the types of Twitter accounts identified. The firm insiders are corporate accounts, managers and employees. Outside stakeholders are all others: public administrations, other companies, mass media, NGOs, civic associations, unions and a generic category of individual users.

Non-Governmental Organizations, civic associations, trade unions, and individual Twitter users) are expected to use social networks to gather information about Core CSR issues that concern them, and that they "*want firms to listen, appropriately engage, and respond*" (Kietzmann et al., 2011, p. 250). Thus, we expect that outside stakeholders will communicate Core CSR issues almost exclusively. This will be particularly true when there is news arriving to the market about negative implications of firm activities, such as workplace accidents, or corporate fraud. We formalize these predictions in two hypotheses:

H1a: *Firm insiders are more likely to communicate Supplementary CSR information in social media compared to outside stakeholders.*

H1b: *Outside stakeholders are more likely to communicate Core CSR in social media compared to firm insiders.*

These predictions indicate that different users talk about different CSR issues in social media. A key feature in understanding communication with stakeholders is how firms acknowledge, address and respond to the concerns and interests of their stakeholders, and importantly, how they deal with diverse viewpoints and conflict (Thomson & Bebbington, 2005). The unique features of social media permit exploring this issue: how firms negotiate conflict and stakeholder-initiated communications that revolve around information that cast doubts over whether firms are socially responsible and guided by the values advocated by society. The advances in social psychology perspectives on conflict are relevant to understand communication under such circumstances.

In line with our previous discussion of social media as an important channel for CSR communication, we expect that the arrival of CSR news that may damage firm legitimacy and stakeholder trust will significantly alter the flow of information in social media, and thus, communication between the parties. A feature of social media, and especially of platforms such as Twitter, is enhanced *timeliness*. Information spreads fast, and viewpoints are expressed by

diverse stakeholders, but with a predominance of negative tone, particularly with regards to novel, value-relevant information (Baik et al., 2016). Indeed, prior evidence suggests that social media may be used to raise awareness on CSR misbehaviours (whether real or perceived), and the possibility of massive-scale emotional contagion through social networks exists, potentially with grave consequences. This gives rise to our second prediction: we expect that outside stakeholders will be reactive in identifying CSR damaging events and communicate their concerns in social media. Formally stated:

H2: *In response to CSR legitimacy-damaging events, outside stakeholders communicate Core CSR in social media.*

With regards to how firm insiders react to such events, the prediction is not as straightforward. Given the unique opportunity to timely respond to stakeholders' concerns presented by social media, firm insiders may respond to stakeholders by proving information on those Core CSR issues. However, a feature of these platforms is that restrictions are imposed on the length of the text of each microblog.[12] Such restrictions may lead to information asymmetries and noise in the message, forcing the recipient of the message to 'fill in' the information that the noise has distorted. As discussed in Deutsch et al. (2006), when there is conflict between the parties, an antagonist orientation often means that the filled-in information is more likely to worsen conflict than reduce it. This means that, when dealing with diverse viewpoints and particularly, in the face of trust damaging news, *any* response by firm insiders may create further reputational damage. Thus, firm insiders may be reticent to respond in an informative manner. Their response may involve 1) attempting to drive attention away from events that damage firm reputation, by talking about Supplementary CSR (such as philanthropic CSR) to positively bias communication and divert attention away from the

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[12] A microblog it is a type of blog in which users can post small pieces of digital content like pictures, video or audio on the Internet. It differs from a blog in its smaller content. The most popular one is Twitter, and in our paper a microblog is a tweet. Microblogging is popular among users because of its portability and immediacy.

negative news, or alternatively, it may involve 2) silence, where insiders may refuse to offer either apology or explanation. The first reaction would be akin to opportunistic disclosure. Reticence is contrary to an open communication approach, which would involve facing legal and moral responsibilities as advocated by the principles of best practice for stakeholder management (Friedman & Miles, 2006).[13] According to Lewicki (2006) and Kim et al. (2004, 2006), denials of culpability and reticence are more effective than apologies or taking responsibility for the violations (real or perceived). Therefore, firms may favour reticence and prefer not to directly address the concerns raised by stakeholders. Given this argumentation, overall, we predict that, in reaction to the release of CSR news that potentially damage firm reputation, firm insiders may either try to change the topic and discuss Supplementary CSR or opt to stay silent. We subsume these predictions in the following hypothesis:

H3: *In response to CSR legitimacy-damaging events, firm insiders either communicate Supplementary CSR or stay silent.*

3. Data and Methods: The case of Twitter

We expect that different stakeholders communicate different CSR issues (H1), and that there is a lack of communication between the parties when stakeholders voice their concerns (H2/H3). Next, we describe how we access the data and test these predictions.

3.1. Twitter: Context and advantages

Kaplan and Haenlein (2010, p. 61) define social media as "*Internet-based applications that […] allow the creation and exchange of User Generated Content.*" Amongst them, Twitter is particularly popular for business communication purposes (Bharadwaj et al., 2013). Twitter offers three key advantages. First, tweets are public by default: conversations happen in the

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[13] Principle 7: "Managers should acknowledge the potential conflicts between (a) their own role as corporate stakeholders; and (b) their legal and moral responsibilities for the interests of stakeholders, and should address such conflicts through open communication, appropriate reporting, and incentive systems, and, where necessary, third party review" (Clarkson Center for Business Ethics, 2002, p. 260).

public sphere, becoming common knowledge. Second, posts are limited in the number of characters,[14] facilitating the identification of content. Third, the functions are limited, which simplifies the understanding of the communication processes. Twitter is designed for communication, but not necessarily, as in media such as Facebook, with those who are already known to the user *outside* of social media, but rather, to reach out to a broader community.

To illustrate, in a tweet, the "@" symbol before a username means that the message –albeit public–, is directed to a specific user. Keywords that begin with the "#" symbol (hashtag), indicate that the tweet is relevant to a topic. Hashtags unify tweets about a topic or event and facilitate the search for information. Tweets can also be 'retweeted' when users forward along another user's tweet to their followers. Re-sharing does not mean endorsement, but importantly, when using the "@" feature, the user mentioned is notified. By combining these features, significant awareness can be raised, as a user may get notified thousands of times for a *single* message, which, in this way, becomes a salient issue shared by many (and potentially, a 'trending' topic, which becomes visible to users all over the world). Overall, this means that corporate accounts are unlikely to be unaware of Twitter discussions. In choosing Twitter we also consider its wide acceptance, primarily in Spain.[15] A final consideration is that Twitter systematically reflects the news published in mass media (Sprenger et al., 2014) and may reflect social realities (Tumasjan et al., 2010, 2012; Jungherr et al., 2012).

3.2. Sample selection

We focus on the Spanish banking industry during the recent crisis, which provides a uniquely adequate setting to investigate social media engagement during reputational crises. Although in

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[14] Since its inception in 2006, Twitter limited the length of posts to 140 characters, which applies for the sample period of our analysis. In November 2017, after testing one month for a small group of users, the company extended this limit to 280 characters.

[15] Spain is amongst the countries with a higher Twitter penetration rate (Hawelka et al., 2014). About 5.3 million Spaniards used Twitter in 2012 according to Nielsen (2012). Also, according to Alexa.com, in 2014 Spain was the fifth country in the world by number of visits to Twitter with 4.1% of the total, only exceeded by US (28.5%), India (5.8%), UK (4.9%) and China (4.9%), all with significantly higher populations.

the US the financial crisis took place in the period 2007-2009, the intervention of the Government and of the Bank of Spain significantly delayed its effect over the Spanish banking industry. As acknowledged by the Governor of the Bank of Spain, Luis M. Linde, in a Congress hearing in July 2017, in "*mid-2012, Spain was facing what was practically a collapse in external funding [...]. In response to the worsening of the crisis, the Government approved two Decree-Laws in February and in May 2012 on the write-down of real estate risks on credit institutions' balance sheets; and in July 2012, a reinforced strategy for capital restructuring and strengthening was adopted,*" in particular, surviving this crisis involved an injection of funds from the "*European Stability Mechanism for more than €41 billion*" (Linde 2017, p.8). November 2013 marks the 'rescue' of the financial sector (Kauser 2013), and when the worst of the real effects are felt in the economy. The budgetary cuts introduced by the Government, to repay this bailout program, meant that the worse of the effects of the euro system crisis came crashing down in the real economy in 2013 and 2014, when Spain had the maximum unemployment of the last two decades, coming close to 25%.[16]

In our sample, we have data for 41 banks representing 95.9% of total banking assets.[17] We gather the tweets that mentioned these banks for the period November 2013 to February 2014. In this way, we capture the year-end flows of information, as all sample banks have December year-ends. In total, we have data for 2,816 bank-day observations. Assisted by a software tool, we manually classify the content of CSR-related tweets and analyse their weight over the total

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[16] As acknowledged by Linde (2017, p.13), the first (financial) crisis was not the one with the worst impact; it was the second (euro zone) crisis that plunged the economy into a deep recession, as he noted that "*Banco de España estimated that the 2009 recession would have what the economists call a "V" shape, and not a "W" shape, without anticipating the strong impact of the second recession on many credit institutions' solvency.*" See, also, the work of Otero-Iglesias et al. (2016) for details. Moreover, the most critical evidence of banks wrongdoing, i.e., court sentences in favour of bank customers started to be ratified by the Spanish Supreme Court in 2013.

[17] Financial data are obtained from Bankscope. We consider the 2012 year-end figures, the latest available for all entities. We cover all the categories of credit institutions recognized by the Bank of Spain: commercial, savings, cooperative, and foreign banks branches. Due to the restructuring in the sector, savings banks are the former savings banks reconverted into commercial banks. We also include 'ethical banking' as an additional category.

amount of tweets mentioning each bank.[18] To test our hypotheses, we classify the CSR issues (Core *versus* Supplementary) communicated by the different parties (firm insiders and outside stakeholders). Online Appendices A and B detail the procedure and provide examples of how we analyse the content of microblogs, and separate Twitter users into stakeholder categories.[19]

3.3. Descriptive evidence: Core and Supplementary CSR topics on Twitter

During the period under study we collect close to a million tweets, as shown in Table 1. The filtering process eliminates 81.6 thousand tweets that bear no relation to the activity of these companies. Of the 888.3 thousand tweets analysed, 419.4 thousand (47.2%) are included in, at least, one of the defined criteria. This means that almost half of the tweets about banks in this period are related to the impact of their activity on their key stakeholders.

Nearly half of the microblogs classified in at least a CSR criterion (201,955 tweets) are associated with the conglomerate BFA-Bankia (Bankia, henceforth). This is explained by the fact that: a) Bankia is the fourth biggest bank, b) it starred in the biggest bail-out of a Spanish bank during the financial crisis, c) it affected a greater number of savers with the preferential shares scandal, d) it was identified by the platform of People Affected by Mortgages (PAH) as the bank that evicted more families from their homes (Human Rights Watch, 2014) and, finally, e) it frequently appeared in the media linked to accounting scandals and cases of corruption, with important developments during the analysed period.[20] However, in relative terms, other banks exceed Bankia, with more than 80% of CSR-related tweets, as shown in Table 1. A further interesting observation is the case of BBVA and Unicaja, as they have a

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[18] The software is a self-constructed tool that assists in the manual classification of the relevant tweets as explained in Online Appendix B.

[19] We follow Friedman and Miles (2006) approach, whereby stakeholders' relations are considered from the viewpoint of the stakeholder (and not of the firm). We also consider intermediaries in the relationship between traditional stakeholders and firms. E.g., the media. This approach is appropriate given our focus on Twitter as there will be stakeholders who, although important, will not be considered in the current study either because they are not present on Twitter or because they cannot be identified in that specific role (i.e. shareholders).

[20] Bankia's case provides anecdotal evidence in support of the hypothesis that, in a controversial industry, the information disseminated through social media has a noticeable negative bias, enhancing reputational problems for these companies. Our main results are consistent if we exclude Bankia from the analyses.

great number of tweets and of tweets filtered. Despite having a very active presence in social media, they have proportionally fewer CSR-related tweets (20.5% and 17.2% respectively). This is because their name is linked to major sports events: BBVA sponsors the Spanish football league and Unicaja sponsors a basketball team. These activities relate to their marketing strategy, and we do not consider them CSR information.

[Insert Table 1 about here]

Having documented the material presence of CSR content in Twitter, we turn to the content analysis. To do so, we use our panel data set of number of tweets per company and per day, resulting in a total of 2,816 data-points.[21] Table 2 provides the correlation matrix for the following variables: total amount of tweets (*tw_total*), Core CSR-related tweets (*core_csr*), Supplementary CSR-related tweets (*suppl_csr*), firm insiders' tweets (*ins_total*), outside stakeholders' tweets (*out_total*), and the four intersections. The distinction between inside and outside users is based on their relationship with the company. We consider as outside stakeholders those users who express opinions about the firm and are not firm insiders.

Regarding the content of tweets, to distinguish between information associated with Core CSR or Supplementary CSR topics, we build on prior work (e.g., Burke & Logsdon, 1996; Porter & Kramer, 2006; Gomez-Carrasco et al. 2016), that considers Core CSR information as all those aspects with impact on stakeholders that are directly related to the main activity of the companies (i.e. banking business activities related to credit, savings and investment management). Supplementary CSR would include activities with no direct relationship with the banking business (i.e. social, cultural or environmental action, and corporate volunteering).

The evidence in Panel A of Table 2 suggests Core CSR dominates the communication, this is, microblogs about the impact of the banking industry on key stakeholders through banks'

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[21] There was no activity on Twitter for certain companies some days. Therefore, these observations were not included in the sample. This reinforces our finding on the importance of CSR communication on Twitter, with 74.66% of days being classified as having CSR communication. A data-point is therefore the number of tweets that are tweeted on a specific day about a specific bank. It is the bank-day number of tweets.

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main business. The data is also consistent with highly skewed variables, as it is common for stakeholders to stay silent for days, when no CSR events or news are discussed, and to have peaks of large activity, when a CSR event or information becomes salient and stakeholders discuss it. [22] For completeness, Panel B shows a paired *t*-test of means, first in absolute values, and then in relation to the total amount of tweets issued by each of the user groups, to account for the fact that outside stakeholders are more numerous and show a higher level of activity. The results indicate that outside stakeholders talk about Core CSR (as suggested by an average of 44.81 tweets about Core CSR and only 1.41 about Supplementary CSR), while firm insiders are responsible for the majority of microblogs about Supplementary CSR (they tweet an average of 2,49 tweets about Supplementary CSR, over 77% more than outside stakeholders).[23] Thus, despite the overall dominance of Core CSR-related content, banks' insiders make remarkable efforts to disclose Supplementary CSR actions. This strategy does not appear to translate into greater outside stakeholder interest in these activities. This is initial evidence of a divergence of CSR interests between inside and outside stakeholders and also, that social media are beyond firms' control, as communication about the firm occurs without the firm initiating it. This is unlike traditional media in which this control commonly appears to a certain extent (Mangold & Faulds, 2009).

[Insert Table 2 about here]

Table 3 provides details on CSR topics discussed and users and refers to the full sample period. Panel A shows that the Core CSR-related issues that are more correlated with the

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[22] Outliers are indicative of 1) measurement error; or 2) variability in the distribution. We do not winsorize the data, as we collect our data manually and extreme values are not suspect of being spurious data points due to measurement error. Winsorizing would eliminate the data we are interested in, as we focus on those days of maximum activity and reactivity in Twitter, when stakeholders at large communicate CSR events and information. We make a number of transformations of our dependent variables (using natural logarithm of core and supplementary CSR, using the ratio of core and supplementary CSR tweets to total tweets, standardizing the number of tweets, using decile ranks) to ensure that our results are not driven by atypical points in the distribution. See Dyckman and Zeff (2019) for a detailed discussions of the pitfalls in winsorizing accounting data.

[23] Untabulated tests show no differences in the way the three different types of internal accounts, – corporate, managers and employees, behave on Twitter. Managers and employees often just retweet the corporate account which led us to simplify the coding by classifying all these tweets under the category "corporate."

overall generation of tweets are, in this order: 1) the creation of value for shareholders (*tw_sh_valuecreat*); 2) commercial practices (*tw_c_i_commpract*), particularly those related to savings management (*tw_c_i_savings*) due to the great amount of clients affected by the 'preferential shares case'; and 3) regulatory breaches (*tw_s_normbreach*) related to accounting scandals and corruption cases, as mentioned in the case of Bankia. In contrast, the issues that generate less interest and, therefore, less information are, also in this order: 1) equality and diversity within the workforce (*tw_e_equality&div*), an aspect that, despite usually appearing in the sustainability reports, was not mentioned in this period; 2) financial inclusion (*tw_s_financialincl*), originally the raison d'être of savings banks, but with a marginal role in their current business activity;[24] and 3) Socially Responsible Investment (*tw_s_sri*), a type of financial products based on ESG considerations that is less extended in Spain than within the EU, and that has also been severely reduced due to the crisis (Eurosif, 2012). Regarding Supplementary CSR information, it is mainly issued by bank insiders. Table 3 Panel B shows that the focus is on cultural projects information. This is consistent with the arguments in prior work (Valverde & Fernandez, 1998; Núñez, 1998) on the higher visibility of these actions, which imply low firm commitment (given initial low investment and minimum obligation to maintain them), and their potential use to repair or maintain legitimacy. A deeper analysis of users in Panel C highlights three main actors: 1) mass media (*tw_out_massmedia*), and 2) individual Twitter users (*tw_out_indivusers*) as outside stakeholders, and 3) corporate accounts (*tw_ins_corporate*) as main firm insiders.

[Insert Table 3 about here]

Overall, the descriptive evidence suggests that banks are interested in intervening in the communication that takes place in social media; but generally fail to address those issues in

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[24] Savings banks were created in Spain in the mid-nineteenth century with the main purpose of improving the living conditions of poorer urban classes through affordable credit conditions and promoting savings, to protect these people from usury networks.

which their stakeholders are interested. We also show that individual users have a relevant

presence in these new social networking platforms.

4. Stakeholder management in social media

Under H1a, we expect firm insiders to drive Twitter conversation towards Supplementary CSR

issues, while under H1b we expect outside stakeholders to do it towards Core CSR issues.

To test this idea, we run the following model:

$$CSR\_Communication_{i,t} = \beta_0 + \beta_1 \ \%Insiders(\%Outsiders)_{i,t} + \sum \delta \ Controls_{i,t} + \varepsilon_{i,t}, \qquad (1)$$

where CSR_Communication is measured, alternatively, as: *TalkCore*, and *TalkSupp*. *TalkCore*

(*TalkSupp*) is the decile rank of the number of Core (Supplementary) CSR tweets, measured at

the bank level, where banks that have a greater number of of Core (Supplementary) CSR

mentions rank higher.[25] The main independent variables in model (1) are *%Insiders which* is a

proxy for the percentage of firm insiders discussing CSR issues over the total number of

stakeholders and *%Outsiders* which is a proxy for the percentage of outside stakeholders

discussing CSR issues over the total number of stakeholders. The greater this value, the more

dominated the communication is by either firm insiders or outside stakeholders. *%Insiders* and

%Outsiders are mechanically correlated,[26] and thus, we use them alternatively, although we

report both for completeness.

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[25] For completeness, we also construct *DiffTalk*, the difference between *TalkCore* and *TalkSupp*, a proxy for the relative preference of stakeholders to mention Core *versus* Supplementary CSR issues. The higher the value of *DiffTalk*, the more focused the communication is on Core CSR issues. For example, if there is large following in Twitter for a particular Bank, it may rank high (score 10 or 9) in both *TalkCore* and *TalkSupp*, this would mean *DiffTalk* will be small. In contrast, if a Bank ranks high in Core CSR discussion and low on Supplementary CSR, *DiffTalk* will be positive and significant. The results obtained for *DiffTalk* are reported in Online Appendix C.
[26] In most banks the sum of firm insiders and outside stakeholders is the total number of stakeholders. However, in some banks, there are also publicity/sponsoring stakeholders. We control for the presence of these stakeholders in our analyses. In our analyses, they are classified as "Twitter accounts aimed at the generation of purely promotional or advertising content, which sometimes could be even classified as spam" (see, Online Appendix A, section 2.C). On average, these accounts represent 6.7% of users.

CSR information disseminated by firm insiders is akin to unregulated voluntary disclosure,[27] and as noted, legitimacy concerns are expected to drive it. Such concerns link with corporate visibility, which increases the pressure on companies to disclose CSR information to legitimize their role toward their stakeholders. In turn, visibility can be linked to proximity to the final consumer, which is the case of the banking industry (Branco & Rodrigues, 2006), to companies or industries with a high social and/or environmental impact (Cho et al, 2012; Deegan, 2002; Patten, 1992a), to company size (Hossain & Reaz, 2007; Patten, 1992b; Chow & Wong-Boren, 1987), and listing status (Domench, 2003; Meek, Roberts & Gray, 1995). To account for legitimacy concerns in firm CSR communication, we add proxies associated with greater visibility to model (1). In particular, we consider *Size* (natural logarithm of total assets); *Listing_status* a dummy variable that identifies banks quoted in the Stock Exchange; and *Social_impact* a dummy variable that identifies companies that belong to a controversial sub-industry of saving banks.[28] We also control for whether the bank has significant assets abroad (*International*), the activity of sponsors/publicity users on Twitter (*Advertising*), and several proxies that account for the general Twitter activity surrounding the bank, as measured by the number of followers (*Followers*) and of users followed (*Following*), and the number of Google searches about the bank (*Visibility*). Finally, because the data to fully identify users is missing for three banks in our sample, we substitute the values on users of these banks for the average value and add a dummy variable to identify them (*Missing*).

Table 4 Panel A provides descriptive evidence on the average number of firm insiders and outside stakeholders for our sample banks. On average, 85.4% of users actively driving the conversation are outside stakeholders, and 7.9% firm insiders (the reminder 6.7% are

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[27] At the time of our analyses, financial information disclosures in the banking industry were regulated by IFRS/Spanish GAAP and Circular 4/2004 of the Bank of Spain. This regulation did not include any specific rules with respects to CSR disclosure or communication on social media. Non-financial information disclosure was not regulated in Spain until 2017, when the new Circular 4/2017 overruled the old one.
[28] Our sample consists of commercial banks, entities linked to former savings banks, cooperative banks and entities classified as 'ethical banks.' Amongst them, the savings banks have the greatest social impact and are highly controversial, as many of them had to be bailed out by the government and were involved in the fraudulent sale of complex financial products that caused significant losses to savers.

advertising accounts). This is consistent with our discussion that outside stakeholders dominate the communication, however, as can be seen in Panel A, in some firms, inside stakeholders are quite significant, with a maximum value of 34.4% of users being firm insiders. Table 4 Panel B provides results for model (1), where columns 2 and 4 show that there is a positive (negative) association between the presence of outside stakeholders and Core CSR (Supplementary CSR) discussion. In contrast, columns 1 and 3 show the opposite holds true for firm insiders, clearly keener to drive the communication towards Supplementary CSR topics.[29] We also run a logistic regression where we identify those firms where there is no reference to Supplementary CSR (we define *Core_Only* a dummy variable identifying days when only Core CSR is discussed). Panel C provides the result from this analysis. The probability that Twitter CSR communication focuses exclusively on Core CSR topics is negatively (positively) associated with the presence of firm insiders or outside stakeholders. Overall, this evidence is consistent with H1a and H1b and suggests that firm insiders communicate more about Supplementary CSR issues, while outside stakeholders appear more interested to talk about Core CSR issues.

[Insert Table 4 about here]

5. Stakeholder communication analyses

Our results thus far suggest limited coincidence in the topics raised by companies and their stakeholders in social media. They indicate that, on average, firm insiders and outside stakeholders do not talk about the same CSR issues. However, we cannot entirely discard that communication may indeed take place. To provide further evidence, we focus on events that generate exogenous variation in CSR information in the market and analyse *timely* communication surrounding those events. In particular, we search the major news outlets and

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[29] We also study the association between Core and Supplementary CSR communication (as measured by the natural logarithm of the total number of Core CSR tweets (*Core_CSR*) and of Supplementary CSR tweets (*Supplementary_CSR*), respectively) and the presence of firm insiders and outside stakeholders. The results are consistent with those reported in Panel B of Table 4.

identify dates with three types of potentially legitimacy-damaging Core CSR events: 1) sentences against the banking industry (*Event_S*); 2) activism against the industry (*Event_A*); and 3) general news about the industry that are likely to generate indignation (*Event_I*). These events are selected as increasing firm exposure to social and political pressures, and thus, as argued in Cho et al. (2012), as potentially creating incentives for firms to use disclosures to timely address them.

In total, we identify 21 events (8 classified as generating indignation; 7 sentences against the banking industry, and 6 events of activism), involving 14 different banks (both public and private). They are all listed on Online Appendix D. All events considered, around 10% of the days in the period analysed in our study are associated with an event. In selecting these events we ensure that there is no overlap between them, by establishing a minimum 3-day window centred on the event date.[30] Table 5 provides descriptive statistics for key variables of interest for the full sample, i.e., the total number of tweets on the day (*tw_total*), the total number of tweets by outside stakeholders (*out_total*), and firm insiders (*ins_total*), and the number of total tweets by outside stakeholders excluding the mass media (*out_total2*).[31] As can be seen in Table 5, only two large banks are broadly mentioned, with a median number of tweets above 2,000 per day during the sample period. Table 5 suggests that, on average, firm insiders are silent in many banks. This is, in itself, of interest, and suggests that firm insiders may potentially read more than participate actively on Twitter.

[Insert Table 5 about here]

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[30] Twitter is characterized by rapid communication. Indeed, most communication takes place on the event date and the following day. As an example, an analysis of Twitter trends reveals that top 20 trends start on average 60 days before (median of 25 days). Perhaps more importantly, even these top trends only stay as such for an average of 35 minutes (median of 30 minutes). See: <http://www.vuelio.com/uk/blog/how-many-tweets-make-a-trend/>, accessed October 2019.

[31] Although our events are selected to be exogenous to the users, potentially, mass media such as journalists have some say over the timing of publishing the news. Thus, we provide evidence separately for outside stakeholders excluding media outlets. Our results do not vary if we do not eliminate media-classified users.

To validate our chosen events, we compare average activity on non-event days with average activity on event days. Table 6 shows the results from this test. Panel A provides evidence on non-event days and Panel B for event days. It can be observed that communication increases significantly on days with events. For example, on a non-event day, outside stakeholders post, on average, 44 individual tweets about CSR. On an event day, they tweet 441 messages. That is, ten times more. Firm insiders tweet an average of 24 tweets on a non-event day, and 121 on an event day. That is, five times more. Panel C shows that these differences are statistically significant, validating our choice of event days.

[Insert Table 6 about here]

5.1. User engagement: Who talks on Twitter?

To formally study patterns of communication on Twitter, we use the following model:

$$user\_total_{i,t} = \beta_0 + \beta_1 \, Specific\_Event_{i,t} + \beta_2 \, Event\_S_{i,t} + \beta_3 \, Event\_I_{i,t}$$

$$+ \beta_4 \, Event\_A_{i,t} + \sum \delta \, Controls_{i,t} + Firm \, FE + Day \, FE + \varepsilon_{i,t}, \tag{2}$$

where *user_total* refers, respectively, to total tweets (*tw_total*), tweets by outside stakeholders (*out_total*, *out_total2*) and tweets by firm insiders (*ins_total*). As previously mentioned, some firms receive more social media attention. To account for this, we standardize our variables. Because events relate to specific banks, we create a dummy *Specific_Event* to identify the firm and date affected (See Online Appendix D). Model (2) includes firm and day fixed effects (FE) to account for the different levels of social media activity across firms and days. We also include event-type fixed effects (*Event_S*, *Event_I*, and *Event_A*). Because of the interest and novelty of our setting, and to understand how social media participants react to these events, we report in the tables the coefficients obtained for *Event_S*, *Event_I*, and *Event_A*.[32]

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[32] *Event_S, Event_I* and *Event_A* are time dummies, they take the value of 1 on the day when there is an event, for *all* banks; 0 otherwise. These dummies capture potentially confounding effects associated with dates with great activity, if there is contagion across the industry, and for example, indignation with one bank spills over to other banks. *Specific_Event* is a bank-time variable. It takes the value of 1 for the bank and date affected; 0 otherwise.

Model (2) uses an event study-type methodology, focusing on the reaction of users (tweets by firm insiders and outside stakeholders) to events that take place in given days. This methodology is commonly used in accounting studies trying to assess reputational damage to firms, such as for example, the work of Chaney and Philipich (2002), who study the consequences of Arthur Andersen failure in their "shredded reputation" study, and look at market reactions in four days associated with the demise of this large audit firm in the period November 2001-February 2002. Anecdotal evidence also supports the view that the study of twitter communication surrounding particular days is relevant. For example, the SEC recently issued a press release informing that Elon Musk, CEO and Chairman of Tesla Inc. (a firm insider) had been charged with Securities Fraud for misleading tweets issued over a single day (August 7, 2018). The settlement with the SEC involved that Elon Musk step down as Tesla Chairman, the appointment of new directors, and a penalty of $40 million.[33]

Results from running model (2) are reported in Table 7, and baseline results are reported in Online Appendix C, for completeness. They suggest, first, that Twitter users talk more on days when there are events. The model includes additional time-and-firm varying control variables: the number of user followers, the number of users followed, the number of hashtags used on the day, and the number of tweets related to publicity. Given that we have firm and day fixed effects in the model, other controls such as firm size, visibility, profitability, etc., that do not change over the sample period are not included. In particular, our results show that *Specific_Event* is positive and significant in column 1. When we look at who talks, we find it is the outside stakeholders. The results also show that *Specific_Event* is positive and significant in columns 2 and 3 while it is insignificant in column 4. This confirms our expectation that firm insiders are less reactive to damaging CSR news. Outside stakeholders are, in contrast, very reactive. Also, the results provide evidence of greater reactivity to events linked to indignation

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[33] See original release at: <https://www.sec.gov/news/press-release/2018-219>, and information on settlement with SEC at <https://www.sec.gov/news/press-release/2018-226>. Accessed October 2019.

Electronic copy available at: https://ssrn.com/abstract=3414210

or sentences. Overall, the evidence indicates that it is outside stakeholders that talk on CSR reputation-damaging event days.

[Insert Table 7 about here]

5.2. CSR topics of interest: What is talked about on Twitter?

Next, to understand what users talk about, we run the following model:

$$user\_type_{i,t} = \beta_0 + \beta_1\ Specific\_Event_{i,t} + \beta_2\ Event\_S_{i,t} + \beta_3\ Event\_I_{i,t}$$
$$+ \beta_4\ Event\_A_{i,t} + \sum \delta\ Controls_{i,t} + \text{Firm FE} + \text{Day FE} + \varepsilon_{i,t}, \qquad (3)$$

where *user_type* is the standardized number of tweets by user type and CSR type, where we aggregate the arguments into whether they relate to Core or Supplementary CSR. In particular, we look at the activity of outside stakeholders, and whether they talk about core (*out_core_csr*) or supplementary (*out_suppl_csr*) CSR issues, and of firm insiders, and again, whether they talk about core (*ins_core_csr*) or supplementary (*ins_suppl_csr*) CSR issues. Model (3) incorporates day and firm fixed effects. We predict that outside stakeholders are more likely to focus on Core CSR on event days. Table 8 provides the results from running model (3). Online Appendix C provides baseline results, for completeness.

We find that outside stakeholders are likely to talk about Core CSR on event days (*Specific_Event*=1.208, *t*-stat=5.69; *p*-val<0.01), rather than Supplementary CSR (*Specific_Event*=0.230, *t*-stat=0.83; *p*-value=0.41). Firm insiders also focus on Core CSR issues on those dates, but significantly less (the coefficient on the *out_core_csr* regression is over twice the size of *ins_core_csr*). Also interestingly, firm insiders talk more about Supplementary CSR on those dates (*Specific_Event* =0.521, *t*-stat=1.86; *p*-value=0.06). Given that the CSR events relate to Core CSR exclusively, this can only be consistent with corporate accounts trying to change the tone of the discussion on Twitter and willingly ignoring or counter-acting the potentially damaging Core CSR communication between the outside

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stakeholders with these Supplementary disclosures, in an attempt to repair firm legitimacy. A potential issue with this analysis is that Supplementary CSR does not occur, for every firm, on every day. In Panel A of Table 8 we run the analysis only for those days when there is at least 1 tweet per firm, in Panel B we repeat the analyses, giving a 0 to missing values, to signal no communication on those days. Results are comparable. Online Appendix E provides an illustrative example, using Kutxabank, of opportunistic disclosure and silence.

[Insert Table 8 about here]

5.3. Illustrative case study: Bankia sells 'preferential' shares to 9-year-old girl

Finally, to better illustrate how firm insiders and outside stakeholders communicate with each other, we analyse in detail a sample event. We choose Bankia, as it generated the most discussion in our sample period. Bankia was involved in multiple controversial cases linked with corruption or that generated significant indignation, such as families' evictions from their homes.[34] We focus on one illustrative event: the news released on February 14, 2014, when a Madrid court sentenced Bankia to return 35,000 euros to a 9-year-old girl. According to the sentence, the parents had invested on behalf of their daughter on preferential shares following the advice of bank employees, who gave false assurances that the money could be recovered to finance the studies of the child. These parents were sold a complex financial product as if it were a guaranteed fixed deposit.[35]

On the day the sentence became public there were 8,100 Bankia-related tweets. This is greater than the average firm-day activity for Bankia (3,371 tweets; Table 5) and also, than the average number of tweets for any bank on an event day (2,157 tweets; Table 6 Panel B). The

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[34] Under Spanish legislation, lenders must pay back the mortgage in full: the bank may seize the mortgaged house, and with real estate prices going down during the crisis, this was usually not enough to cover the debt. This meant that families were often left without a house and with a sizable debt still to be repaid.

[35] Bankia implemented aggressive strategies to raise capital, selling complex financial products to retail investors without providing enough information about their risks. The so-called 'preferential' shares were sold particularly to the elderly, who believed they were buying safe, high-yield deposits. In fact, they were high-risk illiquid bonds not covered by the national depositors' compensation scheme.

news was first reported at 14:01 pm in the Webpage of a news outlet. A few minutes later (at 14:13 pm) the issue appears on Twitter. The first tweet, made by mass media was:

> *@20minutos.es: "Bankia sentenced to pay 35,000 euro for selling preferential shares to a 9 years old child"*

Subsequently, 1,182 tweets (15% of all tweets) include references to this original tweet. This validates the importance of the event itself, the potential damage to Bankia reputation, and also, the reactivity of outside stakeholders to Core CSR news. More than half of these tweets (595) were re-tweets and 334 were directed to Bankia by including the symbol @Bankia, while another 528 tweets include the hashtag symbol #Bankia. This is of interest in itself, given that the original tweet did *not* include either of these symbols (@ or #). This also makes it implausible that Bankia was not aware of the discussion happening on Twitter and the concerns about the impact of its activity on stakeholders (and thus, about its Core CSR policies). The study of the tweets reveals that on the event date, outside stakeholders react quickly and talk about the preferential shares scam, while the company fails to address the concerns of outside stakeholders. Individual users comment on the sentence and directly mention Bankia in their messages. The tone of these messages is, on average, negative, in line with our discussion:

> *@PazRivas: "The bank director should pay for it. A judge sentences #Bankia to return 35.000 euro to a 9-year-old girl. #Preferential shares."*
>
> *@nomas70euros: "A Madrid court sentences @Bankia to return 35.000 euro to a 9-year-old girl because of #preferentials."*

Outside stakeholders commented also on related cases: some directly linked to Bankia (of prior evictions of families defaulting on their mortgage payments, for example), but also, about other banks. This indicates that these CSR damaging events spurn communication between stakeholders, who comment on related issues, and also, it provides evidence consistent with our arguments on sentiment spreading quickly, potentially damaging the reputation of *other* firms in the industry and igniting activism. See, as examples, the tweets below, which call for further action, not only against Bankia, but other banks, such as Kutxabank:

@AdaBankia: "@Bankia customers must demand the return of the 0.4% commissions for the sale of shares during the arbitration."

@15MePlanto: "Already 7 @Bankia branches collapsed in Valencia #stopEvictions. Yes, we can."

@asam_villaverde: "Double fight won against @Bankia #NaiaraStays and #IgnaciaAlsoStays. Now it is time to support Angel´s fight against Kutxabank which is also the fight of all of us!"

Indeed, there were many examples of stakeholders CSR communication, responding, re-tweeting and commenting on prior Tweets. Our evidence indicates that stakeholders mentioned other stakeholders when referring to the sentence or in connection to Bankia.

@LucyRainbow9: RT @luisraboso: "@Madridiario: Bankia sentenced for selling preferentials to a 9-year-old girl."

These tweets often added their own commentary, as in the examples shown below, directed at members of the mass media (*@julioinsadji* is a journalist, and *@EFEnoticias* is one of the major news outlets in Spain):

@pitas69: "@julioinsadji Bankia sentenced to pay 35.000€ for selling preferential shares to a 9 years old child. They do not even respect minors!"

@anaruize "A judge sentences Bankia to return 35.000 euro to a 9 years old child. The judge considers that the Bank acted with bad faith and lack of transparency. @EFEnoticias"

Media outlets, picking on the news after it was first tweeted, emphasize keywords such as 'sentence' and 'preferential,' by creating and using hashtags. Media, therefore, draws attention to the negative impacts of the sentence, and serves to engage other users, by enhancing the visibility of the topic. For example, the Madrid-based news outlet "Politica Local" (*@Politicalocal*) tweeted the following:

@Politicalocal: "Another case of #preferential shares and #Bankia: They sold this highly risky product to a 9 years old child!! More details #sentence"

While all this attention is given to the sentence and despite the plausible effort made by these users, the company's official account did not respond. Bankia sent out tweets related to Core CSR (on bank commercial practices about private loans granted to individuals and freelancers as well as new banking functionalities for clients), but none of them referred to the case. We show below two tweets sent on the day: the first one before the news about the

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Sentence appears (at 11.04 am) and the second after the issue is raised by the press and by users of Twitter (at 16:04 pm).

> *@Bankia: "We have granted personal loans for 752 million euro; 674 to individuals and 78 to freelancers."*
>
> *@Bankia: "New functionality in Office Mobile: check your mail at any time."*

In this way, firm insiders and outside stakeholders effectively communicate different issues. Bankia does not refer to stakeholders' concerns in the face of negative news that may damage legitimacy. This illustrates the lack of alignment between firm insiders and outside stakeholders on CSR-related issues. The next day (February 15, 2014) the Twitter account of one of the major Spanish TV channels, Antena 3, referred to the sentence again. A total of 1,586 tweets were recorded as responses, most of them, re-tweets (1,393). Again, in this second day the company did not refer to the concerns of outside stakeholders. Indeed, the official account of Bankia did not tweet despite the effort of outside stakeholders to call the attention of the company on this specific issue (140 of the tweets referring to the sentence included the hashtag #Bankia). Of course, it is also possible that even when outside stakeholders directly refer to the company in their tweets, the primary objective of this communication may not be to elicit a response from the firm insiders, but simply to call attention to interested stakeholders, or more generally, to denounce firm behaviour.

Figure 1 Panels A and B provides further graphical evidence on the reaction to the news on Twitter. These graphs suggest, first, that the events are not anticipated, as the reaction is accumulated on day 0 (day of the event) and day 1 (day after the event). We can see a spike in tweets, hashtags and tweets using hashtags around those dates. The firm insiders' reaction happens only on day 0, while outside stakeholders keep talking about Core CSR issues also the day after the event. Indeed, firm insiders tweeting activity is lower after the event than before. This is consistent with our prediction of silence as a strategy used by firms on social media.

[Insert Figure 1 about here]

6. Discussion and conclusion

Our findings suggest that legitimacy concerns drive firm insiders' CSR information dissemination practices. While Core CSR is the predominant CSR-related content in social media, firm insiders (corporate, managers and employees) make significant efforts to discuss Supplementary CSR, which does not translate into a higher interest about this content by outside stakeholders, who focus on Core CSR almost exclusively. This evidence may suggest that firms fail to adapt their communication strategy to outside stakeholder concerns, particularly as prior work suggests that firms keep internal accounts under control to implement a common discourse or, as Morsing (2006) stated, firms use CSR communication to influence the willingness of managers and employees to identify with their workplace.

Interestingly, we find that several aspects (such as equality and diversity in the workplace) that feature prominently in sustainability reports, are barely mentioned in social media, not even by bank insiders. This indicates a divergence between companies and stakeholders' interests in term of CSR. Aspects that firms present as important in their CSR reports do not appear to be the result of consulting stakeholders (Gray, 2000; GRI, 2013; Manetti, 2011). We also show that cultural projects are the main component of Supplementary CSR. Since this type of activities has high visibility (Valverde & Fernandez, 1998; Núñez, 1998), this suggests they are used as stakeholder management tools instead of to pursue a positive impact on society. We identify three main participants in social media: mass media, individual users, and corporate accounts. This implies that while firms do attempt to intervene in this type of communication, individual users have a material presence, making these media difficult to control by firms.

Finally, we find that firms prefer to adopt reticent strategies. Firms favour silence rather than using open communication approaches, to demonstrate willingness to face legal and moral

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responsibilities, as advocated by best practice principles for stakeholder management (Friedman & Miles, 2006). We find that mass media is a key intermediary during crises events, when firms get significant media attention which could enhance negativity and cause reputational damages. Prior literature finds evidence of the importance of mass media tone as a key factor when studying corporate reputation changes (Fombrun & Shanley, 1980). Poorly handled media and stakeholder response may lower shareholder confidence and thus, market value (Friedman & Miles, 2006). A final issue is the emotional contagion of Twitter users by which the environment of social mobilizations enhances the feeling of corporate and even industry deception. Emotional contagion may result in joint reputation damage of industry members (Friedman & Miles, 2006). Our case-based evidence of legitimacy-damaging CSR events indicates such potential damages exist to other industry members. Overall, our results are in line with and complement the findings of Manetti and Bellucci (2016). Twitter is used as an instrument for legitimacy rather than to engage with stakeholders and assess their concerns.

The study is not without limitations. First, we focus on a single social medium. The behaviour and interests of users may differ across networks. In addition, some companies have created functions such as "community manager," or "stakeholder manager" (Miles et al., 2002). These firms may treat stakeholder management as a public relations function. A final limitation is the focus on the banking industry in a single country during a period when we can identify reputation damaging events. While this allows us to more precisely study stakeholder engagement in CSR communication issues, it would be interesting to extend the analysis to other industries and contexts.

Despite these limitations, we make several contributions to existing research. While a number of prior studies have focused more broadly on issues related with tone and sentiment in social media and market participants' reactions (e.g., Blankespoor et al., 2014; Chen et al., 2014; Curtis et al., 2016; Lee et al., 2015; Yang & Liu, 2017), our paper is closer to the recent

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calls (e.g., Cade 2018; Merkl-Davies & Brennan, 2017) for research that looks into company-stakeholders communication that is facilitated by social media. We address an emerging issue with broad implications for business practice, and present social media as a suitable environment for the study of CSR, given the large amount of content generated about diverse aspects of the relationship between firms and stakeholders.

List of Online Appendices:

- Appendix A – Criteria description. Examples of keywords, hashtags and users
- Appendix B – Data gathering procedure
- Appendix C – Core *versus* Supplementary CSR (baseline model) and *DiffTalk* results
- Appendix D – CSR news in the banking industry
- Appendix E – Illustrative case study "Kutxabank: Opportunistic disclosure and silence"

Appendix 1 – List of variables and description

Variable	Description
Tweets and Users	
tw_total	Total amount of microblogs on Twitter mentioning the firm
core_csr	Number of Core CSR-related tweets mentioning the firm
suppl_csr	Number of Supplementary CSR-related tweets mentioning the firm
out_total	Total amount of tweets issued by outside stakeholders mentioning the firm
out_total2	Total number of tweets by outside stakeholders excluding those issued by the mass media
out_core_csr	Number of Core CSR-related tweets issued by outside stakeholders mentioning the firm
out_suppl_csr	Number of Supplementary CSR-related tweets issued by outside stakeholders mentioning the firm
ins_total	Total amount of tweets issued by firm insiders mentioning the firm
ins_core_csr	Number of Core CSR-related tweets issued by firm insiders mentioning the firm
ins_suppl_csr	Number of Supplementary CSR-related tweets firm insiders and outside stakeholders mentioning the firm
Firm_insiders	Number of firm insiders (see Online Appendix A for details)
Out_Stakeholders	Number of outside stakeholders (see Online Appendix A for details)
%Firm_insiders	Percentage of bank insiders over the total number of stakeholders talking about CSR issues
% Out_Stakeholders	Percentage of bank outside stakeholders over the total number of stakeholders talking about CSR issues
Controls	
International	Dummy variable that takes the value of 1 if the firm assets are also located internationally; 0 otherwise
Size	Natural logarithm of total assets
Social_Impact	Dummy variable taking the value of 1 for former saving banks, 0 otherwise
Listing_Status	Dummy variable taking the value of 1 for the 14 listed banks, 0 for the 27 non-listed banks
Advertising	Number of tweets associated with sponsoring/publicity
Hashtags	Number of tweets that contain a hashtag
Followers	Account for the general Twitter activity surrounding the bank, as measured by the number of followers
Following	Account for the general Twitter activity surrounding the bank, as measured by the number of users followed
Visibility	Number of Google searches about the bank in the period under analysis
Missing	Dummy that takes the value of 1 for the 3 banks where data is missing on users, 0 otherwise. We substitute the values on users of these banks for the average value and add a dummy variable to identify them

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Figure 1. Case study (Bankia event)

Panel A: Total tweets (*tw_total*), hashtags and tweets with hashtag around the event
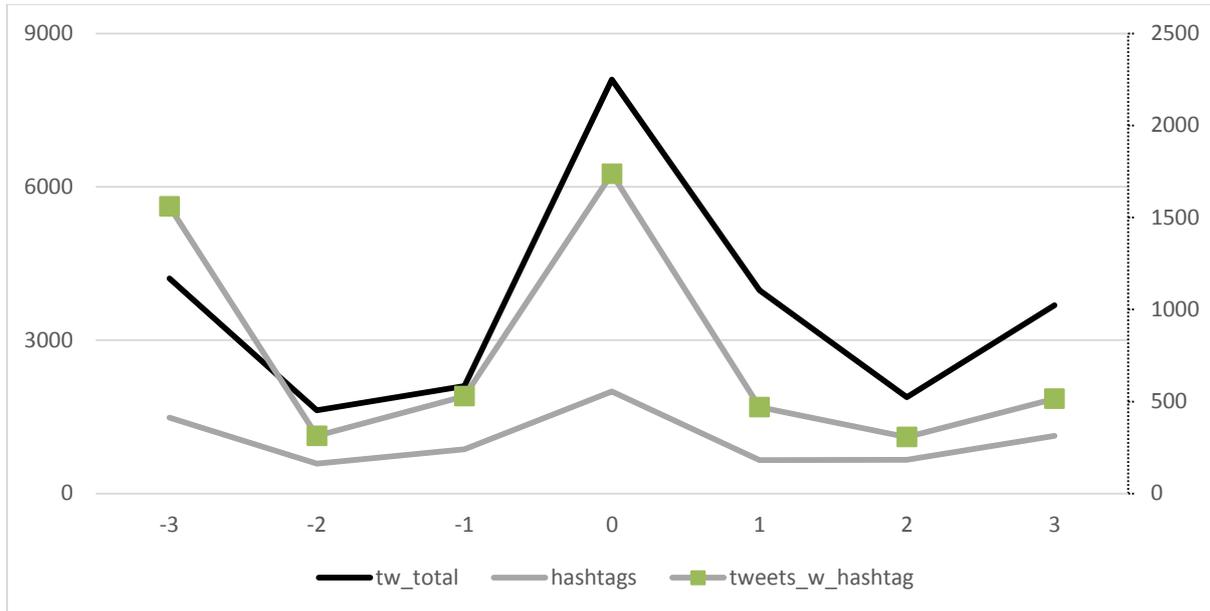
Panel B: Total tweets by firm insiders (*ins_total*) and outside stakeholders (*out_total*)
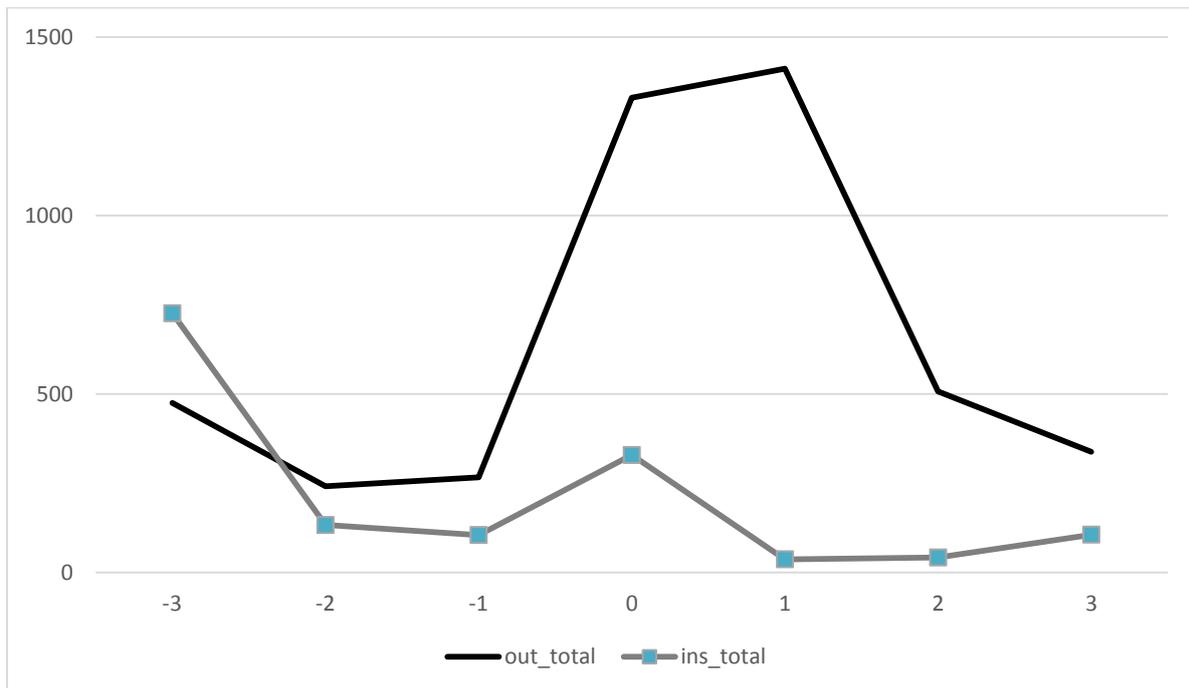
In Panel A, to facilitate reading the graph, total tweets are represented in black colour and measured by the left-hand axis, ranging from a minimum of 1,627 on the 12th of February, to a maximum of 8,100 on the 14th of February. Hashtags and Tweets with Hastags are represented in grey colour and measured by the right-hand axis, ranging from a minimum of 162 and 313 respectively on the 12th of February to a maximum of 554 and 1,737 respectively on the 14th of February.

Table 1. Total amount of tweets collected, filtered, analyzed and classified in at least a criterion by bank

#	Bank	Tweets			Classified in at least a CSR criterion	
		Collected	Filtered	Analyzed	Total	%
1	Banca March	482	0	482	162	33.6
2	Banco Popular	20,538	4,605	15,933	6,782	42.6
3	Banco Sabadell	12,059	3,604	8,455	5,353	63.3
4	Banco Santander	34,566	485	34,081	21,002	61.6
5	Banco Valencia	3,009	0	3,009	2,793	92.8
6	Banesto	5,664	1,343	4,321	1,283	29.7
7	Bankia	307,527	735	306,792	201,955	65.8
8	Bankinter	9,423	0	9,423	5,014	53.2
9	Bantierra	417	0	417	278	66.6
10	Barclays	19,867	3,138	16,729	5,953	35.6
11	BBVA	310,235	21,173	289,062	59,199	20.5
12	BFA*	2,856	0	2,856	2,796	97.9
13	BMN	9,563	1,413	8,150	4,180	51.3
14	Banco Caixa Geral	201	2	199	170	85.4
15	Caixa Ontinyent	116	0	116	65	56.0
16	Caixabank	74,590	13,650	60,940	30,012	49.2
17	Caja Laboral	2,100	1,244	856	323	37.7
18	Caja Rural CLM	274	0	274	251	91.6
19	Caja Rural Extremadura	211	4	207	146	70.6
20	Caja Rural Granada	78	0	78	65	83.3
21	Caja Rural Navarra	43	0	43	26	60.5
22	Caja Rural Soria	33	0	33	27	80.6
23	Caja Rural Teruel	147	0	147	22	15.0
24	Caja3	1,923	65	1,858	1,331	71.7
25	Cajamar	4,815	910	3,905	2,329	59.6
26	CatalunyaBanc	2,833	0	2,833	2,476	87.4
27	CEISS	2,067	0	2,067	1,501	72.6
28	Citibank	4,228	1,589	2,639	554	21.0
29	Coop57	212	0	212	104	49.3
30	Deutsche Bank	9,781	79	9,702	5,813	59.9
31	Ibercaja	10,735	66	10,669	8,899	83.4
32	ING Direct	4,318	1,946	2,372	1,279	53.9
33	Kutxabank	11,091	758	10,333	6,108	59.1
34	Liberbank	34,162	0	34,162	28,176	82.5
35	Lloyds	1,993	15	1,978	1,584	80.1
36	NCG Banco	3,773	340	3,433	2,173	63.3
37	Oikocredit	42	0	42	13	31.7
38	Openbank	2,505	0	2,505	2,307	92.1
39	Triodos Bank	1,492	0	1,492	699	46.9
40	Unicaja	59,850	24,450	35,400	6,076	17.2
41	Unnim	126	6	120	96	80.0
	TOTAL	**969,945**	**81,620**	**888,325**	**419,376**	**47.2**

* Parent company of the group BFA-Bankia

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Table 2. Descriptive statistics and Pearson correlation matrix

Panel A. Descriptive evidence of Core and Supplementary CSR and users (firm insiders [ins_] and outside stakeholders [out_])

	Variable[1]	Obs	Mean	Std. Dev.	Min	Q1	Q3	Max	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	tw_total	2,816	315.46	1053.13	1	6	132	18084	1							
(2)	core_csr	2,816	164.81	782.55	0	1	44	14224	0.800***	1						
(3)	suppl_csr	2,816	15.67	61.61	0	0	4	1041	0.365***	0.085***	1					
(4)	out_total	2,816	46.21	258.19	0	0	12	5266	0.683***	0.929***	0.062***	1				
(5)	out_core_csr	2,816	44.81	258.00	0	0	9	5266	0.683***	0.930***	0.052***	0.999***	1			
(6)	out_suppl_csr	2,816	1.41	6.81	0	0	0	150	0.048***	0.004	0.383***	0.041**	0.014	1		
(7)	ins_total	2,816	11.31	58.78	0	0	3	1405	0.462***	0.360***	0.225***	0.382***	0.378***	0.171***	1	
(8)	ins_core_csr	2,816	8.82	56.41	0	0	1	1387	0.433***	0.369***	0.127***	0.392***	0.389***	0.108***	0.989***	1
(9)	ins_suppl_csr	2,816	2.49	9.00	0	0	0	126	0.300***	0.043**	0.673***	0.039**	0.028	0.437***	0.334***	0.189***

Panel B. T-tests of differences in means of Core and Supplementary CSR-related tweets for firm insiders and outside stakeholders

		Mean values		
	Obs[2]	Outside stakeholders	Firm insiders	*Diff.*
Core CSR-related tweets (core_csr)	2,816	44.81	8.82	35.99***
Supplementary CSR-related tweets (suppl_csr)	2,816	1.41	2.49	-1.08***
Core CSR-related tweets/Total users type tweets	834	0.79	0.68	0.11***
Supplementary CSR-related tweets/Total users type tweets	834	0.21	0.36	-0.15***

[1] **Variables description:** See Appendix 1.

[2] **Obs:** The number of observations is reduced to 834 when taking relative terms because in this ratio the denominator is 'number of tweets issued by either firm insiders and outside stakeholders,' therefore, when there are no tweets the quotient is indeterminate and these observations are excluded from the sample. Given that firm insiders' accounts present lower activity than outside stakeholder accounts, and that the test requires observations to be comparable for both types of users, these circumstances make the number of observations decrease.

Panel A provides descriptive summary statistics and a correlation matrix. **p <0.05; ***p <0.01

Panel B shows a paired t-test of differences between average Core and Supplementary CSR-related tweets. ***p <0.01. This test suggests that there are statistically significant differences in the average content of CSR communication between firm insiders and outside stakeholders.

Table 3. Descriptive statistics and Pearson correlations with the total amount of tweets for variables that form Core CSR, Supplementary CSR, firm insiders and outside stakeholders.

Panel A. Descriptive statistics and Pearson correlations with the total amount of tweets for variables that form Core CSR

	Variable[1]	Mean	Std. Dev.	Min	Max	tw_total
(1)	tw_total	315.4	1053.1	1	18084	1
(2)	tw_sh_valuecreat	50.42	269.1	0	5345	0.72***
(3)	tw_c_b_credit	4.29	35.1	0	1393	0.23***
(4)	tw_c_i_savings	16.99	117.2	0	4017	0.54***
(5)	tw_c_i_credit	11.17	70.3	0	1505	0.29***
(6)	tw_c_i_commpract	34.34	155.9	0	4342	0.65***
(7)	tw_e_employment	3.33	30.3	0	1189	0.12***
(8)	tw_e_workingcond	7.37	53.8	0	1863	0.52***
(9)	tw_e_equality&div	0	0	0	0	-
(10)	tw_cg_managcomp	8.89	120.2	0	4051	0.24***
(11)	tw_cg_transparency	4.37	72.3	0	3253	0.22***
(12)	tw_s_financialincl	0.09	1.1	0	29	0.01
(13)	tw_s_ normbreach	51.59	383.7	0	10135	0.65***
(14)	tw_s_sri	0.13	3.6	0	180	0.01

Panel B. Descriptive statistics and Pearson correlations with the total amount of tweets for variables that form Supplementary CSR

	Variable[1]	Mean	Std. Dev.	Min	Max	tw_total
(1)	tw_total	315.456	1053.129	1	18084	1
(2)	tw_cultural	9.641	40.709	0	855	0.351***
(3)	tw_environmental	1.301	10.688	0	281	0.338***
(4)	tw_social	4.726	18.457	0	286	0.249***

Panel C. Descriptive statistics and Pearson correlations with the total amount of tweets for variables that form firm insiders and outside stakeholders.

	Variable[1]	Mean	Std. Dev.	Min	Max	tw_total
(1)	tw_total	315.456	1053.129	1	18084	1
(2)	tw_out_publicadm	0.707	8.621	0	390	0.078***
(3)	tw_out_companies	1.594	18.739	0	625	0.525***
(4)	tw_out_massmedia	23.946	139.205	0	2832	0.725***
(5)	tw_out_ngos	0.054	0.667	0	23	0.012
(6)	tw_out_civicassoc	6.501	49.202	0	1185	0.226***
(7)	tw_out_unions	0.451	2.815	0	59	0.040**
(8)	tw_out_indivusers	13.491	76.691	0	1563	0.675***
(9)	tw_ins_corporate	24.039	122.968	0	3674	0.656***
(10)	tw_ins_managers	0.176	3.37	0	175	0.003
(11)	tw_ins_employees	0.146	0.737	0	10	0.039**
(12)	tw_advertising	2.779	22.037	0	432	0.192***

[1] Variables explanation can be seen in Online Appendix A; **p <0.05; ***p<0.01

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Table 4. Determinants of CSR communication on Twitter.

Panel A. Firm insiders and outside stakeholders that significantly discuss CSR issues

Variable	N	mean	sd	p25	p50	p75	min	max
Total	2,816	29	2.072	28	30	30	21	35
Firm_insiders	2,816	2	2.334	1	2	3	0	11
Out_stakeholders	2,816	25	5.956	22	26	29	3	31
%Firm_insiders	2,816	0.079	0.078	0.033	0.065	0.111	0.000	0.344
%Out_stakeholders	2,816	0.854	0.203	0.833	0.923	0.967	0.100	1.000

Panel B. Determinants of Core and Supplementary CSR by significant firm insiders and outside stakeholders.

	TalkCore (1)	TalkCore (2)	TalkSupp (3)	TalkSupp (4)
%Firm_insiders	-5.513	.	11.540	.
	(13.50)**	.	(19.01)**	.
%Out_stakeholders	.	1.797	.	-6.911
	.	(7.27)**	.	(21.10)**
International	1.258	-1.767	2.982	12.246
	(3.12)**	(4.45)**	(8.79)**	(22.52)**
Size	0.400	0.406	0.173	0.232
	(26.69)**	(32.96)**	(5.35)**	(7.92)**
Social_Impact	1.908	1.937	1.489	1.573
	(20.94)**	(20.98)**	(9.84)**	(10.51)**
Listing_Status	1.807	1.566	0.218	0.979
	(21.79)**	(18.23)**	(1.78)	(7.79)**
Advertising	-0.000	0.002	0.003	-0.006
	(0.76)	(7.33)**	(12.70)**	(13.85)**
Hashtags	0.006	0.007	0.012	0.004
	(6.88)**	(7.53)**	(5.90)**	(2.31)*
Followers	-0.000	-0.000	0.000	0.000
	(4.05)**	(4.02)**	(2.51)*	(2.50)*
Following	0.000	0.000	-0.000	-0.000
	(0.66)	(0.32)	(7.21)**	(6.38)**
Visibility	0.000	0.000	-0.000	-0.000
	(12.19)**	(16.59)**	(8.53)**	(12.66)**
Missing	-1.742	-1.667	1.226	1.121
	(28.14)**	(27.95)**	(12.24)**	(11.50)**
Intercept	-0.082	-2.217	1.886	8.438
	(0.60)	(9.55)**	(7.03)**	(30.12)**
R^2	0.73	0.72	0.36	0.36
N	2,816	2,816	2,816	2,816

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Panel C. Probability of Core CSR only discussion by firm insiders and outside Stakeholders

	Core_Only	Core_Only
%Firm_insiders	-34.543	.
	(13.66)**	.
%Out_stakeholders	.	27.366
	.	(12.59)**
Size	1.768	1.512
	(17.24)**	(12.63)**
Social_Impact	-2.565	-2.270
	(13.78)**	(12.60)**
Listing_Status	2.016	1.607
	(10.36)**	(8.13)**
Sponsoring	-0.217	-0.203
	(19.23)**	(16.27)**
Hashtags	0.004	0.003
	(1.37)	(1.00)
Followers	0.000	0.000
	(0.92)	(0.56)
Following	-0.000	-0.000
	(0.99)	(0.40)
Visibility	-0.000	-0.000
	(4.46)**	(1.86)
Wald Chi^2	843.64	715.21
P-val	<0.01	<0.01
Pseudo R^2	0.45	0.42
N	2,816	2,816

Table 4 explores the determinants of Twitter-based CSR communication in 41 banks for 2,816 bank-days. *TalkCore* (*TalkSupp*) is the bank-level decile rank of the number of Core (Supplementary) CSR tweets in the period. *DiffTalk* is the difference between *TalkCore* and *TalkSupp*. See list of independent variables and description in Appendix 1. * $p<0.05$; ** $p<0.01$

Table 5. Daily communication on twitter

	tw_total		out_total		out_total2		ins_total	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
BBVA	3177	2827	133	37	82	4	298	247
BFA	71	5	16	2	4	0	1	0
BMN	90	67	13	4	10	3	1	0
Banca March	8	3	2	0	1	0	1	0
Banco Caixa Geral	7	2	5	1	3	0	0	0
Banco Popular	177	114	17	8	7	2	4	3
Banco Sabadell	93	46	17	10	6	2	1	1
Banco Santander	375	210	48	7	20	0	4	2
Banco Valencia	36	6	14	1	3	0	0	0
Banesto	64	21	11	3	7	1	6	2
Bankia	3371	2183	771	446	304	145	231	106
Bankinter	119	82	21	13	7	2	30	25
Bantierra	6	4	3	1	3	1	1	0
Barclays	184	109	28	6	7	0	2	1
CEISS	23	7	6	2	4	1	0	0
Caixa Ontinyent	3	2	3	2	1	1	0	0
Caixabank	670	621	44	29	16	8	37	33
Caja Laboral	10	6	3	0	2	0	0	0
Caja Rural CLM	5	3	2	1	1	0	4	2
Caja Rural Extremadura	8	2	5	2	2	1	0	0
Caja Rural Granada	2	1	1	0	1	0	0	0
Caja Rural Navarra	2	1	2	2	2	1	0	0
Caja Rural Soria	3	2	3	2	2	2	0	0
Caja Rural Teruel	6	2	4	2	3	1	1	0
Caja3	21	16	4	1	3	1	1	1
Cajamar	49	43	15	8	13	7	20	15
CatalunyaBanc	33	13	11	2	6	1	0	0
Citibank	29	20	4	1	3	1	5	3
Coop57	4	2	2	0	2	0	2	1
Deutsche Bank	110	31	26	4	11	0	0	0
ING	38	30	1	0	1	0	1	0
Ibercaja	159	76	90	21	85	21	94	28
Kutxabank	114	61	50	10	48	10	36	10
Liberbank	375	260	61	10	26	6	6	3
Lloyds	24	6	4	0	2	0	0	0
NCG Banco	43	19	8	2	2	0	0	0
Oikocredit	2	1	1	1	1	1	1	1
Openbank	30	9	17	0	17	0	1	1
Triodos	16	11	6	1	5	0	2	1
Unicaja	448	255	46	29	31	19	0	0
Unnim	3	2	3	2	3	1	1	0

All variables as defined in Appendix 1.

Table 6. Descriptive statistics by plausibly legitimacy-damaging events

Panel A. Specific_Event = 0

variable	mean	sd	p25	p50	p75	min	max
tw_total	302	1012	6	28.5	124	1	18084
out_total	44	210	0	3	17	0	4177
ins_total	24	122	0	1	5	0	3674
out_total2	22	100	0	1	7	0	2188

Panel B. Specific_Event=1

variable	mean	sd	p25	p50	p75	min	max
tw_total	2157	3164	181	682	2919	14	11642
out_total	441	841	38.5	112	473	9	3627
ins_total	121	242	0	13	136	0	991
out_total2	183	301	6.5	51	152.5	0	1031

Panel C. Test of differences in means and medians (Specific_Event=1 – Specific_Event=0)

variable	mean diff.	ttest t	*p*-val	median diff.	kwallis X^2	*p*-val
tw_total	1855	7.93	(0.00)	653.5	31.17	(0.00)
out_total	397	8.04	(0.00)	109	38.47	(0.00)
ins_total	97	3.54	(0.00)	12	8.54	(0.00)
out_total2	161	6.98	(0.00)	50	28.25	(0.00)

Event is defined by searching the major news outlets and identifying dates with three types of potentially legitimacy-damaging Core CSR events (i.e. sentences against the banking industry (*Event_S*); activism against the industry (*Event_A*); and general news about the industry that are likely to generate indignation (*Event_I*)). These dates and their associated plausibly legitimacy-damaging news are listed on Online Appendix D. In Panel A we show descriptive evidence for days that have neither of these events (Specific_Event=0), in Panel B, for days that have an event (Specific_Event=1). Panel C provides a test of differences in means and medians between days with and without events (difference is measured as Specific_Event=1 – Specific_Event=0). All variables as defined in Appendix 1.

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Table 7. Who talks on Twitter about CSR

Standardized number of tweets with additional controls

	tw_total (1)	out_total (2)	out_total2 (3)	ins_total (4)
Specific_Event	0.919	1.157	0.751	0.357
	(4.69)***	(5.47)***	(3.40)***	(1.55)
Event_S	0.459	0.462	0.521	0.896
	(1.90)*	(1.77)*	(1.92)*	(3.02)***
Event_I	0.408	0.263	0.407	0.454
	(1.81)*	(1.08)	(1.61)	(1.69)*
Event_A	-0.082	0.005	0.075	0.003
	(0.35)	(0.02)	(0.29)	(0.01)
Controls	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.31	0.19	0.12	0.16
N	2,816	2,816	2,816	2,292

All variables as defined in Appendix 1.

Sentences against the banking industry (*Event_S*); activism against the industry (*Event_A*); and general news about the industry that are likely to generate indignation (*Event_I*). These dates and their associated plausibly legitimacy-damaging news are listed on Online Appendix D. Controls include: the number of user followers by the accounts considered, the number of users followed by the accounts considered, the number of tweets related to publicity. All models include firm and day fixed effects. ***, **, and * indicates significance at the 1%, 5% and 10% levels or better, using a two-tail test.

Table 8. Core *versus* Supplementary CSR

Panel A. Standarized number of tweets

	out_core_csr (1)	ins_core_csr (2)	out_suppl_csr (3)	ins_suppl_csr (4)
Specific_Event	1.208	0.470	0.230	0.521
	(5.69)***	(2.02)**	(0.83)	(1.86)*
Event_S	0.213	0.819	0.394	0.339
	(0.81)	(2.71)***	(1.13)	(0.94)
Event_I	0.220	0.456	0.067	0.013
	(0.90)	(1.64)	(0.20)	(0.04)
Event_A	-0.022	0.032	-0.084	-0.109
	(0.09)	(0.11)	(0.25)	(0.32)
Controls	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.19	0.14	0.06	0.11
N	2,816	2,229	1,761	1,686

Panel B. Standardized number of tweets, including days of no communication

	out_core_csr (1)	ins_core_csr (2)	out_suppl_csr (3)	ins_suppl_csr (4)
Specific_Event	1.208	0.430	0.140	0.340
	(5.69)**	(2.19)*	(0.77)	(1.93)*
Event_S	0.213	0.652	0.276	0.227
	(0.81)	(2.70)**	(1.23)	(1.05)
Event_I	0.220	0.310	0.072	0.191
	(0.90)	(1.38)	(0.35)	(0.95)
Event_A	-0.022	0.041	-0.034	-0.043
	(0.51)	(0.43)	(0.14)	(0.21)
Controls	Included	Included	Included	Included
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.08	0.07	0.04	0.06
N	2,816	2,816	2,816	2,816

All variables as defined in Appendix 1. Sentences against the banking industry (*Event_S*); activism against the industry (*Event_A*); and general news about the industry that are likely to generate indignation (*Event_I*). These dates and their associated plausibly legitimacy-damaging news are listed on Online Appendix D. All models include firm and day fixed effects. Controls are the number of user followers by the accounts considered, the number of users followed by the accounts considered, the number of tweets related to publicity.
***, **, and * indicates significance at the 1%, 5% and 10% levels or better, using a two-tail test.

Online Appendices

Stakeholders *versus* Firm Communication in Social Media: The Case of Twitter and Corporate Social Responsibility Information

Appendix A – Criteria description. Examples of keywords, hashtags and users

1) Criteria description. Keywords and hashtags (examples of tweets provided below are included in section 3 of the paper):

1.1) Core CSR

Stakeholders		Criteria (name of the variable)	Description	Keywords examples[*]	Hashtags examples[*]
A. Clients	A.a Individuals	A.a.1 Commercial practices (tw_c_i_commpract)	Main category that includes words related to commercial practices with individual customers. When a particular practice is clearly linked either to savings or to credit services, the item is also classified in one of the following two categories in order to get more precise information.	floor clause, foreclosure, eviction, card, interest, excessive, abusive, fees, charges, deposit, mortgage, cancellation, giving in payment, affected, preferential shares	#floorclause, #stopevictions, #yeswecan, #mortgages, #outrage, #preferentialshares, #affectedpreferentialshares
		A.a.1.1 Savings management (tw_c_i_savings)	Commercial practices linked to products and services that banks offer to manage individual clients' savings. It covers from current accounts to complex saving and investing products and their characteristics and predicament (banking fees, information and advice to clients, etc.).	banking fees, deposit, affected, preferential shares, arbitration	#outrage, #preferentialshares, #affectedpreferentialshares
		A.a.1.2 Credit management (tw_c_i_credit)	Commercial practices linked to products and services that banks offer to manage the credit to individual clients. It covers from consumer finance to credit with mortgage guarantee and their characteristics and predicament (clauses, interest rates, guarantees or collateral securities, information and advice, etc.).	clause, floor, eviction, interest, abusive, mortgage, cancellation, giving in payment	# floorclause, #stopevictions, #yeswecan, #mortgages
	A.b Business	A.b.1 Credit (tw_c_b_credit)	This criterion addresses the financing needs of companies, especially those most dependent on bank credit: entrepreneurs, self-employed workers and Small and Medium-sized Enterprises (SMEs). However, is also includes other aspects with impact on the relationship between financial institutions and businesses.	financing, self-employed, alliance, credit facility, line of credit, SMEs, business	#financing, #SMEs, #selfemployed, #startups

B. Employees	B.1 Employment (tw_e_employment)	Create new employment and preserve the existing is a way for business to show commitment with the community in which they operate. Here we include issues such as job offers, redundancy dismissal procedures, early retirement, stability of employment, etc.	redundancy, dismissal procedure, negotiations, temporary contract, unions, strike, workforce employment, demonstration	#ere (redundancy dismissal procedure, abbreviation), #noalere ("no to ere"), #comfia (Spanish banking industry union), #employment
	B.2 Equality and diversity in the workplace (tw_e_equality&div)	Activities performed by firms to promote equal opportunities for workers. Here we monitor aspects such as gender equality, wage gap and initiatives to improve access to employment for disadvantaged groups (people under risk of social exclusion and people with disabilities).	discrimination, equality, disability, integration	#equality
	B.3 Working conditions (tw_e_workingcond)	All those factors that may affect employees and have not been included in the previous criteria, such as health and safety in the workplace, occupational risk prevention, participation, freedom of association, training and policies aimed at improving reconciliation and working environment.	robbery, branch, activists, rally, protest, police, block, occupy	# theywontmoveus
C. Society	C.1 Socially Responsible Investing (tw_s_sri)	It refers to the consideration of ESG criteria to generate investment products and services, typically investment funds, in addition to purely financial criteria.	SRI, fund, investment, weapons, manufacturer	#sri, #responsibleinvesting
	C.2 Financial inclusion (tw_s_financialincl)	Initiatives to provide funding and financial services to disadvantaged and low-income segments of society, also in rural and unbanked areas. This criterion includes, for example, microcredits, loans for social entrepreneurship and 'Montes de Piedad' (Spanish socially-oriented pawnbrokers).	microcredits, monte, piedad, women, entrepeneurs	#microcredits, #MontedePiedad
	C.3 Normative breaches (tw_s_ normbreach)	Actions outside the legal framework and/or the responsible banking behavior, such as tax evasion, money laundering, corruption, lobbying, etc.	lawsuit, evader, suspected, tax haven, sentence, judge, fraud, court, suspect, defendant	#justice, #theswisssecret, #corruption
D. Corporate Governance	D.1 Transparency (tw_cg_transparency)	Transparency and reliability of financial and non-financial information provided by the firm.	accountancy, audit, accounting, falseness, manipulated, artificial	#scandal, #deloitte

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	D.2 Board of directors and managers compensation (tw_cg_managcomp)	This is particularly relevant for cases of disproportionate remuneration of directors and managers of banks that were bailed out with public money. It covers predicament about compensation transparency as well as the proportionality in relation to the average remuneration of the workforce and the quality of management.	board, remuneration, bonuses, directors, compensation, ex-directors	#swindle
E. Shareholders	**E.1 Value creation** (tw_sh_valuecreat)	Actions that translate into either profit or loss for shareholders. Includes financial (profitability, share price, dividends, etc.) and non-financial (shareholder information, participation, protection of minority shareholders, etc.) aspects.	shareholder, profits, stock market, trading, results, share, CNMV (Spanish Securities and Exchange Commission)	#stockmarket, #markets, #investments, #ibex (Spanish benchmark stock market index)

1.2)   Supplementary CSR

Stakeholders	Criteria (name of the variable)	Description	Keywords examples[*]	Hashtags examples[*]
F. Non-financial activities	**F.1 Social action projects** (tw_social)	Social action and health assistance projects detached from the financial activity and usually performed through a foundation which is part of the same business group.	foundation, food, solidarity, disability, blood, donor	#solidaryvisa, #homeless, #unicef, #caritas, #csr
	F.2 Cultural projects (tw_cultural)	Cultural projects detached from the financial activity and usually performed through a foundation which is part of the same business group. This section includes actions aimed at the support of education, research, culture, leisure and preservation of historic and artistic heritage.	foundation, grants, universities, tournament, students, auditorium, library, cinema, concert, tickets	#grants, #competition, #education, #culture, #university
	F.3 Environmental projects (tw_environmental)	Environmental conservation and preservation projects detached from the financial activity and usually performed through a foundation which is part of the same business group.	foundation, ecological, agriculture, efficiency, energy, recycling	#climaticchange, #bike, #reuse

[*]Translated from the original keywords or hashtags in Spanish.

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2) Criteria description. Twitter users (examples of tweets provided below are included in section 4 of the paper)::

Twitter users	Criteria (name of the variable)	Description*	Examples
A. Firm insiders	**A.1 Corporate** (tw_ins_corporate)	Corporate accounts	@bancosabadell, @bancosantander, @popularresponde, @accionistascabk, @cajaruralclm
	A.2 Managers (tw_ins_managers)	Directors or managers	@victorcrclm, @jabernacer, @sflarios, @jescotet, @gonzalosaiz
	A.3 Employees (tw_ins_employees)	Employees	@estherheredia, @marcocrclm, @roty2020, @xavierhervas, @mariaraurell
B. Outsiders	**B.1 Public administrations** (tw_out_publicadm)	Diverse public administrations: state, autonomous communities, provinces and municipalities, and subordinated institutions. Also, politicians or political parties that hold governing responsibilities.	@ayto_sevilla, @aytomedina, @consejogpj, @justiciagob, @clj_ontinyent, @agarzon
	B.2 Companies (tw_out_companies)	Business firms in the private sector that do not belong to the mass media industry.	@totalimedia, @teatrocampos, @freeforjobcom, @ieuskadi, @seneocoop
	B.3 Mass media (tw_out_massmedia)	Diverse mass media: general interest newspapers, economic newspapers, radio, television, online media, etc. It includes journalists working for these media.	@expansioncom, @el_pais, @eleconomistaes, @eldiarioes, @voz_populi
	B.4 NGOs (tw_out_ngos)	Diverse non-governmental organizations. It includes the accounts of their managers, employees and volunteers.	@andcompartiendo, @setemcat, @iluminafrica, @goteofunding, @cruzrojaesp, @aspaceandalucia
	B.5 Civic associations (tw_out_civicassoc)	Diverse civic associations, platforms and citizens initiatives. It includes the accounts of people who actively collaborate with them.	@adicae, @pah_sevilla, @josportal, @irphstop_gpzkoa, @ahorapodemos
	B.6 Unions (tw_out_unions)	Diverse trade unions. It includes the accounts of their managers and employees.	@ccoo, @comfia, @fesugt, @madridsindical, @csicancgbanco
	B.7 Individual Twitter users (tw_out_indivusers)	Twitter accounts listed among the most active in relation to a particular banking institution and that cannot be classified in the other categories.	@mariadelamiel, @7vueltas, @elasombrario, @josecdiez
C. Advertising	**C.1 Advertising** (tw_advertising)	Twitter accounts aimed at the generation of purely promotional or advertising content, which sometimes could be even classified as spam.	@dondatos, @ahorrargratis, @infohelpmycash, @foroliterario, @vidaysaludesp

*Affiliation is detected either in their Twitter profile or through a search on the internet.

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3) Examples of Tweets. Keywords and hashtags:

3.1) Core CSR

Stakeholders		Criteria (name of the variable)	Examples of tweets*
A. Clients	**A.a Individuals**	**A.a.1 Commercial practices** (tw_c_i_commpract)	@hugopardo: "Abusive practices charging fees by @LaCaixaResponde. Customers' abuse. My personal case #parlem #Caixabank #LaCaixa (link)" @elfaradio: "@PAH_Santander occupies a branch of #Liberbank in Cazona looking for solutions for six evicted families (link)"
		A.a.1.1 Savings management (tw_c_i_savings)	@qmunty: "People Affected by the purchase of preferential shares of Liberbank reported tricks to delay trials (link)" @hugopardo: "Abusive practices charging fees by @LaCaixaResponde. Customers' abuse. My personal case #parlem #Caixabank #LaCaixa (link)"
		A.a.1.2 Credit management (tw_c_i_credit)	@RubenSanchezTW: "If you do not allow me to fool my customers, I make my employees redundant. That's the behaviour of Cajasur (Kutaxbank) faced with the prohibition of floor clauses in mortgages" @PAHKutxa Will you help us #RT? @AdaColau Tomorrow press conference at 12.00 in BoS to explain the lawsuit against Kutxabank for #IRPH #StopForeclosures @elfaradio: "@PAH_Santander occupies a branch of #Liberbank in Cazona looking for solutions for six evicted families (link)"
	A.b Business	**A.b.1 Credit** (tw_c_b_credit)	@fernandoguti: "Caixabank granted 6 million euros in ICO financing facilities to SMEs and self-employed people in Cantabria (link)" @EmpreSEA: "Alava SMEs will have 150 million euros in credit facilities from Kutxabank. Via @elcorreo_alava (link)"
B. Employees		**B.1 Employment** (tw_e_employment)	@jromanvalera: "What is the "social soul" of 'La Caixa'? Redundancy or transfers of over 1000 kilometers @ccoolacaixa #RedundaciesCaixaBank #EREenLaCaixa" @liberbankconfli: "Liberbank intends to close the last redundancy dismissal procedure in the middle of Christmas season (link)" @Gildelabarca: "Bankia-Prisa: The savings of Bankia in personnel expenses, laying 4500 employees off, does not cover the costs of making bad-debt provisioning for Prisa"
		B.2 Equality and diversity in the workplace	(There are no tweets in our database included in this criterion)

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	B.3 Working conditions (tw_e_workingcond)	@PAHvallekas: "We are #allwithAngel and go again to Getafe to occupy the branch of @kutxabank who doesn't want to listen to him" @comfia: "New problems for Liberbank: employees' vacation will go to court (link) #ERE" @llunavermella: "Destroyed a branch of BBVA in Gamonal (Burgos). People know that capitalist system is responsible of the social injustices"
C. Society	**C.1 Socially Responsible Investing** (tw_s_sri)	@cantabriapresos: "In the arms industry, CaixaBank, Bankia, BMN, Liberbank, Banco Sabadell, BBVA and Banco Santander predominate in terms of investment" @SergioLopezEsp: "The #yosoyempleo advertising campaign of #BBVA has been financed with the earnings of investing in arms businesses or saddling customers with preferential shares?"
	C.2 Financial inclusion (tw_s_financialincl)	@TerraChile: "BBVA increased by 17% its stake in microcredits in 2013" @elportaluco: "Liberbank joins the ICAF-Microcredits line of the Government of Cantabria, supplied with 12 million euros (link)"
	C.3 Normative breaches (tw_s_ normbreach)	@SpainRevolt: "Spain's national High Court admits the lawsuit of 15M and charges Rodrigo Rato and Bankia (link) #15M" @cercle_obert: "Tax experts and lawyers believe that Caja Madrid emails may entail several economic crimes (links)" @elmundoes: "Liberbank directors who collected wages and unemployment benefits at the same time will donate the benefits to Liberbank's Welfare Projects. That money is not theirs"
D. Corporate Governance	**D.1 Transparency** (tw_cg_transparency)	@2aOpJur: "What is happening with Deloitte and the audit of Bankia? We demand more transparency. Accounting Blog (link)" @bocabyte1: "@Cajamar capital that is not guaranteed by the deposit guarantee fund, make this information public +info transparency"
	D.2 Board of directors and managers compensation (tw_cg_managcomp)	@CorrupcionZero: "The Directors of Caja Segovia who were distributed more than 35 million euros (link)" @Yometiroalmonte. "Liberbank: managers who early retired with 1.28 million euros pensions are back to the firm as directors (link) @lasexta"
E. Shareholders	**E.1 Value creation** (tw_sh_valuecreat)	@elconfidencial: "#breakingnews: Banco Sabadell triples its profit and earns about 248 million in 2013 (link)" @bolsamania: "Dividend calendar of Banco Santander for next week. On Wednesday, shares will trade ex-dividend (link)" @ExpansionBolsa: "Bankinter opens tomorrow the earnings season with a rise of 70% in its profit… (link)"

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3.2) Supplementary CSR

F. Non-financial activities	F.1 Social action projects (tw_social)	@burgostv: "Caja de Burgos Foundation donates € 60,000 to Caritas to help families with urgent needs (link)" @FundacionBeQual: "Banco Popular finances three projects for the labor integration of people with disabilities @CompromisoRSE (link)" @VictorCRCLM: "RT @cajaruralCLM: The @CajaRuralCLM Foundation reinforces its support to people with spinal cord injuries (link)"
	F.2 Cultural projects (tw_cultural)	@PA_Ronda: "News – Ronda Tourism: Exhibition of Unicaja 's Welfare Projects at the Convent of Santo Domingo (link)" @OSPAcom: "We are starting the Social Concert of VentArt in the Toreno Theatre of Cangas del Narcea @Cajastur! (link)" @AytoMedina: "This Saturday at 20.00h, in the Interclub of Caja Burgos, the Trusilurri Theatre play (link)"
	F.3 Environmental projects (tw_environmental)	@ibercaja: "E. Martin, director of SARGA, thanked Ibercajafor the support provided to the centers for nature interpretation during 18 years" @burgostv: "The Environmental Education Classrooms of Caja de Burgos host an exhibition on environmental volunteering (link), Burgos"

[*]Translated from the original in Spanish.

4) Examples of tweets (Twitter users):

Twitter users	Criteria (name of the variable)	Examples of tweets*
A. Firm insiders	A.1 Corporate (tw_ins_corporate)	@BancoSabadell: "Banco Sabadell launches a charitable initiative with @FundacionMagone. It's explained here: (link)" @ibercaja: "E. Martin, director of SARGA, thanked Ibercaja for the support provided to the centers for nature interpretation during 18 years"
	A.2 Managers (tw_ins_managers)	@VictorCRCLM: "RT @cajaruralCLM: The @CajaRuralCLM Foundation reinforces its support to people with spinal cord injuries (link)" @Jabernacer: "RT @cajaruralCLM: The @CajaRuralCLM Foundation and the University of Castilla-La Mancha awarded the prizes of the 'ENFOCA CLM' Contest (link)"
	A.3 Employees (tw_ins_employees)	@estherheredia: "The voting to distribute 30,000 euros of 'Solidary Visa' begins. Vote for your favourite project! (link)" @mariaraurell: "RT @OikocreditCat: The new websites of Oikocredit Catalonia and Oikocredit Spain are now online. Visit them at: (link)"

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B. Outside stakeholders	B.1 Public administrations (tw_out_publicadm)	@PA_Ronda: "News – Ronda Tourism: Exhibition of Unicaja 's Welfare Projects at the Convent of Santo Domingo (link)" @AytoMedina: "This Saturday at 20.00h, in the Interclub of Caja Burgos, the Trusilurri Theatre play (link)"
	B.2 Companies (tw_out_companies)	@EmpreSEA: "Alava SMEs will have 150 million euros in credit facilities from Kutxabank. Via @elcorreo_alava (link)" @iEuskadi: "@Spotbros and CajaLaboral's Blog (link), awarded #Buber2013 prizes (link), via @calderonmao @anagam_ES"
	B.3 Mass media (tw_out_massmedia)	@ExpansionBolsa: "Bankinter opens tomorrow the earnings season with a rise of 70% in its profit… (link)" @elmundoes: "Liberbank directors who collected wages and unemployment benefits at the same time will donate the benefits to Liberbank's Welfare Projects. That money is not theirs"
	B.4 NGOs (tw_out_ngos)	@FundacionBeQual: "Banco Popular finances three projects for the labor integration of people with disabilities @CompromisoRSE (link)" @ASPACEAndalucia: "Today, at 21 h. Caja Rural Granada Auditorium. @aspacegranada presents the #aspacecalendar2014. Are you going to miss it?"
	B.5 Civic associations (tw_out_civicassoc)	@PahKutxa: "Will you help us #RT? @AdaColau Tomorrow press conference at 12.00 in BoS to explain the lawsuit against Kutxabank for #IRPH #StopForeclosures" @pahvallekas: "We are #allwithAngel and go again to Getafe to occupy the branch of @kutxabank who doesn't want to listen to him"
	B.6 Unions (tw_out_unions)	@comfia: "New problems for Liberbank: employees vacation will go to court (link) #ERE" @ugtcaixabank: "Extended working hours in Villacis. Thanks to the complaint of UGT, the labor inspector investigates CaixaBank… (link)"
	B.7 Individual Twitter users (tw_out_indivusers)	@qmunty: "People Affected by the purchase of preferential shares of Liberbank reported tricks to delay trials (link)" @jromanvalera: "What is the "social soul" of 'La Caixa'? Redundancy or transfers of over 1000 kilometres @ccoolacaixa #RedundaciesCaixaBank #EREenLaCaixa"
C. Advertising	C.1 Advertising (tw_advertising)	@InfoHelpMyCash: "Openbank raffles 100 Wonderbox Adventure boxes among its university clients (link)" @Foroliterario: "ING Direct // Current account without commissions. Discounts in Galp and Shell fuel, free Visa and 4B debit cards: (link)" @Vidaysaludesp: "Openbank // Current account +Deposit 2% and up to 1% in savings account. OK plan discounts up to 4%...(link)"

*Translated from the original in Spanish.

Appendix B – Data gathering procedure

The process by which we collect and analyze the Twitter information is related to the social impact of the selected banking institutions. This process follows four phases starting with the tweets storage and extraction, continuing with content filtering and concluding with the manual classification. We briefly describe each of them.

Phase #1. Storage of information (tweets). The software used to collect data permanently captures tweets linked to selected search terms from the Twitter application program interface (API) and stores them in a Structured Query Language (SQL) server.[37] The only restriction that would entail a loss of information at this stage could happen if one of the search terms represented more than 1% of total worldwide activity on Twitter. However, this unlikely event does not affect our research because only a few major sport-related events have exceeded this limit. Every tweet is stored incorporating the following information: (a) search term, (b) identifier code of twitter user, (c) date and exact time of the tweet, (d) if applicable, link with a previous tweet (retweet or reply) and (e) the tweet itself.

Phase #2. Systematic extraction of tweets and corpus creation. Tweets are saved in comma-separated values files. An on-line software transforms the files into a list of keywords sorted from highest to lowest frequency of use for each banking institution. These corpuses of keywords, which group the full set of tweets in which they appear, are the fundamental unit for our content analysis and allow processing all the information. The process of corpus creation is the same for keywords and hashtags. Users are sorted from highest to lowest degree of participation (either because they post or are mentioned in the tweets). In this phase the software had the limitation that the file used to get the corpus had a limited capacity of a maximum of 5,000 tweets. In the event that the file of a bank exceeded that amount, which may happen with large or medium-sized banks, depending on the length of the period of analysis, the program performed a random sample of 5,000 tweets to develop the corpus and then applied the coding process to the whole file. Our sample size is guaranteed to be representative for the population of tweets at a 95% confidence level and a 1.386% sampling error.

Phase #3. Content filtering. Prior to the creation of the final corpus, we performed a data cleaning process to facilitate the subsequent manual coding.[38] Meaningless words (a.k.a., stop words), such as prepositions, conjunctions, determiners, etc. were removed and all the words, users and hashtags not directly related to the activity of the entity were filtered. The content filtered and eliminated is generally associated with advertising campaigns or sponsorships. For example, BBVA bank is the main sponsor of the Spanish Professional Football League and we found a large number of messages mentioning football matches, footballers' signings or controversial referee decisions that included 'BBVA,' but did not refer to the bank. Similarly, we found advertising campaigns called 'Conversations about the Future' developed by Banco Sabadell used in many messages with no relation to the activity of this bank.

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[37] The banking industry restructuring process in Spain also affected our strategy of information search. We associated the name under which the company currently operates with the names of the entities that were integrated into it. This is because we observed that the general public still maintained the former names when referring to the new entity. As a result, to get the most complete information about each entity, there can be several search terms linked to a single company.For example, for 'CaixaBank' we carry searches on the following terms: *CaixaBank*, *La Caixa*, *Banco de Valencia*, *Banca Civica* and *CajaSol*. An IP address can relate to up to 400 search terms at the same time, a capacity that was never exceeded during this study.

[38] Although most of this filtering process is performed prior to encoding, it can be performed simultaneously with the creation of the corpus since some items that must be filtered arise during the next phase. Importantly, in those cases where we observe a predominance of contents not related to the entity, we can apply filters previous to the sample selection so that it is not contaminated by this type of content.

Phase #4. Manual classification. We associated each keyword, hashtag and user to one of the aforementioned criteria based on our theoretical framework, which focuses on the distinction between Core and Supplementary CSR. Both for the identification of key stakeholders and their associated CSR criteria, we took into account the information provided by the entities themselves in their CSR or sustainability reports[39] and define a common framework for the industry. The criteria are the same for keywords and hashtags.[40] Appendix A illustrates the classification criteria with examples of keywords, hashtags and users linked to them, and contain a sample of tweets classified within the diverse criteria. According to Milne and Adler (1999, p. 243) "*individual words have no meaning to provide a sound basis for coding social and environmental disclosures without a sentence or sentences for context,*" so it is important to note that the classification of keywords and hashtags on a specific criteria is performed according not only to their intrinsic meaning but also to the information provided by the group of tweets that contain a specific keyword. Thus, the same word could be classified on different criteria depending on the context of the Twitter conversation. This thorough examination can only be done manually and increases the reliability of our classification.[41] The examples provided in Appendix A are merely illustrative and do not have a unique and general association to a particular criterion.

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[39] Our framework for the analysis of CSR issues on Twitter is based on the information contained in CSR and sustainability reports because the literature suggests that, following the materiality and relevance principles, stakeholder engagement should determine the information and data to be included in these reports (Gray, 2000; GRI, 2013; Manetti, 2011).

[40] The classification extends to the 300 most frequent keywords, the 90 most frequently used hashtags (both, keywords and hashtags reviewed, and classified only when appropriate), and the 30 most active users (classified in all cases). These limits are set at the level where the frequency associated with keywords, hashtags and users significantly fell for an average company.

[41] Following prior literature, we test for reliability to ensure replicability and clarity of the coding process and provide an inter-coding agreement rate (Krippendorff, 1980; Milne & Adler, 1999). We performed a test in which five people unconnected with our research did the same classification process based on the descriptions given in Appendix A resulting a coincidence in terms of number of tweets classified in each criteria of above 80%.

Appendix C – Core versus Supplementary CSR (baseline model) and *DiffTalk* results

For completeness, in our analyses reported in Table 4, we also define *DiffTalk*, the difference between *TalkCore* and *TalkSupp*, a proxy for the relative preference of stakeholders to mention Core *versus* Supplementary CSR issues. The higher the value of *DiffTalk*, the more focused the communication is on Core CSR issues. For example, if there is large following in Twitter for a particular Bank, it may rank high (score 10 or 9) in both *TalkCore* and *TalkSupp*, this would mean *DiffTalk* will be small. In contrast, if a Bank ranks high in Core CSR discussion and low on Supplementary CSR, *DiffTalk* will be positive and significant.

Table 4C. Determinants of CSR communication on Twitter.

Panel B. Determinants of Core and Supplementary CSR by significant firm insiders and outside stakeholders.

	DiffTalk	DiffTalk
%Insiders	-17.053	.
	(21.93)**	.
%Outsiders	.	8.709
	.	(18.94)**
International	-1.725	-14.013
	(3.10)**	(19.49)**
Size	0.227	0.174
	(6.34)**	(6.09)**
Social_Impact	0.419	0.364
	(2.84)**	(2.54)*
Listing_Status	1.588	0.587
	(13.00)**	(4.33)**
Advertising	-0.003	0.009
	(6.53)**	(14.57)**
Hashtags	-0.006	0.002
	(2.89)**	(1.06)
Followers	-0.000	-0.000
	(4.24)**	(4.19)**
Following	0.000	0.000
	(6.90)**	(5.80)**
Visibility	0.000	0.000
	(15.29)**	(20.25)**
Missing	-2.969	-2.788
	(22.69)**	(21.84)**
Intercept	-1.968	-10.656
	(6.56)**	(27.78)**
R^2	0.51	0.48
N	2,816	2,816

Table 4 explores the determinants of Twitter-based CSR communication in 41 banks for 2,816 bank-days. *TalkCore* (*TalkSupp*) is the bank-level decile rank of the number of Core (Supplementary) CSR tweets in the period. *DiffTalk* is the difference between *TalkCore* and *TalkSupp*. *%Insiders* (*%Outsiders*) is the percentage of *Ins_Stakeholders* (*Out_Stakeholders*) over total users. *International* is a dummy variable that takes the value of 1 if the firm assets are also located internationally; 0 otherwise. *Size* is the natural logarithm of total assets. *Social_Impact*: dummy variable taking the value of 1 for former saving banks, 0 otherwise which identifies 13 firms formerly belonged to the extinct subindustry of savings banks. *Listing_status*: dummy variable taking the value of 1 for the 14 listed banks, 0 for the 27 non-listed banks. *Advertising* is tweets associated with sponsoring/publicity. *Hashtags* is tweets that contain a hashtags. *Following* and *Followers* are number of twitter users followed and numbers of users that follow the bank. *Visibility* is a proxy for Google searches of the bank in the period under analysis. *Missing* is a dummy that takes the value of 1 for the 3 banks where data is missing on users, 0 otherwise. * $p<0.05$; ** $p<0.01$

Also for completeness, we provide results of Table 7 and 8 with and without additional controls. This permits assessing our baseline results, without the plausibly confounding effect of 'bad controls' (see, e.g., Angrist and Pischke, 2009).

Table 7C. Who talks on twitter about CSR

Panel A. Standardized number of tweets without controls

	tw_total (1)	out_total (2)	out_total2 (3)	ins_total (4)
Specific_Event	1.656	1.684	1.131	0.589
	(7.52)***	(7.55)***	(5.03)***	(2.52)**
Event_S	0.619	0.593	0.615	0.920
	(2.26)**	(2.14)**	(2.20)**	(3.03)***
Event_I	0.894	0.677	0.689	0.592
	(3.52)***	(2.64)***	(2.66)***	(2.15)**
Event_A	0.131	0.164	0.190	0.066
	(0.50)	(0.61)	(0.70)	(0.23)
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.11	0.08	0.07	0.11
N	2,816	2,816	2,816	2,292

Panel B. Standardized number of tweets with controls

	tw_total (1)	out_total (2)	out_total2 (3)	ins_total (4)
Specific_Event	0.919	1.157	0.751	0.357
	(4.69)***	(5.47)***	(3.40)***	(1.55)
Event_S	0.459	0.462	0.521	0.896
	(1.90)*	(1.77)*	(1.92)*	(3.02)***
Event_I	0.408	0.263	0.407	0.454
	(1.81)*	(1.08)	(1.61)	(1.69)*
Event_A	-0.082	0.005	0.075	0.003
	(0.35)	(0.02)	(0.29)	(0.01)
Followers	0.000	0.001	0.001	0.001
	(1.36)	(4.24)***	(2.11)**	(2.00)**
Following	0.012	0.006	0.005	0.003
	(12.75)***	(5.57)***	(4.50)***	(2.37)**
Advertising	3.644	0.806	0.208	6.787
	(4.38)***	(0.90)	(0.22)	(7.33)**
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.31	0.19	0.12	0.16
N	2,816	2,816	2,816	2,292

Variables as defined in Appendix 1. Sentences against the banking industry (*Event_S*); activism against the industry (*Event_A*); and general news about the industry that are likely to generate indignation (*Event_I*). These dates and their associated plausibly legitimacy-damaging news are listed on Online Appendix C. Panel B includes additional controls: the scaled (1/10000) number of user followers by the accounts considered (Followers), and of users followed by the accounts considered (Following), and the scaled (1/1000) number of tweets related to publicity (Advertising). All models include firm and day fixed effects.

***, **, and * indicates significance at the 1%, 5% and 10% levels or better, using a two-tail test.

Table 8C. Core *versus* Supplementary CSR (Baseline model, without additional controls)

Panel A. Standarized number of tweets without controls

	out_core_csr (1)	ins_core_csr (2)	out_suppl_csr (3)	ins_suppl_csr (4)
Specific_Event	1.734	0.725	0.275	0.559
	(7.75)***	(3.06)***	(1.00)	(2.00)**
Event_S	0.346	0.856	0.413	0.339
	(1.24)	(2.75)**	(1.18)	(0.94)
Event_I	0.637	0.603	-0.024	0.452
	(2.47)**	(2.11)*	(0.07)	(1.39)
Event_A	0.138	0.107	-0.056	-0.091
	(0.51)	(0.35)	(0.17)	(0.27)
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.08	0.09	0.06	0.11
N	2,816	2,229	1,761	1,686

Panel B. Standarized number of tweets with controls

	out_core_csr (1)	ins_core_csr (2)	out_suppl_csr (3)	ins_suppl_csr (4)
Specific_Event	1.208	0.470	0.230	0.521
	(5.69)***	(2.02)**	(0.83)	(1.86)*
Event_S	0.213	0.819	0.394	0.339
	(0.81)	(2.71)***	(1.13)	(0.94)
Event_I	0.220	0.456	0.067	0.013
	(0.90)	(1.64)	(0.20)	(0.04)
Event_A	-0.022	0.032	-0.084	-0.109
	(0.09)	(0.11)	(0.25)	(0.32)
Followers	0.001	0.001	0.000	-0.001
	(4.40)***	(2.47)**	(0.68)	(1.54)
Following	0.006	0.003	0.000	0.003
	(5.37)***	(2.29)**	(0.30)	(2.02)**
Advertising	0.656	6.501	1.022	1.282
	(0.73)	(6.94)***	(1.00)	(1.32)
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.19	0.14	0.06	0.11
N	2,816	2,229	1,761	1,686

Table 8C. (Continued)

Panel C. Standardized number of tweets, including days of no communication

	out_core_csr (1)	ins_core_csr (2)	out_suppl_csr (3)	ins_suppl_csr (4)
Specific_Event	1.208	0.430	0.140	0.340
	(5.69)**	(2.19)*	(0.77)	(1.93)*
Event_S	0.213	0.652	0.276	0.227
	(0.81)	(2.70)**	(1.23)	(1.05)
Event_I	0.220	0.310	0.072	0.191
	(0.90)	(1.38)	(0.35)	(0.95)
Event_A	-0.022	0.041	-0.034	-0.043
	(0.51)	(0.43)	(0.14)	(0.21)
Followers	0.001	0.001	0.000	-0.000
	(4.40)***	(2.79)***	(0.68)	(1.83)*
Following	0.006	0.003	-0.000	0.002
	(5.37)***	(2.61)***	(0.20)	(1.72)*
Advertising	0.656	6.488	0.831	0.999
	(0.73)	(7.78)***	(1.07)	(1.34)
Intercept	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes
Day FE	Yes	Yes	Yes	Yes
R^2	0.08	0.07	0.04	0.06
N	2,816	2,816	2,816	2,816

Variables as defined in Appendix 1. out_core_csr (ins_core_csr) is the standardized total tweets about Core CSR by outside (inside) stakeholders on the day of the event, out_suppl_csr (ins_suppl_csr) is the standardized total tweets about Supplementary CSR by outside (inside) stakeholders on the day. All models include firm and day fixed effects. The controls are the scaled (1/10000) number of user followers by the accounts considered (Followers), and of users followed by the accounts considered (Following), and the scaled (1/1000) number of tweets related to publicity (Advertising).

***, **, and * indicates significance at the 1%, 5% and 10% levels or better, using a two-tail test.

Appendix D – CSR news in the banking industry

Date	Bank	Type	News[*]
11/12/2013	Bankia	Indignation	*Caja Madrid secret emails show how Blesa celebrated preferential shares 'success'.* **http://www.eldiario.es/economia/Blesa-negocio-preferentes-Caja-Madrid_0_205430051.html**
14/02/2014	Bankia	Sentence	*Bankia sentenced to pay 35,000 euro for selling preferential shares to a 9-years-old girl* **http://www.20minutos.es/noticia/2059583/0/condenan-bankia/pagar-indemnizacion/vender-preferentes-nina/**
07/02/2014	Bankia	Sentence	*Bankia and NCG Banco will return 160,000 euros to people affected by preferential shares* **http://www.eleconomista.es/empresas-finanzas/noticias/5523767/02/14/Bankia-y-NCG-Banco-devolveran-un-total-de-160000-euros-a-afectados-por-preferentes-.html#.Kku8nsF7l5AlyZc**
17/02/2014	Bankinter	Sentence	*National Audience Court sentences Bankinter for selling preferential shares to a client without informing him about the risks* **http://www.20minutos.es/noticia/2060229/0/?utm_source=twitterfeed&utm_medium=twitter**
01/02/2014	BBVA	Activism	*A couple occupies a BBVA branch office to protest against their eviction and also that of their parents* **https://elpais.com/economia/2014/02/01/agencias/1391258582_867435**.html
27/01/2014	BBVA	Sentence	*BBVA is sentenced to pay back Eroski debt issues to 68 people* **http://www.eleconomista.es/interstitial/volver/343978222/empresas-finanzas/noticias/5490834/01/14/Condenan-a-BBVA-a-devolver-el-dinero-de-las-emisiones-de-deuda-de-Eroski-a-68-personas-.html#.Kku853iA5UndNLo**
17/01/2014	BMN	Indignation	*The Director of Caja Granada increases by 25% his salary of 210,000 euro* **http://www.elmundo.es/andalucia/2014/01/17/52d83a2be2704e756c8b4587.html**
05/01/2014	Caixabank	Activism	*Obra Social Madrid members occupy a Caixabank building in Malasaña neighbourhood* **http://www.20minutos.es/noticia/2021728/0/obra-social-madrid/ocupa-edificio/caixabank-malasana/**
11/02/2014	Caixabank	Activism	*Four women camp indefinitely at a Caixabank office to force the bank to renegotiate their mortgages* **http://www.eldiario.es/andalucia/Acampada-indefinida-Caixabank-solucion-hipoteca_0_227827313.html**
22/01/2014	Caja Laboral	Indignation	*Basque Courts have received half a thousand complaints against Caja Laboral for Eroski preferential shares.* **http://www.navarraconfidencial.com/2014/01/22/los-juzgados-vascos-acumulan-medio-millar-de-denuncias-contra-la-caja-laboral-por-las-preferentes-de-eroski/#.Ut-IDefDfL4.twitter**
19/11/2013	Cajamar	Sentence	*The Supreme Court rules against BBVA and Cajamar Mortgage-Floor Clauses* **http://cincodias.com/cincodias/2013/11/19/mercados/1384864376_672631.html?utm_source=twitterfeed&utm_medium=twitter**
06/02/2014	Kutxabank	Activism	*Getafe Civic and Mortgages Affected Association (PAH) occupies a Kutxabank office to pressure the bank to negotiate an eviction* **http://disopress.com/gallery.php?mode=all&id=NzczMTMxZTZmMjk3Nw==&page=1**
20/01/2014	Liberbank	Activism	*CC.OO trade union calls for the resignation of two directors of Liberbank for receiving unemployment benefits while working* **http://www.20minutos.es/noticia/2034262/0/demanda/consejeros-liberbank/trabajo-cobran-paro/**

19/12/2013	NCG	Indignation	*The FROB (Bank Restructuring Fund) acknowledges that it was' impossible' to recover the 9,000 million euro used to bail NCG Bank.* **http://www.eleconomista.es/interstitial/volver/sdxs15/empresas-finanzas/noticias/5408764/12/13/El-FROB-reconoce-que-era-imposible-recuperar-los-9000-millones-inyectados-en-NCG.html**
03/12/2013	NCG	Sentence	*NCG Bank sentenced for selling preferential shares to a four months old baby* **http://economia.elpais.com/economia/2013/12/03/agencias/1386075150_706817.html**
29/11/2013	Banco Popular	Indignation	*Banco Popular deceptive actions and Mortgage-floor clauses* **https://www.meneame.net/story/enganos-banco-popular-clausula-suelo**
11/02/2014	Banco Popular	Sentence	*The Oviedo Court rules against Banco Popular mortgage-floor clauses and sentence the Bank to withdraw them* **http://www.tusmedios.es/economia_y_negocios/finanzas/55556-el-juzgado-de-lo-mercantil-numero-2-de-oviedo-considera-nula-la-clausula-suelo-del-banco-popular-y-condena-a-la-entidad-a-su-retirada.html** **http://www.torrescolladosabogados.com/2014/02/juzgado-anula-clausula-suelo-de-una-hipoteca-del-banco-popular/**
17/12/2013	Banco Sabadell	Activism	*A Banco Sabadell eviction was stopped by the Civic and Mortgages Affected Association (PAH)* **https://www.youtube.com/watch?v=Qv6xk2YXNXE&feature=youtu.be**
03/02/2014	Santander	Indignation	*Banco Santander uses silent clauses to hide the affected by the preferential shares* **http://www.eldiario.es/economia/Banco_Santander-Valores_Santander_0_223977830.html**
25/11/2013	Unicaja	Indignation	*Unicaja assumes no responsibility for those affected by Ceiss preferential shares* **http://www.laopiniondemalaga.es/malaga/2013/11/25/unicaja-asumira-responsabilidades-preferentistas/634489.html**
10/01/2014	Unicaja	Indignation	*The State and Unicaja launch a final offensive to avoid legal actions from those affected by Ceiss preferential shares* **http://www.eldiario.es/economia/Ceiss-Unicaja_0_216629073.html**

[*]Translated from the original in Spanish

Appendix E –Illustrative case study "Kutxabank: Opportunistic disclosure and silence"

We use the case of Kutxabank to illustrate our findings with two examples. In the first one, the bank publishes a large amount of Supplementary CSR information at a time when outside stakeholders talk about an aspect related to Core CSR. In the second one, the bank stays silent in social media. Illustrative Case Example #1 is a case of plausible opportunistic behaviour in response to a negative event. Illustrative Case Example #2 showcases a situation when the bank's response to a negative event is to keep silence.

Illustrative Case Example # 1: Opportunistic disclosure
On December 19, 2013, there was a peak in Twitter activity due to the eviction of a family in Seville associated with defaults on their payments of a Kutxabank mortgage (Core CSR). Kutxabank's Twitter corporate account posted several tweets about a mountaineering conference that was sponsored and organized by its Foundation (Supplementary CSR). This could be interpreted as the company intending to divert attention from the eviction by focusing on other less controversial issues.

Figure E.1: Number of tweets per day related to Kutxabank regarding several categories
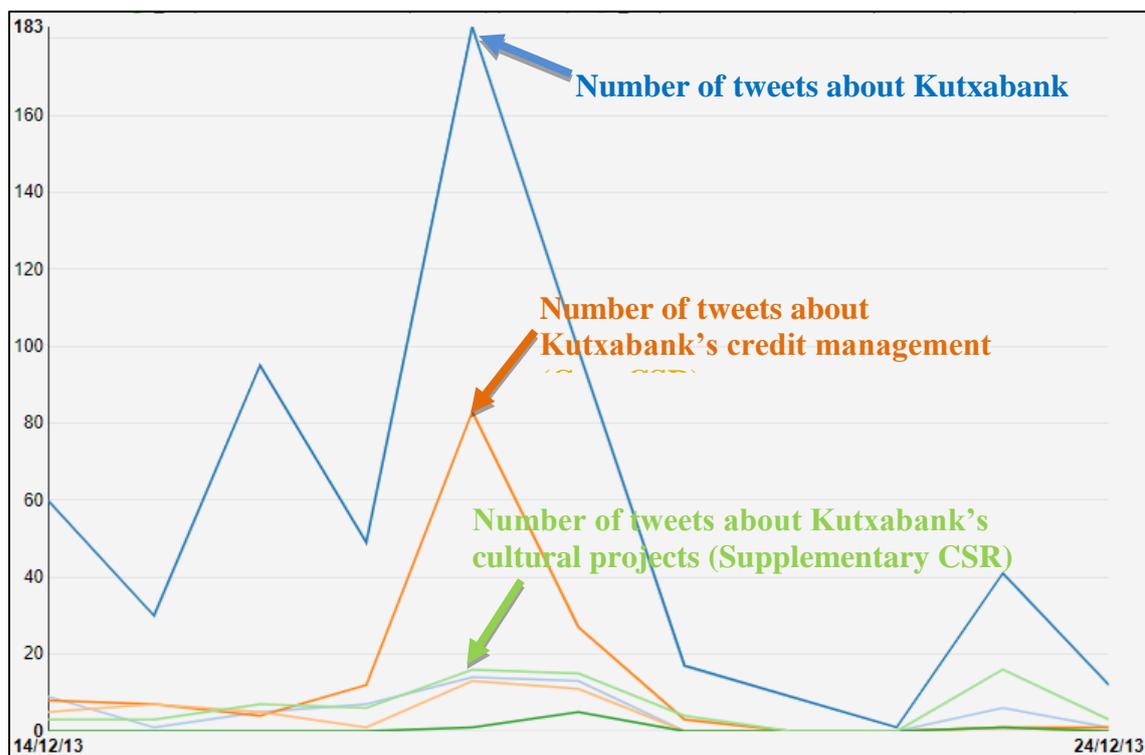
As shown in Figure D.1, the rise in Twitter activity is caused by the conversation around the eviction (Credit Management, i.e., Core CSR) and, at the same time, there is a corresponding increase in information on cultural projects (Supplementary CSR).

Most external stakeholders talk about the eviction with tweets like these:

> @PAH_Sevilla "Susana, Gabriel and their two children are still at their house in #DosHermanas #SevilleToday. We have stopped the eviction by Kutxabank".

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@sevillareport "Postponed until January the eviction of Susana and Gabriel in Dos Hermanas (link) @AcampaSevilla @PAH_Sevilla".

However, the response of Kutxabank's corporate account in Twitter on the days before and after the news about the eviction (which were on TV and on the newspapers) can be described as follows:

- 27 tweets posted
- 21 referred to the mountaineering conference that was sponsored and organized by Kutxabank
- The other 6 were responses to incidents in the banking operation, mainly by savings accounts and debit/credit cards, communicated by customers.
- No reference to the eviction was made by Kutxabank corporate account.

These are some examples of Kutxabank's tweets those days:

Date	@Kutxabank:
December 17, 2013	*"It begins the second day of the VI #ConferenceKutxabank Mountain and Adventure of Madrid. What will surprise us today?"*
December 18, 2013	*"In the #ConferenceKutxabank there is a street market which benefits will go to a school near the @RamonPortilla1's beloved Laila Peak"*
December 19, 2013	*"Starting the last day of the VI #ConferenceKutxabank with the privilege of seeing the Polish Adam Bielecki: a superman"*
December 19, 2013	*"We close the VI #ConferenceKutxabank. Thank you very much @RamonPortilla1 for giving us the opportunity to know thoroughly everything that surrounds the mountain"*
December 20, 2013	*"@dgrisalena please, let us know the reason of your claim and we will try to help."*

Interestingly, a Twitter user responds several times to the tweets about the mountaineering conference referring to the evictions of Kutxabank, he even refers to this bank as "the bank with the largest amount of evictions in the Basque Country". The corporate Twitter account does not interact with this user.

@Kutxabank: "'Freefall is like taking a dip in the air' says @armeinreyavila in the VI #ConferenceKutxabank"
   User response (@joxeanurkiola): "Eviction is the worst freefall a family can have. STOP EVICTIONS NOW"

@Kutxabank: "Enjoying the love story of @RamonPortilla1 with Laila Peak #ConferenceKutxabank"
   User response (@joxeanurkiola): "You can organize a conference about the bank with the largest number of evictions in the Basque Country. You will get the prize. LOTSAGARRIA"

@Kutxabank: "It begins the second day of the VI #ConferenceKutxabank Mountain and Adventure of Madrid. What will surprise us today?"
   User response (@joxeanurkiola): "I hope the surprise is the STOP of evictions and the preservation of your Social Welfare Projects, otherwise you would be committing FRAUD"

Illustrative Case Example # 2: Silence

On February 6, 2014, the occupation of an office of Kutxabank in Getafe by anti-evictions activists is the most relevant issue of the analysed period.

Figure E.2: Number of tweets per day related to Kutxabank
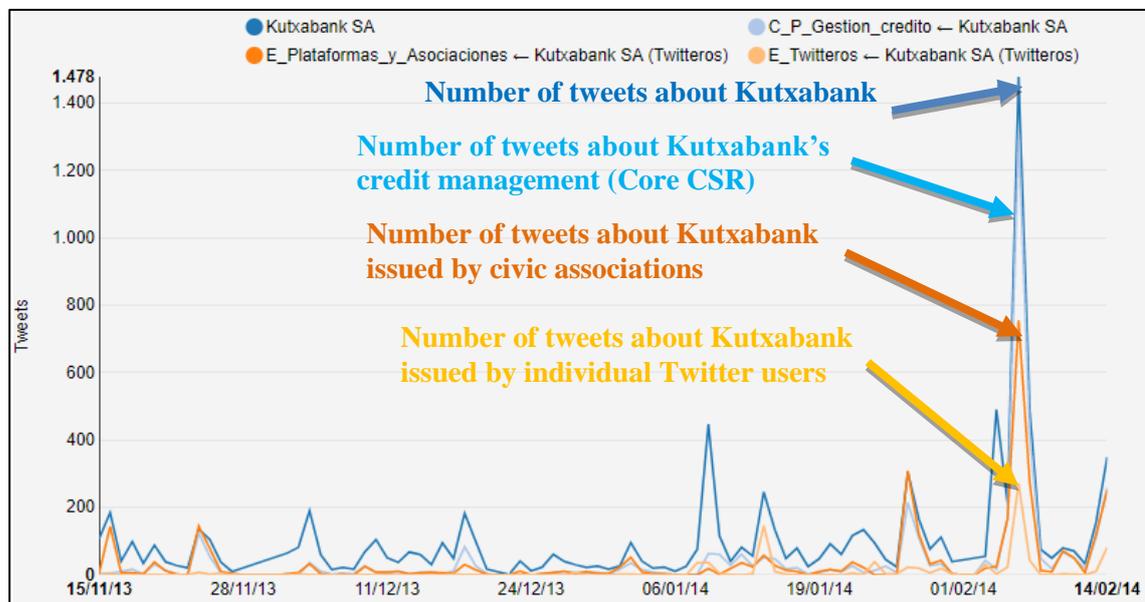
As shown in Figure D.2, this is a significant event in terms of number of tweets and the debate is dominated by the tweets of anti-evictions activists and individual users, such as the following:

> *@alex_marti_ "17:15 #AllWithAngel We just locked in Kutxabank Getafe to ask for the cancellation of Angel's debt".*

> *@CAS_Estatal_ "Companions from Getafe have occupied the Kutxabank branch to prevent the eviction of Angel".*

In this case, the corporate Twitter account of Kutxabank limits its activity to assist clients' claims regarding issues with bank accounts, debit/credit cards and fees. Again, there is no comment on the topic that generates the peak of tweets debate. The company does not make opportunistic use of Supplementary CSR information as detected in the first example.

These are some examples of Kutxabank's tweets those days:

Date	@Kutxabank:
February 5, 2014	*"@GlobalNairaTV Finally, regarding IBAN you can consult it in the bank statements, online banking, office, etc."*
February 5, 2014	*"@dmarchena and other € 5 if you hold an average annual balance of € 3,000. That is, you can reduce € 10 of that maintenance fee"*
February 6, 2014	*"@Izaaaro You can get it in your usual branch. In case they have been used up, we will send a shipment and you will get one"*