CORPORATE SOCIAL RESPONSIBILITY AND FORCED MIGRATION

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Abstract: This paper studies how local, community-level exposure to forced migration may influence a firm's corporate social responsibility (CSR) investment choices. We propose a framework whereby a firm can invest in CSR dimensions with high or low financial materiality––that is, with high or low capacity to generate direct financial gains to the firm. In this framework, CSR may enable enhanced engagement between the firm and community stakeholders who also care about a social issue that locally affects their community. Drawing on insights from our framework, we hypothesize that, on average, higher local exposure to a social issue is associated with higher adoption of low-materiality (vis-à-vis high-materiality) CSR policies. This prediction is tested in the context of forced migration to Europe. Our empirical aproach leverages proximity to regions where tragic refugee incidents occur as a source of variation in communities' exposure to forced migration, since both the presence of refugees and the media coverage of migration-related issues are higher in these regions. In line with our hypothesis, our results suggest that the occurence of a tragic refugee incident is associated with firms' higher willingness to shift their CSR portfolios to low-materiality policies. Extension analyses and qualitative evidence from the 2015 refugee crisis further support stakeholder orientation and local exposure to forced migration as key mechanisms underlying our results.

Key-words: strategic corporate social responsibility, social issues, financial materiality, forced migration, community relations, stakeholder management

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INTRODUCTION

Social issues are important antecedents of corporate social responsibility (CSR) (e.g., Briscoe, Gupta, & Anner, 2015; Campbell, 2007; King & McDonnell, 2015; McDonnell & King, 2013; Odziemkowska, 2022; Piazza & Wang, 2019; Wood, 1991). A rich stream of research has examined the adoption of specific CSR policies in response to activists and social movements that support particular social issues (e.g., Durand, Hawn, & Ioannou, 2019; McDonnell, 2016; Reid & Toffel, 2009). Additionally, prior work has also highlighted CSR responses focused on dimensions with high financial materiality—that is, with high potential to generate direct financial benefits to companies (e.g., Eccles & Serafeim, 2013)—as in the case of energy firms addressing climate issues through CSR policies that enable the development of renewable energy sources (Wright & Nyberg, 2017).

Scholars nonetheless acknowledge that CSR comprises a vast portfolio of policies and actions targeting distinct social and environmental dimensions (e.g., Flammer & Kacperczyk, 2019; Kacperczyk, 2009)—including workforce diversity, environmental innovation, human rights, and so forth—with varying degrees of financial materiality (e.g., Eccles & Serafeim, 2013). Still a question remains as to whether exposure to a social issue can influence the composition of a firm's CSR portfolio, in terms of both high- and low-materiality dimensions. This question deserves scholarly attention for two main reasons. First, whereas previous works have shown that the composition of a firm's CSR portfolio has profound implications for both its social (e.g., Li & Wu, 2020) and financial performance (e.g., Nardi, Zenger, Lazzarini, & Cabral, 2022), research on actual determinants of firms' CSR portfolio choices is still nascent (Zhang, Wang, & Zhou, 2020). Second, pursuing this question may also reveal important nuances to the emerging literature on financial materiality. Although influential, this stream of research heavily

builds on the shareholder-centric view that firms should always prioritize CSR efforts on high-materiality dimensions (e.g., Eccles & Serafeim, 2013; Khan, Serafeim, & Yoon, 2016), a perspective hard to reconcile with the fact that CSR often targets engagement with stakeholders who may not be solely concerned with financial returns (Bénabou & Tirole, 2006; Kaplan, 2020; King & McDonnell, 2015; McGahan, 2021).

In this paper, we investigate how exposure to social issues may shape firms' CSR portfolio choices in the context of forced migration. Our focus is on *local* exposure, that is, cases in which a social issue affects the community where the firm is headquartered (e.g., Marquis, Glynn, & Davis, 2007). Theoretically, we propose a simple framework—rooted in a standard signaling argument—whereby a firm that is either stakeholder-oriented or strictly shareholder-oriented composes its CSR portfolio by choosing between CSR dimensions with high- and low-materiality. CSR enables enhanced engagement with stakeholders in the community (Burbano, 2016; McGahan, 2021), conditional on the firm being perceived as a truly stakeholder-oriented type (Cassar & Meier, 2021; Godfrey, 2005). Stakeholders also care about a local social issue and the community's exposure to this social issue may spark prosociality, thereby increasing stakeholders' interest in CSR investments (e.g., Ballesteros & Gatignon, 2019; Hager & Valasek, 2020; Mittermaier, Patzelt, & Shepherd, 2021a). In this context, we show that a stakeholder-oriented firm may obtain stronger engagement from local stakeholders by focusing its CSR portfolio on low-materiality policies, a choice that becomes even more valuable to the company when the community's exposure to the social issue is higher.

We apply our theory to examine the case of forced migration to Europe. Recent data suggest that, by 2019, ten percent of all displaced persons worldwide lived in Europe (UNHCR, 2020)—a situation that has only been made worse by the recent war in Ukraine. Forced

migration is, however, better understood as a long-simmering problem with persistent effects on European communities over the last decades (Coenders, Lubbers, & Scheepers, 2004). An application of our framework to this context leads to our main hypothesis: on average, higher local exposure to forced migration will be positively associated with increased adoption of low-materiality CSR policies, relative to high-materiality actions.

To test this prediciton, we use the physical presence of refugees in European regions as a proxy for communities' exposure to forced migration (e.g., Hager & Valasek, 2020). This nonetheless raises serious data availability challenges: because refugees tend to be invisible to 'official' statistics, their exact locations within a country are hard to determine. To overcome these limitations, we propose a novel empirical approach using tragic incidents with refugees as a source of variation in the exposure to forced migration. Accordingly, we argue that exposure to forced migration is higher for firms headquartered in communities where these incidents happen, as these regions are associated with both a greater presence of refugees and a higher media coverage of migration-related issues. This empirical strategy is operationalized using data on corporate headquarter locations, collected from Orbis; CSR policies, collected from Refinitv/ASSET4 (for years 2002 to 2015); and financial materiality, obtained from the Sustainability Accounting Standards Board (SASB). The tragic refugee incidents were retrieved from the Migrants' Files (Bauböck, 2018), a longitudinal database containing geolocated migrant incidents that received media coverage. Through an event-study design (Cunningham, 2021), we estimate changes in CSR portfolios by comparing firms in the vicinity of the tragic incidents (more exposed firms) with other companies.

The results support our main hypothesis: firms based in communities with higher exposure to forced migration are associated with an increased adoption of low-materiality CSR

policies and a reduced adoption of high-materiality actions. This finding is further supported by analyses using different exposure thresholds and by placebo tests, although we remain careful and avoid a strong causal interpretation. Next, leveraging social performance as a (but imperfect) proxy for stakeholder orientation (e.g., Bettinazzi & Zollo, 2017; Hillman & Keim, 2001), we show that the changes in CSR policies described above are primarily driven by top social performers. This result is in line with the equilibrium pattern suggested by our framework, whereby only stakeholder-oriented firms have clear incentives to engage in signaling. Finally, as additional evidence relating changes in low-materiality CSR policies to stakeholder orientation and firms' exposure to forced migration, we exploit variation across social dimensions and contrast our results with qualitative evidence from the 2015 refugee crisis.

This paper contributes to several scholarly debates in the fields of management and strategy. While prior work has focused primarily on the adoption of specific CSR policies in response to social issues (e.g., Briscoe et al., 2015; Durand et al., 2019; King & McDonnell, 2015; Reid & Toffel, 2009), we show that local exposure to a social issue may have broader effects and shape a firm's CSR portfolio by increasing incentives to engage in signaling behavior that prioritizes low- over high-materiality policies. Hence, complementing research on financial materiality—which emphasizes firms' incentives to undertake highly material CSR (e.g., Chen, Dong, & Lin, 2020; Eccles & Serafeim, 2013)—our results suggest that signaling motives may induce firms to focus on lower-materiality dimensions. In addition, our findings also inform debates on the reputational consequences of CSR and its use as a signaling device (e.g., Burbano, 2016; Cheng, Ioannou, & Serafeim, 2014; Godfrey, 2005; Wang, Choi, & Li, 2008) by underscoring how low-materiality CSR policies can be leveraged as a signal of stakeholder orientation and social responsibility, particularly to community stakeholders. Lastly, our work

adds to the nascent literature on forced migration in management (e.g., Guo, Ariss, & Brewster, 2020; Mittermaier, Shepherd, & Patzelt, 2021b) by investigating exposure to the challenges of forced migration as a driver of CSR choices.

THEORY: A SIGNALING FRAMEWORK OF CSR, FINANCIAL MATERIALITY, AND COMMUNITY EXPOSURE TO SOCIAL ISSUES

This section starts with a detailed description of our theoretical framework. The model draws on insights from several literatures, including (but not limited to) research on firm-community relations (e.g., Ingram, Yue, & Rao, 2010; Marquis, 2003; Marquis et al., 2007; Tilcsik & Marquis, 2013), stakeholder management (e.g., Barney, 2018; Donaldson & Preston, 1995; Freeman, 1984; McGahan, 2021) and the signaling and reputational aspects of CSR (Burbano, 2016; Cheng et al., 2014; Clark, Kofford, Christensen, & Barney, 2021; Godfrey, 2005; Muller & Kräusl, 2011; Rusinova & Wernicke, 2016; Wang et al., 2008), as well as literatures on financial materiality (e.g., Eccles & Serafeim, 2013; Grewal, Serafeim, & Yoon, 2016) and corporate responses to social issues (e.g., Baron, 2001; Briscoe et al., 2015; Burbano, 2021; King & McDonnell, 2015; McDonnell, 2016; McDonnell, Odziemkowska, & Pontikes, 2021; Mohliver, Crilly, & Kaul, 2022). Later in the section, we use our framework to develop a signaling theory of CSR, financial materiality, and community-level exposure to social issues. Lastly, applying this theory to the context of forced migration to Europe, we derive the main hypothesis of our paper.

Model description: Context and main definitions

Our framework models the interaction between a firm and the community where the firm is headquartered. While in reality firms may interact with distinct communities across different geographic domains, prior research has argued and shown that the communities in the vicinity of

a firm's headquarter play a notably significant role in shaping corporate social action (Marquis et al., 2007; Marquis & Tilcsik, 2016). In essence, the community where a firm is headquartered is typically home to distinct groups of stakeholders, including investors (e.g., Coval & Moskowitz, 1999; Hong & Xu, 2019), executives and managers (e.g., Knyazeva, Knyazeva, & Masulis, 2013; Zhao, 2018), civil society organizations (e.g., Kassinis & Vafeas, 2002), among others, whose engagement with the firm is critical for value creation and capture (Barney, 2018; Dougal, Parsons, & Titman, 2021; McGahan, 2021). Thus, focusing on the community level, our framework explores the well-established idea that CSR investments can facilitate the firm's engagement with all these different stakeholders (e.g., Barnett, 2007; Donaldson & Preston, 1995; Freeman, 1984; Godfrey, 2005; McWilliams & Siegel, 2001; Wang et al., 2008).[1]

` It is crucial to emphasize that *engagement* has a broad meaning in our model. In essence, we use this term to denote varying types of interactions between a firm and numerous community stakeholders (e.g., McGahan, 2021). Some obvious examples of engagement are local investors buying a firm's shares, managers in the community being attracted and motivated to stay in the firm, local governments being willing to contract or collaborate with the firm, and suppliers and customers being willing to establish long-term relationships with the company. The exact ways in which engagement may create value to the firm are discussed below.

In our framework, the firm undertakes CSR policies focused on two possible social dimensions: dimension F has high financial materiality, meaning that policies in this dimension have a direct positive impact on the firm's financial performance; dimension N, in contrast, has lower financial materiality and a muted direct impact on the firm's financials (e.g., Eccles &

[1] To simplify the model's description and development, we refer to the community as a single entity throughout the paper. The reader should bear in mind, nonetheless, that the community actually comprises numerous and heterogeneous groups of locally based stakeholders with whom the firm ultimately interacts.

Serafeim, 2013). For example, if firm i is a professional services company, actions focused on diversity and inclusion are examples of CSR policies in dimension F, whereas practices focused on environmental performance would be mostly associated with dimension-N CSR policies (e.g., Durand et al., 2019).

We let θ denote the firm's type, with two possible values: $\theta = \theta_H$ describes a firm with high stakeholder orientation, while $\theta = \theta_L$ denotes a low-stakeholder-orientation company, where $0 < \theta_L < \theta_H$. We define stakeholder orientation as the firm's inclination to engage in behavior that prioritizes stakeholders' interests and minimizes or avoids harms to stakeholders and the broader society (Barnett & Salomon, 2006; Berman, Wicks, Kotha, & Jones, 1999; Campbell, 2007; Freeman, 1984; Muller & Kräusl, 2011), possibly with a prosocial (e.g., Bénabou & Tirole, 2006) focus (Davis, 1973; Donaldson & Preston, 1995). In our framework, stakeholder orientation is assumed to be complex and inherently hard to observe: while external actors may use distinct proxies to infer a company's stakeholder orientation—including (often noisy) corporate ratings (e.g., Bettinazzi & Zollo, 2017; Chatterji, Durand, Levine, & Touboul, 2016; Hillman & Keim, 2001) or the history of the firm's past behaviors (Muller & Kräusl, 2011)—these are, at best, imperfect measures and often fail in practice. For example, starting in the early 2000s, British Petroleum (BP) engaged in an intensive campaign to appear more stakeholder-oriented and boost its sustainability image. These efforts seemingly paid off: by 2007, brand surveys suggested that the public regarded BP as greener, more environmentally responsible and more stakeholder-centered than most of its major competitors (e.g., Luo, Meier, Oberholzer-Gee, 2012). Yet, in early 2010, the company found itself at the center of the Deepwater Horizon oil spill—the worst disaster in the modern history of the oil industry (McDonnell et al., 2021)—an event that exposed myriad failures and irresponsible acts

undertaken by BP, all the more incompatible with the behavior expected from a stakeholder-oriented organization. Hence, in what follows, we suppose that the firm has a high-stakeholder-orientation type with probability p ($0 < p < 1$) and this is common knowledge. In our main analyses, we also assume that only the firm truly knows its type: the community may only observe the firm's actions and make inferences about θ. Finally, for simplicity, we refer to the low type as *shareholder*-oriented firm, reflecting the idea that the company cares exclusively about the interests of average, short-term-oriented shareholders.

Importantly, in our model, both stakeholder- and shareholder-oriented companies can invest in CSR policies. More specifically, we define a_d^θ as the total quantity of CSR policies undertaken by a type-θ firm and focused on dimension d. Thus, a_N^L describes the number of policies in the low-materiality dimension adopted when firm i is shareholder-oriented, while a_F^H describes policy adoption in the high-materiality dimension when the firm is stakeholder-oriented, and so on. Furthermore, for brevity, we may characterize a CSR policy based on the dimension in which it focuses—e.g., we may say that policies in dimension F are high-materiality policies, while policies in the N dimension have low materiality. For simplicity, we assume that $a_d^\theta \geq 0$ are continuous, endogenously chosen variables, and that CSR policies are subject to a firm-specific technology constraint: $a_F^\theta + a_N^\theta \leq \bar{a}_\iota$, where $\bar{a}_\iota > 0$ is constant and does not depend on the firm's type (i indexes the firm).

On the other side, the community's preferences have a few key features that we now describe. First, the community scrutinizes the firm's stakeholder orientation and, given imperfect observability, the community's beliefs play a key role in the framework. Accordingly, we assume that the community values and reacts to CSR investments made by the company only if the company is believed to be truly a stakeholder-oriented type (Cassar & Meier, 2021; Godfrey,

2005). Furthermore, the community fully observes and distinguishes between the two types of CSR—i.e., community stakeholders know that only high-materiality CSR caters to the interests of regular, short-term-oriented shareholders (e.g., Flammer, Toffel, & Viswanathan, 2021). In addition, we also suppose that the community cares about a social issue s, while its exposure to s elevates its appreciation for CSR. This insight follows from diverse research arguing (and showing) that exposure to societal issues (and the people directly impacted by these challenges) may spur prosociality and increase the value attached to socially oriented action (Ballesteros & Gatignon, 2019; Hans & Vissa, 2022; Madsen & Rodgers, 2015; Mittermaier et al., 2021a; Saebi, Foss, & Linder, 2019). For example, Hager and Valasek (2020) find that proximity to refugees is positively associated with communities' prosocial atitudes toward refugees and other migrants. Similarly, Tilcsik and Marquis (2013) show that natural disasters increase communities' expectations for philanthropic actions by locally based firms, especially by companies with a well-established reputation for charitable giving. These findings may be (at least in part) explained by the fact that exposure to the dramatic, and often tragic, reality of people affected by social challenges may lead individuals to reassess the prosocial aspects of their own lives (Carnahan, Kryscynski, & Olson, 2017; Chen, Crossland, & Huang, 2020; Jonas, Schimel, Greenberg, & Pyszczynski. 2002) and inspire empathy and compassion, thereby elevating their appreciation for socially oriented behavior (Bacq & Alt, 2018; Mittermaier et al., 2021a).

Model description: Structure and payoffs

This section introduces the model's structure and payoffs. In what follows, we assume (for simplicity) a one-off interaction (or *engagement*) between the firm and the community. Yet this engagement could also be interpreted as representing a longer-term relationship in which the

parties interact over time (e.g., Bridoux & Stoelhorst, 2016). According to this interpretation, payoffs reflect the expected value of the *entire* relationship established between the parties, an insight useful in the description of the payoff functions, below.

Our framework follows a classical signaling game model structure (e.g., Spence, 1973; Tadelis, 2013), assuming a zero discount rate:

At $t = 0$: Nature chooses θ with $Prob(\theta = \theta_H) = p$. Only p is common knowledge.

At $t = 1$: The firm learns its type θ and chooses its CSR policies a_F^θ, a_N^θ to maximize profits, subject to the technology constraints and considering the expected gains from community engagement.

At $t = 2$: The community observes a_F^θ, a_N^θ, updates its belief β, and defines the level of engagement with the firm; all payoffs are realized.

To more formally characterize the community's preferences, let β be the community's (ex-ante) belief that the firm has high stakeholder orientation: $\beta \equiv Prob(\theta = \theta_H)$. Then, the community's willingness to engage with the firm (e) is given by:

$$e\left(a_F^\theta, a_N^\theta\right) = \begin{cases} x a_F^\theta a_N^\theta & , \ if\ \beta = 1 \\ 0 & , \ if\ \beta = 0 \end{cases}, \tag{1}$$

where $x > 0$ is a parameter describing the community's local exposure to the social issue s, and the other parameters follow previous definitions. Note, therefore, that both types of CSR policies have a similar impact on the community's willingness to engage, so long as the community believes that the firm is a stakeholder-oriented type. Moreover, as discussed above, an increase in the local exposure to the social issue s (parameter x) heightens the community's prosocial orientation, thereby increasing the utility derived from CSR and its willingness to engage with the firm.

The firm's payoffs depend on CSR in two ways. Firstly, high-materiality CSR policies have a direct positive impact (assumed, for simplicity, to be linear) on the firm's financial payoffs. This effect follows from the very definition of financial materiality (e.g., Khan et al., 2016), and could be explained, for example, by productivity or efficiency gains, reductions in operational or litigation risks, and so on. Secondly, both high- and low-materiality CSR policies may benefit the firm by enabling higher engagement levels with the community, conditional on the community's beliefs and appreciation for CSR. The benefits stemming from community engagement reflect the idea—now well-established in the literature—that firms can use CSR to build valuable relationships (e.g., Barnett, 2007; Godfrey, 2005; Hawn & Ioannou, 2016; Henisz, Dorobantu, & Nartey, 2014; Marquis, Davis, & Glynn, 2013; McWilliams & Siegel, 2001) and facilitate co-specialized investments (e.g., Barney, 2018; McGahan, 2021; Wang et al., 2008) with key stakeholders. For example, CSR has been shown to help firms attract talented workers (Hedblom, Hickman, & List, 2019), increase employee productivity (Burbano, 2016) and engagement (Flammer & Luo, 2017), and gain improved access to finance (Cheng et al., 2014) and enhanced competitiveness in markets for government contracts (Flammer, 2018). Thus, in our model, enhanced engagement with the community may generate direct economic gains to the firm through all these stakeholder-related channels—e.g., by securing a pool of talented executives and top managers, by granting access to capital and other valuable resources, by avoiding sanctions from regulators or monitoring organizations, and so on.

Formally, the firm's expected payoff function is defined as:

$$\pi_\theta = Aa_F^\theta + \theta e\left(a_F^\theta, a_N^\theta\right) - \left(a_F^\theta + a_N^\theta\right), \tag{2}$$

where $A > 1$ represents the direct impact of high-materiality policies on the firm's financial payoffs, while all other parameters follow previously introduced definitions. The second term in

Equation (2) describes the gains from community engagement and implies that the expected impact of CSR on the firm's payoffs increases with the firm's stakeholder orientation (θ). Importantly, note that this feature stems from behavior that is *inherent* to the firm's type (as well as from the fact that the benefits of the relationship are realized over time). Indeed, even if a shareholder-oriented firm convinces the community that it has a high-stakeholder-orientation profile instead, it knows that it may act irresponsibly in the future because it needs to prioritize shareholders' interests—unlike a stkeholder-oriented type would—eventually causing the community to back out of the relationship (Muller & Kräusl, 2011). As a result, ex-ante, a shareholder-oriented firm expects inherently *lower* gains from engaging with the community, compared to the rents expected by a highly stakeholder-oriented company. Lastly, note, also, that the third term in Equation (2) represents a linear cost function of CSR, which assumes that both high- and low-materiality policies cost the *same* to the firm.

Therefore, according to Equation (2), the firm faces a trade-off between the immediate financial gains from investing in high-materiality CSR policies and the potential benefits stemming from community engagement, which requires some level of investment in low-materiality CSR (and foregone investments in the high-materiality dimension). Furthermore, because CSR can enhance engagement with community stakeholders, our model implies that community-level issues can have broader implications for the firm's CSR positioning, potentially influencing the types of CSR policies included in its portfolio. Anecdotal evidence suggests that this is in line with management practice. For example, consider the case of Schneider Electric (SE), the French energy giant. In 2004, SE co-founded the *100 Chances 100 Emplois* ("100 Chances 100 Jobs"), a program aimed at improving employability for young adults. The program was a response to the high levels of poverty and inequality ravaging the poorest communities of

Île-de-France, the metro area where the company was (and still is) headquartered (Montcel, 2017). Over the years, however, SE scaled and expanded its training initiatives to many countries, particularly in the Global South, thereby consolidating these training programs as a chief social CSR policy in its portfolio—with a public commitment to train at least one million unemployed youngsters worldwide by year 2025 (Walker, 2017).

In the next sections, we describe the key results arising from our framework and develop the main hypothesis to be tested in the paper. More details about the model, including technical assumptions and formal proofs, are presented in the Appendix A1.

Model analysis and theory development

Full information benchmark

We start by analyzing a benchmark case of our framework, assuming no information asymmetries—that is, assuming that the community fully observes the firm's type (θ). In this case, the community chooses no engagement when the firm is a shareholder-oriented type and high engagement, according to Equation (1), if the firm is a high-stakeholder-orientation type. As a result, in equilibrium, when the firm has low type it only undertakes high-materiality CSR policies, whereas both high- and low-materiality policies are undertaken if the firm has high stakeholder orientation instead. Importantly, in the latter scenario, the quantities of policies adopted in highly material dimensions are higher than the corresponding quantities in low-materiality dimensions, reflecting the higher returns to high-materiality CSR. The following lemma summarizes these results.

Lemma 1. *Suppose that the community observes the firm's type (θ). Then, in equilibrium, the firm chooses:* $a_F^{L*} = \bar{a}_\iota$ *and* $a_N^{L*} = 0$, *if it is shareholder-oriented;*

or $a_F^{H*} = \frac{\overline{a_\iota}}{2} + \frac{A}{2x\theta_H}$ *and* $a_N^{H*} = \frac{\overline{a_\iota}}{2} - \frac{A}{2x\theta_H}$ *, if it is stakeholder-oriented. It follows that* $a_F^{H*} > a_N^{H*}$.

Proof: See Appendix A1.

From the expressions described in Lemma 1, it is straightforward to conclude that, all else equal, an increase in the direct returns to high-materiality policies (A) increases the equilibrium quantities of these policies and reduces the equilibrium quantities of low-materiality actions. In contrast, an increase in the community's exposure to the social issue (x) has the opposite effect, as it ultimately increases the returns to community engagement. A more productive technology (i.e., higher $\overline{a_\iota}$) obviously increases the equilibrium quantities of both types of policies. We now move to examine the more interesting case where stakeholder orientation is not observable.

Signaling behavior and the adoption of social CSR policies

In the incomplete information case, the community may infer the type of the firm after observing its CSR policies. The key idea underlying the firm's signaling behavior is that investments in low-materiality CSR policies are "costlier" to the low type: because a stakeholder-oriented company expects higher payoffs from engagement with the community, it may have incentives to increase its adoption of low-materiality policies above a limit that a shareholder-oriented firm would find attractive. Note, in addition, that this costly character derives exclusively from the firm's inherent behavior; our model does *not* explicity assume that the high- and low-materiality policies differ in terms of their intrinsic costs (see Equation 2, above). Furthermore, the community can infer the firm's type because it knows the difference between the two types of CSR—including the fact that only high-materiality policies fully cater to regular shareholders' interests.

To formalize these ideas, let Γ denote the game with asymmetric information, and let μ be the community's posterior belief that the firm has high stakeholder orientation: $\mu \equiv Prob(\theta = \theta_H | \, a_F^\theta, a_N^\theta)$. We define a Perfect Bayesian Equilibrium (PBE) of Γ as a tuple $(a_F^L, a_N^L, a_F^H, a_N^H, \mu)$ such that a_F^θ and a_N^θ maximize the profits of a type-θ firm given μ, and μ is consistent with Bayes' rule in any nodes achieved with positive probability (Gibbons, 1992).

Lemma 2. *Let* $a_F^{L**} = \bar{a}_\iota$, $a_N^{L**} = 0$; $a_F^{H**} = \frac{A}{x\theta_L}$; $a_N^{H**} = \bar{a}_\iota - \frac{A}{x\theta_L}$ *; and define beliefs for the community as follows:* $\mu^{**} = \begin{cases} 1, \text{ if } a_N^\theta = a_N^{H**}, a_F = a_F^{H**} \\ 0, \text{ if } a_N^\theta \neq a_N^{H**}, a_F \neq a_F^{H**} \end{cases}$.

Then, $(a_F^{L**}, a_N^{L**}, a_F^{H**}, a_N^{H**}, \mu^{**})$ *is a PBE of the game* Γ.

Proof: See Appendix A1.

It follows from Lemma 2 that, in a separating PBE, the shareholder-oriented company achieves its 'first-best' outcome—that is, the same outcome achieved if stakeholder orientation is fully observed by the community. Formally: $a_N^{L**} = a_N^{L*}$ and $a_F^{L**} = a_F^{L*}$. On the other hand, in the same PBE, the stakeholder-oriented firm undertakes a higher quantity of CSR policies focused on the low-materiality dimension, and a lower quantity of high-materiality policies, compared to the first-best quantities. We thus have:

Corollary 1. $a_N^{H**} > a_N^{H*}$ *and* $a_F^{H**} < a_F^{H*}$.

Proof: See Appendix A1.

Corollary 1 implies that the stakeholder-oriented firm makes costly investments to signal its type to the community. This is perhaps clearer if we rewrite: $a_N^{H**} = a_N^{H*} + S$, where $S \equiv \frac{\bar{a}_\iota}{2} - \frac{A(2\theta_H - \theta_L)}{2x\theta_H\theta_L}$. It is easy to see, using the assumption introduced in Appendix A1, that $S > 0$. Thus, S can be interpreted as the firm's investment in signaling. It is also interesting to note that, in the PBE described in Lemma 2, the quantity of low-materiality CSR policies undertaken by the

stakeholder-oriented type exceedes the quantity of high-materiality policies (that is, $a_N^{H**} > a_F^{H**}$), a result that starkingly contrasts with the full information benchmark. All in all, having derived the core results of our framework, we now apply it to examine how firms potentially engaging in this signaling behavior may change their CSR policies following an increase in the local exposure to a specific social issue: forced migration, in the European context.

Local exposure to forced migration and CSR portfolio choices

Our framework studies signaling behavior in the context of firm-community relationships, where the local exposure to a social issue is important. Of course, this local aspect is relevant to several social issues and grand challenges of our day, including poverty, environmental pollution, urban violence, natural disasters, and many others (e.g., Ballesteros & Gatignon, 2019; Kassinis & Vafeas, 2006; Marquis et al., 2007). We argue, nonetheless, that this is also the case with forced migration, particularly in the European context.

Indeed, in Europe, forced migration is a long-simmering crisis—a persistent and ongoing challenge (e.g., Greenwood, 1983). Yet while some of the latest events surrounding this calamity—including the 2015 refugee crisis and the recent war in Ukraine—have drawn massive attention from the public, forced immigration is better understood as a persistent, continuing issue—one that has substantively impacted European communities since at least the begining of the 20th century (Dragostinova, 2016). Starting in the early 2000s, monitoring entities and supranational organizations have expressed increasingly serious concerns with refugees' integration into European societies (e.g., UNHCR, 2001) and the potential issues arising from European citizens' (apparently) growing resistance to immigration (Coenders et al., 2004). In the last two decades, the situation has only worsened (Dragostinova, 2016) and, according to recent

Eurobarometer Surveys, forced immigration, along with the fear of terrorism, had become the issue of greatest concern to European Union citizens (European Commission, 2018).

The relevance of the local, community-level dimension to migration-related issues is clear in several recent works studying forced migration, organizations, and related fields, particularly in the European context. Mittermaier, Shepherd, and Patzelt (2021b) study shifts in German communities' attitudes toward refugees and social entrepreneurs addressing refugees' needs, following negative events associated with the presence of these immigrants in the communities. The authors show, for example, that news on the participation of refugees in violent incidents across different German cities—such as massive sexual assaults reported in Cologne and a suicide bombing that occurred in the city of Ansbach—negatively impacted the legitimacy of local social ventures focused on addressing refugees' needs (Mittermaier et al., 2021b). Guo, Ariss, and Brewster (2020), in turn, highlight the challenges of integrating refugees into the European job market and the important role that local ethnic communities play in this process. In addition, as already mentioned above, Hager and Valasek (2020) study how local citizens' proximity to refugees influence their prosocial behavior, particularly, their willingness to engage in prosocial actions aimed at helping refugees in the community.

Therefore, applying our framework to the context of forced immigration to Europe, we can interpret the parameter x as communities' local exposure to forced migration. Hence, this parameter describes the impact of local exposure to forced migration on European firms' expected payoffs to CSR investments. As argued above, this effect stems from the prosocial reaction of the community to the social issue, which, according to our framework, is conditional on the firm being perceived as stakeholder-oriented. As a result, we expect local exposure to

forced migration to *strengthen* a firm's incentives to signal high stakeholder orientation. This simple logic is developed analytically in Appendix A1.

Of course, another implication of the previous arguments is that the impact of local exposure depends on the firm's type: shareholder-oriented companies may, after all, have no incentives to engage in costly signaling. Nonetheless, on average, both types of firms should coexist and, therefore, an increase in the exposure to forced migration should—on average—be associated with more active signaling behavior. Put differently, we expect the tendency to overinvest in low-materiality policies and underinvest in high-materiality actions to be exacerbated for the *average* firm, if the local exposure to forced migration increases. These arguments lead to our main hypothesis:

> ***Hypothesis H1.*** *On average, higher local exposure to forced migration is positively associated with higher adoption of low-materiality CSR policies, relative to high-materiality CSR policies.*
>
> *Proof: See Appendix A1.*

DATA AND METHODOLOGY

Data Description

Social CSR Policies and Financial Materiality

This paper uses a unique database on European-based firms spanning the years 2002 to 2015. We collected data on firms' social CSR policies and actions from Refinitiv ESG/ASSET4 (henceforth referred to as Refinitiv), one of the leading providers of corporate socio-environmental data (e.g., Chatterji et al., 2016; Cheng et al., 2014; Hawn & Ioannou, 2016). From the universe of social CSR policies and actions[2] monitored by Refinitiv, covering four

[2] In extension analyses, we also use data on environmental policies.

dimensions (namely, workforce, human rights, community, and product responsibility), we deleted those policies with more than 900 missing observations.[3] The remainder 39 policies were used to generate our dependent variables (described below). Each of these policies is associated with a dummy variable that equals one whenever a firm adopts the policy in question (and zero otherwise).[4] Because the set of firms covered by Refinitiv changes yearly, our panel dataset is unbalanced.

We further complemented the data on social CSR policies with financial materiality classifications provided by the Sustainability Accounting Standards Board (SASB). SASB classifies 26 socio-environmental issues as either financially material or immaterial, for 77 distinct industry-groups. In essence, SASB considers an issue as financially material to a given industry if this issue has the potential to harm the financial performance of firms competing in that same industry (e.g., Khan et al., 2016). Moreover, for each industry-issue pair, SASB also describes more fine-grained *disclosure topics* considered relevant to that specific industry-issue, which may help to justify the classification. For example, employee engagement, diversity, and inclusion are considered financially material issues to e-commerce firms because employees are key contributors to value creation in this industry, while the race for talent has also become increasingly challenging for these firms (SASB, 2018A). Thus, in this sector, according to SASB, the disclosure topics associated with these issues are employee recruitment, inclusion, and performance (including on-the-job, individual, and collective dimensions of performance).

[3] Missing values—that is, cases in which a specific policy is not covered by analysts, for a given firm in a given year—are a common issue, particularly in the ASSET4 database, as discussed in the literature (e.g., Serafeim et al., 2020). We drop policies with excessive missing data to avoid imputing excessive zeros to binary variables.
[4] For these 39 dummies, missing values are coded to zero in our baseline analyses. However, our results are similar if we retain all missing values.

A key step in the composition of our dataset is to establish a link between SASB's financial materiality classification and the Refinitv database. Following prior work (e.g., Nardi et al., 2022), and in line with our theory, we used Refinitiv's socio-environmental dimensions (or categories) to facilitate this process. First, we divided our social policies according to the four social dimensions currently present in the Refinitiv database: workforce, human rights, community, and product responsibility. We then divided the workforce dimension further in three subdimensions (namely, employee relations and development, employee health and safety, and workforce diversity), [5] thus obtaining a total of six distinct social dimensions. Next, given these six distinct dimensions, for each of the 77 industry-groups, we examined each of the issues (as well as the associated disclosure topics) which are considered by SASB as financially material to that particular industry.

In this final step, we coded as highly material (to a specific industry) any social dimensions whose CSR policies were, according to SASB, more likely to influence the material issue under consideration and the associated disclosure topics. Dimensions whose policies were associated with immaterial issues (and disclosure topics) were considered low-materiality dimensions in our classification.[6] Moreover, note that we use the terms *high* and *low* materiality, as opposed to SASB's denomination of financially *material* and *immaterial*. While SASB's standards are widely regarded as a key reference for financial materiality, reflecting knowledge and expertise of a broad range of investors, analysts, industry specialists, and other stakeholders (Chen et al., 2020; Khan et al., 2016; SASB, 2018A), we prefer to avoid unnecessarily strong claims that certain issues are completely *immaterial* to specific industries.

[5] The workforce dimension is, for our purposes, a too coarse dimension because it shows up as highly financially material to virtually all industries. By considering its three subdimensions, we observe variation across industries.
[6] Note that SASB's classifications are fixed over time.

To illustrate our approach, according to SASB, critical incident risk management ("issue") is financially material to airline companies, as this type of incident can harm companies' accident and safety management capabilities ("disclosure topics", in SASB's language), bringing about negative consequences to communities, employees, and customers. Given SASB's assessment, we then classify the community, employee health and safety, and product responsibility dimensions as highly material to the air travel industry. In contrast, other dimensions such as diversity or human rights have low materiality, according to our classification—and are deemed immaterial by SASB's standards.

In order to ensure consistency in dimension classifications, we proceeded as follows. Each researcher independently coded the dimension (as either high- or low-materiality) following the steps described in the previous paragraphs. We then created six dimension-related dummy variables for each researcher to represent the dimension classifications of that individual. Thus, each of these dummies indicates the industries in which a given dimension was considered highly material by a specific researcher. Next, we tested the interrater reliability of the independent classifications provided by each pair of researchers, using Cohen's Kappa statistic. The estimated values of Kappa ranged from 0.8544 (Z-score = 18.04), for the human rights dimension, to 1.00 (Z-score > 21.00), for the workforce diversity, and employee relations and development dimensions, thus leading to the conclusion that the classifications provided were in almost perfect agreement. Finally, to obtain a single dimension classification with the highest possible reliability, the researchers discussed and solved any remaining points of disagreement. Our final classification of financial materiality thus reflects a consensus among the researchers.[7] Below, we detail how this classification is used to compose our dependent variables.

[7] We followed the same steps to classify environmental policies, also used in our analyses below.

Tragic Refugee Incidents and Corporate Headquarter Locations

An important difficulty in studying forced migration is that refugees, asylum seekers and undocumented migrants tend to be 'invisible' to official statistics. In particular, while we know that these migrants often move within the countries they immigrate to, it is utterly difficult to map their presence at a more local level. To circumvent these problems, our empirical approach (detailed below) uses data on tragic migration-related incidents, exploiting the idea that the local exposure to forced migration is higher for firms headquartered in communities in the vicinity of these incidents (for more details, see next section).

Data on these tragic refugee incidents were collected from the Migrants' Files, an open dataset maintained by a group of journalists from over 15 European countries. This database reports on thousands of dreadful incidents where one or more refugees, undocumented migrants and asylum seekers died or went missing. The dates and geocoded locations of these events are provided, along with a list of media sources covering the events, in addition to other details.[8] The Migrants' Files project was discontinued in June 2016; hence, 2015 is the last year with full data available. Moreover, as we focus on the European context, we restricted our data to incidents located in the Northern hemisphere (latitudes ranging from zero to 75 degrees) and in longitudes ranging from -30 to 90 degrees. This extensive region covers not only the European countries, but also the North of Africa, as well as parts of the Middle East and Asia.

In order to operationalize our empirical strategy, we combined the Migrants' Files data with information on corporate headquarter locations collected (and subsequently geocoded) from the Orbis database (e.g., Aghion, Bénabou, Martin, & Roulet, 2020; Chang, Kogut, & Yang, 2016). Orbis provides a cross section of headquarter addresses that reflects the current locations

[8] For more details, see: https://www.themigrantsfiles.com. Last access: February, 2022.

of head company offices. Thus, to avoid any inconsistencies, we conducted a careful review of historical headquarter addresses for each and every corporation in our sample. Following the approach used by finance and management scholars, we reviewed a wide range of corporate reports and other documentation issued by each company in our sample and dating back to the first year in which the company appears in the sample. We then deleted all firms associated with potentially significant headquarter relocations between 2002 and 2015—i.e., any relocations with the potential to impact our analyses.[9] Figure 1, below, depicts the full set of migrant incidents and corporate headquarters observed in our sample.

********** Insert Figure 1 About Here **********

Other Data Sources

Our database was further complemented with information from several other sources. Financial data was collected from Worldscope and we retained only firm-year observations with nonmissing data on basic financials (total assets and operating income). Social scores across four social dimensions (employees, community, human rights, and product responsibility) were also collected from Refinitiv and used to compose a measure of social performance. Finally, we also collected country-level data on refugee population (from the World Bank) and number of citizenships acquired by foreigners (from Eurostat).

Empirical Approach

As mentioned above, we exploit the idea that the local exposure to forced migration is higher for firms headquartered in communities close to tragic refugee incidents. Two mechanisms explain this increased exposure. First, these dramatic incidents are more likely to occur in regions with a

[9] For a small number of firms in our sample, the address retrieved from Orbis was associated with the company since the initial years of our sample, although reports referenced a different address as the main headquarters. We keep these firms in our sample for the baseline analyses, but our results are robust to dropping these companies.

greater presence of undocumented migrants, refugees, and asylum seekers. Table 1 presents some suggestive country-level evidence for this claim. For all specifications in Table 1, the dependent variable is either the proportion (models 1 and 2) or the number (models 3 and 4) of firms in a given country-year whose hedquarters are located close to a refugee incident—i.e., within 100 kilometers of the event. The main independent variable is the logged number of refugees in a given country-year. Models 2 and 4 also control for the logged number of citizenships acquired by foreigners, which may proxy for conditions rendering a country more or less welcoming to migrants, as well as the logged number of firms in the sample based in that country-year. All models in Table 1 include country and year fixed effects, and standard errors are always clustered at the country level.[10]

********** Insert Table 1 About Here **********

As seen in Table 1, there is a consistent positive correlation between the proportion or number of firms headquartered close to migration-related incidents and the size of the refugee population in the same country, even after controlling for the number of firms observed in each country-year. These correlations thus suggest that the tragic incidents in our database may potentially proxy for the local presence of refugees and asylum seekers. Consequently, communities surrounding the incidents, like the firms headquartered in these communities, should be subject to a higher local exposure to migration-related issues (Gupta & Briscoe, 2020; Hager & Valasek, 2020).

Secondly, tragic incidents involving refugees also tend to attract media attention and raise local public awareness about forced migration and its challenges. In particular, this is true for our database, since most incidents described in the Migrants' Files data are linked to specific news

[10] Models 3 and 4 use Poisson specifications, as the dependent variable is a count.

outlets where these events were originally reported or documented. Thus, we argue that community stakeholders residing closer to tragic refugee incidents should be exposed to an amplified media coverage of the perils of forced migration, thereby increasing their exposure to this social challenge.

Therefore, bearing in mind the two mechanisms described above— local presence of refugees and media coverage of forced migration—we maintain that the local exposure to this social issue should be elevated in regions surrounding the tragic refugee incidents, vis-à-vis other regions. We thus expect firms located close to these tragic incidents to change their CSR policy portfolios, relative to firms headquartered elsewhere. Lastly, note that while our empirical approach uses a source of variation in the exposure to forced migration that does not depend directly on firms' choices, we are conservative and ultimately avoid making any strong causal claims while interpreting our empirical results.

Variable Definitions

Two main dependent variables are used in our analyses, and both use our classification of financial materiality described above. *Low-Materiality Policies* counts the number of social CSR policies (adopted by a firm) that belong to dimensions classified as less material to the firm's industry. *High-Materiality Policies* is defined in an analogous fashion, but considering policies that belong to dimensions classified as highly financially material to the firm's industry. Therefore, in line with our theory, the classification of high- and low-materiality policies reflects the financial materiality of the social dimensions on which these policies focus.

As a basis for our independent variables, we define as *more exposed* companies whose headquarters are located within 100 kilometers of a tragic refugee incident. At baseline, we use 100 kilometers as the threshold for our definition of more exposed firms essentially because this

radius is just large enough to encompass the largest European metro areas[11]—while metro areas and urban regions have often being used to empirically delineate communities in previous works (e.g., Greve & Yue, 2017; Marquis et al., 2007). However, in supporting analyses, we show that our results are also obtained if alternative distances (both larger and smaller than 100 kilometers) are used. Given this exposure definition, our main independent variables of interest are the *relative-time dummies*, which indicate observations that are equally distant from the year in which exposure increases. That is, we define a series of dummy variables $D_{i,t}^{j}$ for $j = \cdots, -1, 0, 1, \ldots$, which equal one if the observation is j years from the year in which an increase in exposure was observed (and equal zero, otherwise). For example, $D_{i,t}^{2}$ equals one if and only if an observation occurs two years *after* the increase in exposure, while $D_{i,t}^{-3}$ indicates observations that *precede* this same period by three years. More details on these relative-time dummies are provided when we explain our event-study methodology below. Lastly, we drop from our sample all firms that are associated with high exposure in the initial period—i.e., in the first time they show up in our sample (e.g., Baker, Larcker, and Wang, 2021).

Furthermore, to reduce the influence of observable traits that may correlate with firms' policy adoption, we add four control variables to our specifications. Accordingly, *ROA* is calculated as operating income divided by total assets, and addresses concerns that more profitable companies may be more willing to react to social challenges (Durand et al., 2019). Similarly, *Assets*, calculated as the natural logarithm of the book value of assets, controls for size, another characteristic that may explain firms' willingness to react. In addition, prior work has shown that corporate socio-environmental action can be influenced by intangibles (e.g.,

[11] For example, the Berlin-Brandenburg metro area occupies a total area approximately equivalent to a 99-kilometers radius.

Hawn & Ioannou, 2016; Surroca, Tribó, & Waddock, 2010). Thus, we add *R&D Intensity* (calculated as the ratio of R&D expenses to the book value of assets) and *Advertising Intensity* (calculated as the ratio of selling, general, and administrative expenses to the book value of assets) as additional control variables. It is worth noting that Worldscope's data on R&D, and selling, general, and administrative expenses has many missing entries. Thus, we follow prior work (e.g., Hawn & Ioannou, 2016; Nardi et al., 2022) and code these observations to zero.[12]

Lastly, for use in extension analyses, we define, first, *Social Performance*, a variable calculated as the average between the ASSET4 social scores across four social dimensions (workforce, community, human rights, and product responsibility). This variable is used as a (clearly imperfect) proxy for stakeholder orientation (e.g., Bettinazzi & Zollo, 2017; Hillman & Keim, 2001). Other four additional dependent variables are also used in extension analyses. Each of these variables represents the total sum of *low-materiality* policies in one of four stakeholder-related social-environmental dimensions: employees, community/human rights, product responsibility, and environment.

Methodology and Estimation Approach

While we are careful and do not claim causality in our findings, we follow the prescriptions and best practices in the difference-in-differences (DiD) literature as closely as possible. Considering this literature, our empirical design relies on a staggered "treatment" (e.g., Cunningham, 2021), with a high likelihood of heterogeneity over time, possibly stemming from at least two different sources. First, over time, firms may become more prone to respond to migration issues by adopting social policies. This dynamic behavior may result from several distinct factors, including a growing support from investors and financial markets (Ioannou & Serafeim, 2014),

[12] Our results are robust if we add dummy variables indicating the missing observations (e.g., Hawn & Ioannou, 2016).

as well as stakeholders' improved capacity and willingness to monitor and exert pressure on firms (Durand et al., 2019; Kassinis & Vafeas, 2006; Nardi, 2022). Second, in Europe, forced migration has become more salient over the years (Dragostinova, 2016).

According to a prominent econometric literature, treatment effect heterogeneity over time can be a serious problem for traditional designs, such as two-way fixed effects (Baker et al., 2021; Sun & Abraham, 2020), likely leading to biased and even wrong-signed estimates (Baker et al., 2021). To address these concerns, we follow recent prescriptions in this literature (e.g., Baker et al., 2021) and use an event study design to accomodate "treatment" effect dynamics, leveraging the fact that our sample contains many never-treated firms. A recently proposed alternative estimator—namely, Sun and Abraham (2020)'s— is also used as a robustness check.

At baseline, we estimate specifications with conditional expectations of the form:

$$E\left[y_{i,t}\middle|X_{i,t},\gamma_i,\lambda_t,\nu_{n,t}\right] = exp\left(\sum_j \beta_j D_{i,t}^j + \theta X_{i,t} + \delta_i + \tau_t + \nu_{n,t}\right), \quad (3)$$

where exp denotes the exponential function, i indexes firms, t indexes time (with j indexing relative times), and n indexes industries. In Equation (3), $y_{i,t}$ is the outcome variable of interest (i.e., one of our two dependent variables); $D_{i,t}^j$ denotes the relative-time dummies (described above), while $X_{i,t}$ represents our control variables. The relative-time dummies are binned up at $t + 10$ and $t - 6$. Since we have a lower number of later-"treated" (relative to early-"treated") firms, we improve balance in our event study by choosing bin sizes that approximate the number of firms in each of the extreme bins (e.g., Cunningham, 2021). Thus, $D_{i,t}^{10}$ indicates observations occurred *ten years or more after* the "treatment" year—that is, the year in which exposure to forced migration increased—while $D_{i,t}^{-6}$ indicates observations occurred *six years or more before* this period. Following Baker et al. (2021), we also include all other relative-time dummies $D_{i,t}^{-5}, D_{i,t}^{-4}, \ldots, D_{i,t}^{9}$ in the regressions, *except* for $D_{i,t}^{-1}$ which is used as the base level.

The last three terms in Equation (3), above, represent different layers of fixed effects. Firm (δ_i) and year (τ_t) fixed effects are added to address concerns with time-invariant firm-specific unobservable confounders. In addition, as SASB's classification of financial materiality is defined at the industry level and fixed over time, we also add *industry-year* fixed effects (represented by $\nu_{n,t}$) to all our specifications. This approach addresses concerns with unobservable time-varying conditions potentially affecting firms that belong to a same industry. For instance, by construction, firms in a same industry will be associated with the same set of high- and low-materiality dimensions. Hence, industry-level dynamics altering the incentives to invest in specific dimensions could systematically influence firms' choices between these types of policies, potentially confounding the changes in CSR portfolios that we intend to estimate. Therefore, industry-year fixed effects are included to increase the reliability of our estimates.

Lastly, since our dependent variables are counts, we estimate the conditional expectations described in Equation (3) using Poisson pseudo maximum likelihood (Correia, Guimarães, & Zylkin, 2020; Wooldridge, 2002). The consistency of these estimators, particularly if applied to count dependent variables, is well-established in the literature (e.g., Aghion, Van Reenen, & Zingales, 2013; Wooldridge, 1999). Furthermore, we cluster standard errors at the firm level, as it corresponds to the level at which "treatment" occurs (Abadie, Athey, Imbens, & Wooldridge, 2022). We present our main results in both tables and plots, while the other results are shown in event-study plots only. Table 2 presents descriptive statistics for our sample.

********** Insert Table 2 About Here **********

RESULTS

Main results

Our main results are presented in Table 3 and plotted in Figure 2. Models 1 and 2 in Table 3, and Panel A in Figure 2, present the main regressions without control variables, while Models 3 and 4 (Table 3) and Panel B (Figure 2) include controls in the regressions. All these specifications point to the same direction: following a tragic refugee incident, more exposed firms are associated with an increased adoption of low-materiality CSR policies and a progressively reduced adoption of high-materiality policies, relative to firms in the comparison group.

********** Insert Table 3 About Here **********

More specifically, according to Model 3 (Table 3), on average, the adoption of low-materiality CSR policies by more exposed firms is 15% higher, following an incident, which corresponds to approximately 0.19 standard deviations. This higher level of policy adoption is sustained thereafter, remaining statistically signficant over several years (see continuous line on Figure 2). In contrast, these firms are also associated with a progressively lower adoption of high-materiality policies, represented by the dashed line in Figure 2. These reductions eventually become statistically significant and remain so thereafter. Importantly, as seen in both panels of Figure 2, *prior* to the incidents, more and less exposed firms did not seem to differ significantly in respect to policy adoption. However, *after* the incidents, a markedly different pattern emerges and the difference between adoption of the two policy types—represented by the gap between the continuous and dashed lines—increases progressively.

********** Insert Figure 2 About Here **********

While results in Table 3 and Figure 2 are in line with our main hypothesis, a more recent literature on DiD has emphasized the importance of falsification and placebo tests, which may provide supporting evidence for findings emerging from DiD designs (e.g., Cunningham, 2021). In our context, two sets of tests should be discussed. First, as mentioned above, we used 100

kilometers as a baseline radius for defining “treated” or more exposed regions, essentially because this distance is just large enough to encompass the largest metro areas in Europe. But if comparisons among regions indeed drive our effects, we should continue to obtain our results if alternative treatment definitions are used instead. Figure 3 shows that this is indeed the case.

********** Insert Figure 3 About Here **********

In Panel A (Figure 3), firms are considered more exposed if they are headquartered in the region comprising a 110-kilometers radius of a tragic refugee incident. Panel B, in turn, uses a 90-kilometers radius. As seen in both plots, the results are very similar to those presented in Figure 2. Furthermore, in untabulated specifications, we tested various other thresholds and obtained similar results.

In addition to the results in Figure 3, we also conducted a series of placebo tests. Accordingly, we excluded from our sample firms in regions that originally saw higher exposure––that is, firms headquartered within 100 km of a tragic refugee incident. We then coded as more exposed firms located in the vicinity of those regions. If our results are indeed driven by a firm’s position vis-à-vis the incidents, then the exclusion of the closest companies (i.e., those within 100 km) should prevent us from finding effects similar to those reported in Figures 2 and 3. Figure 4 presents two examples of such tests.

********** Insert Figure 4 About Here **********

In Panel A (Figure 4), we consider as more exposed any regions located within more than 100 and less than 300 km from the refugee incidents. As shown in this graph, firms located in these regions do not behave differently from firms located elsewhere. In particular, adoption of high- and low-materiality policies is also fairly similar across firms. Analogously, Panel B (Figure 4) shows another example of placebo test, where firms are more exposed if their

headquarters are located more than 400 kilometers and less than 800 kilometers from a tragic refugee incident. It is clear that no response patterns are detected in Panel B; and we obtain very similar results if alternative distances for placebo exposure definitions are used.

Therefore, these supporting tests suggest that our results are indeed primarily explained by firms' headquarters being located in regions where tragic refugee incidents occur. These tests thus increase our confidence in the exposure definition used in the paper and further support our main results. All in all, we conclude that our main hypothesis is supported by the data: higher local exposure to forced migration (proxied by the occurence of tragic refugee incidents) is, on average, associated with CSR portfolios increasingly focused on low-materiality policies, in line with the intensified signaling behavior predicted by our theoretical framework.

Auxiliary Analysis: Social Performance as a Proxy for Stakeholder Orientation

Our results discussed in the previous section support the main hypothesis derived from our theoretical framework. But while this hypothesis considers average effects given a distribution of high- and low-stakeholder orientation firms (as stakeholder orientation is ultimately unobserved by audiences external to the firm), the prediction follows from a separating equilibrium where only high types—that is, truly stakeholder-oriented firms—have relevant incentives to engage in signaling behavior (for more details, see Lemma 2). In this section, we provide suggestive evidence that this separating behavior is also consistent with our data.

As indicated above, we use social performance as a proxy for stakeholder orientation. To mitigate endogeneity concerns, we fix each firm's social performance at the level of its initial observation—that is, the first year in which the firm appears in our sample. We then compare firms in the top quartile of (pre-exposure) social performance (higher social performance

companies) with those in the bottom quartile (lower social performance companies). Figure 5 presents our results.

********** Insert Figure 5 About Here **********

According to Figure 5, our main results are primarily driven by firms in the upper quartile of social performance (Panel A)—our proxy for stakeholder-oriented companies. In fact, firms in the bottom quartile of the distribution do not seem to change their CSR policies: in Panel B, both lines (representing high- and low-materiality CSR policies) follow very similar paths before and after the tragic migrant incidents. Additionally, in Panel B, we also fail to observe any differences across policy types, after the incidents, for the group of lower social performance companies. Therefore, we conclude that the separating behavior predicted by our theoretical framework (and described in Lemma 2) is also consistent with our data: signaling behavior is observed only among top social performers who tend to exhibit higher degrees of stakeholder orientation (Bettinazzi & Zollo, 2017). This result further supports our theory.

Auxiliary Analysis: The 2015 European Refugee Crisis and Responses Across Stakeholder Groups

In this section, we provide further evidence consistent with the claim that the adjustments in CSR portfolios observed in our results are driven by firms' stakeholder orientation, as well as their local exposure to forced migration. To this end, we examine the case of the 2015 European refugee crisis, when an estimated 1.3 million refugees and migrants arrived in Europe to request asylum. In essence, we argue that the mechanisms inducing firms to potentially react to forced migration should also be at work during the 2015 refugee crisis. Thus, firms' responses to this specific crisis should have similarities with the changes in CSR portfolios we documented above. In particular, we expect strong similarities in terms of the social dimensions in which these

responses predominantly focus, as firms may, in both cases, choose policies that address the interests of similar groups of stakeholders. This is also consistent with our theory, which predicts that stakeholder engagement is a critical reason why firms invest in low-materiality CSR. In other words, our premise in this section is as follows: if firms' reactions to forced migration address stakeholders' interests, then the higher adoption of low-materiality policies found in our results should focus on groups of stakeholders similar to those addressed by companies in the context of the 2015 refugee crisis.

To explore these ideas, we first interviewed a handful of European CSR managers. Our conversations with these managers revealed that firms tended to respond to the refugee crisis by first boosting their investments in philantropy and community-oriented areas, and then shifting their attention to employee- and employment-related policies. For example, a CSR manager from a major French hotel corporation described his company's immediate response to the refugee crisis as being largely descentralized and based on actions focused on external (non-customers) stakeholders—including the provision of temporary accommodation for refugees and their families, and donations to social organizations that helped refugees. These actions were nonetheless discontinued once the crisis subsided. However, still according to the manager, in the years following the crisis, the company has sought to adopt (and sustain) policies aimed at facilitating the employment of refugees and their families, and increasing the presence of migrants in the workforce.

In the next step, we gathered (similarly flavored) anecdotal evidence from the Business & Human Rights Resource Centre, a nonprofit activist organization whose primary objective is to advance human rights in business.[13] In 2015/2016, the organization surveyed European

[13] For more details, see: https://www.business-humanrights.org/en/about-us/. Last access on December 10th, 2021.

companies about their responses to the refugee crisis. Among the replies posted in the organization's website, it is clear that most corporations responded to the crisis by undertaking policies primarily focused on either employees, communities, or human rights. For example, Deutsche Telekom, the largest European company in its industry, claimed that its responses to the crisis were based on policies such as "helping provide refugee shelters with WiFi", "supporting employees in their volunteer efforts for refugees", and "providing intern positions for refugees." [14] Similarly, European electric utility giant E.ON highlighted that it was "making a direct contribution by providing some administrative buildings in Germany for the accommodation of refugees", and "in talks with the authorities about the conditions under which refugees [could] be integrated for work or education." [15]

We then proceed to compare these qualitative insights with the patterns found in our data. In short, this qualitative evidence is in line with firms' responses focused on employees and external, non-customer stakeholders. Responses focused on customers, on the other hand, would be less consistent with the qualitative evidence discussed above. In addition, the evidence we gathered also suggests that firms' responses should not include environmental policies. To contrast these findings with our main results, Figure 6 (below) splits the low-materiality social policies—which were higher, following exposure to the tragic refugee incidents—into three broad stakeholder dimensions: employees (Panel A); external, non-customers stakeholders (Panel B); and customers (Panel C). Figure 6 also considers low-materiality policies in environmental dimensions (Panel D).

********** Insert Figure 6 About Here **********

[14] For more details, see: https://www.business-humanrights.org/en/latest-news/deutsche-telekom-response-2/ . Last access on December 10th, 2021.
[15] For more details, see: https://www.business-humanrights.org/en/latest-news/eon-response-2/. Last access on December 10th, 2021.

Panel A (Figure 6) shows a sustained higher adoption of employee-related policies with lower financial materiality, following a tragic refugee incident. Panel B also shows an increased adoption of policies focused on external (non-customers) stakeholders; however, this response is short-lived: it increases immediately after the incidents but loses statistical significance three years after, while point estimates regress to zero later on. On the other hand, Panel C shows no significant changes in policies focused on customers. Similarly, Panel D rules out changes focused on environmental dimensions.

These results suggest that an increase in the salience of migration-related issues is associated with firms' higher adoption of more philantropic, community-oriented social actions. Yet, over time, these policies seem to be progressively phased out, while changes in employee-oriented actions emerge and are sustained in the longer term. Interestingly, these patterns very closely match our qualitative evidence on corporate responses to the 2015 refugee crisis. Therefore, the analyses in this section suggest that the changes in CSR portfolios shown in our results are largely consistent with firms' typical responses to forced-migration issues. Additionally, consistent with our theory, our finding suggests that stakeholders' interests and preferences are relevant in determining which low-materiality policies firms may potentially use to respond to the social issue.

Robustness Checks

The robustness of our results was tested in several alternative ways. First, the local presence of migrants may be strongly favored by country-level characteristics—such as policies to support and integrate them into the labor market, cultural aspects that facilitate their acceptance, and many more (Dragostinova, 2016; UNHCR, 2020). Thus, it is arguably possible that our results follow from between-country differences in CSR policy adoption, rather than from contrasting

more and less exposed regions (which naturally involves both between- and within-country comparisons). To ensure that these country-level characteristics do not explain our results, we repeat our main regressions adding two control variables that proxy for the overall presence of migrants at the country level: *Refugee Population* and *Acquired Citizenships* (both defined above and used in the tests reported in Table 1). Figure 7, below, shows that our main results are unchanged after these two control variables are added.

********** Insert Figure 7 About Here **********

` We also addressed concerns with a potential alternative story arguably consistent with our findings. According to Figure 6, companies' CSR portfolio adjustments following the tragic refugee incidents were strongly driven by an increase in employee-related policies. Hence, it is possible that our results are driven by firms increasingly adopting employee-related CSR practices, rather than substituting low- for high-materiality policies, after exposure to forced migration increases. We argue, though, that in this case we would also expect to detect higher overall probabilities of adoption of employee-related CSR policies among more exposed firms. Figure 8 evaluates this hypothesis using a linear probability model.

********** Insert Figure 8 About Here **********

According to Figure 8, exposure to the refugee incidents was not associated with significant changes in the overall probability of adopting employee-related CSR policies. In other words, more and less exposed firms were just as likely to engage in employee-related CSR before and after the refugee incidents. This finding gives us confidence that the adjustments in CSR portfolios suggested by our main results are not driven by a broad shift toward employee-related CSR engagement; rather, the substitution between low- and high-materiality policies is what seems to characterize these adjustments.

Another source of concern with our results relates to the recently emerged literature on DiD, which has scrutinized regular event-study designs in settings with staggered treatment like ours (e.g., Baker et al., 2020; Sun & Abraham, 2020). First, while the main issue raised in this literature—namely, that early-"treated" units are inadvertently used as comparison units—is less likely to affect our results, as we have a reasonable number of never-"treated" firms in our sample (Baker et al., 2020), we still provide some evidence to rule out any relevant concerns. To that end, we leverage Sun and Abraham (2020)'s estimator using never-exposed firms as the comparison group. Because this estimator uses OLS regression, we create an alternative dependent variable defined as the difference between low-materiality policies and high-materiality policies. Thus, this new dependent variable increases when firms substitute low-materiality policies for high-materiality actions, and decreases otherwise. Our results are presented in Figure 9.

********** Insert Figure 9 About Here **********

As seen in Figure 9, our results are robust to using Sun and Abraham (2020)'s estimator: the difference between low- and high-materiality policies increases for more exposed, vis-à-vis never-exposed comparison firms, following the refugee incidents. Lastly, in additional analyses, we also used Mahalanobis matching to obtain a comparison group of never-exposed firms highly comparable to our more exposed units in respect to several covariates—including all our control variables. Using this matched sample in our original event-study design, we show (in untabulated results) that our conclusions are unchanged.

DISCUSSION AND CONCLUDING REMARKS

This paper studies how exposure to a social issue may shape a firm's CSR portolio composition. We propose a signaling framework whereby stakeholder-oriented firms can use CSR policies

with low materiality to signal their own types to community-based stakeholders. Applying this framework to the context of forced migration to Europe, we derive a hypothesis predicting that an increase in the local exposure to forced migration may be associated with heightened incentives for signaling: on average, it should be correlated with firms increased willingness to shift their CSR portfolios toward low-materiality policies. Our empirical approach to test this prediction leverages firms' presence in regions where tragic refugee incidents occur as a source of within-country variation to the exposure to forced migration. In an event study design, we find that, following a refugee incident, firms headquarted closer to the incident are progressively associated with increased adoption of policies with lower financial materiality and reduced adoption of more material actions, vis-à-vis firms located elsewhere. Furthermore, using social performance as a proxy for stakeholder orientation, we also show that our results are consistent with the nuanced equilibrium patterns implied by our theoretical framework.

Taken together, our results connect research on corporate responses to social issues (e.g., Briscoe et al., 2015; Durand et al., 2019; King & McDonnell, 2015; McDonnell, 2016; McDonnell et al., 2021) with the strategic CSR literature (e.g., Flammer, 2013; Hawn & Ioannou, 2016; McWilliams & Siegel, 2011; Nardi et al., 2022; Zhang et al., 2020). Accordingly, while studies tend to highlight firms' adoption of specific CSR policies directly linked to a given social issue, which are primarily focused on reputational concerns (e.g., Briscoe et al., 2015; Odziemkowska, 2022) and often target dimensions with high financial materiality to firms (e.g., Ballesteros & Gatignon, 2019; Durand et al., 2019; Reid & Toffel, 2009; Wright & Nyberg, 2017), we show that exposure to a social issue—forced migration—may be associated with comprehensive adjustments in a firm's entire portfolio of CSR policies, potentially shifting its composition towards social actions with lower financial materiality.

Hence, our work also adds to the burgeoning literature on financial materiality and its impacts on corporate social action (e.g., Eccles & Serafeim, 2013; Grewal et al., 2016; Khan et al., 2016). Whereas prior studies have essentially framed financial materiality as a benchmark for selecting social policies with a higher impact on financial performance (e.g., Chen et al., 2020; Khan et al., 2016), or argued that the existence of financially material dimensions may constrain firms' sets of valuable CSR investment opportunities (Nardi et al., 2022), our paper suggests that firms may strategically reduce investments in financially material policies and leverage, instead, low-materiality actions, as a way of signaling their higher stakeholder orientation to community stakeholders. Thus, our findings add key nuances to the concept of financial materiality and broaden its applicability in management, strategy, finance, and related fields.

Our paper also has implications for the literature studying CSR as a signaling mechanism (e.g., Burbano, 2021; Cheng et al., 2014; Clark et al., 2021; Rusinova & Wernicke, 2016). We propose a theoretical framework that, albeit simple, formalizes how CSR policies with distinct degrees of financial materiality can be selected for signaling purposes, especially targeting community stakeholders. Also important, we suggest and find support for the idea that firms' willingness to engage in CSR-based signaling behavior can be exacerbated by their exposure to social issues—particularly, issues that affect their communities. Nevertheless, future studies could extend and complement our work by investigating whether this association also generalizes to other social issues that impact local communities, as our theory suggests.

Furthermore, while forced migration is undeniably a grand societal challenge of our time, management and strategy research has only recently begun to address its impact on firm-level decision making (e.g., Guo et al., 2020; Mittermaier et al., 2021b; Naccache & Ariss, 2018; Santangelo, Rocha, & Sofka, 2021). Our study contributes to this stream of research by showing

how forced migration may have implications for the way in which firms assemble their CSR portfolios. Additionally, according to our results, firms do not increase their adoption of environmental policies following the refugee incidents, thereby suggesting that firms and their stakeholders may not relate the migration crisis to a climate crisis. At the same time, empirical works indicate that climate issues are—and should continue to be, in the mid- to long-term—an increasingly important driver of forced migration (e.g., Dell, Jones, & Olken, 2014). Thus, future research could also build on our analyses to investigate whether these perceptions will change over time—e.g., whether firms will also respond to issues related to forced migration by investing in environmental policies.

This paper also speaks to management practice. In essence, we show how socially responsible firms can leverage their CSR portfolios as signaling tools to attract community stakeholders who may critically improve their long-term capacity to create value. Moreover, our results also have implications for policy makers, activists, civil society organizations, and other social actors engaged in pushing firms to more seriously contribute to the fight against climate change, social inequalities, and other pressing societal problems (e.g., Barney & Rangan, 2019; George, Howard-Grenville, Joshi, & Tihanyi., 2016). Accordingly, our findings suggest that bringing these social challenges closer to companies' own realities and day-to-day lives may be an effective way to push them to action.

Of course, our study is not without limitations. Naturally, our sample is restricted to the large European corporations whose CSR policies are covered by Refinitv/ASSET4. These companies are not representative of the average company found in Europe, meaning that readers should be cautious in generalizing our results to other contexts, particularly those involving small or medium enterprises. At the same time, future studies could extend our analyses by

investigating whether smaller businesses and startups react similarly to social challenges such as forced migration. Another limitation of our study, which generally applies to most (if not all) studies in the CSR literature is that the costs of CSR policies are unobservable to us. This lack of cost data limits our ability to propose a richer model of how companies choose between more and less financially material CSR policies.

In addition, future studies could also extend our analyses by exploring further the dynamics in the adoption of low- and high-materiality social policies. We cannot, unfortunately, unveil the precise micro-level mechanisms driving the CSR portfolio adjustments we observe empirically. One possible mechanism, for example, is that employee-related policies may be harder to reverse, as employee scrutiny may be very salient to firms. Future research could, therefore, investigate this and other potential mechanisms in more detail. Lastly, another direction for future research suggested by our paper would be to uncover other micro-behavioral mechanisms underlying our findings. For example, future studies could, perhaps using lab experimental approaches, shed light on whether prosocial orientation of a company's top managers matter for the responses we documented. All in all, we hope that some of the research avenues opened by our work will be fruitfully explored in the near future.

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Figure 1. Tragic Refugee Incidents and Corporate Headquarter Locations (2002 – 2015)

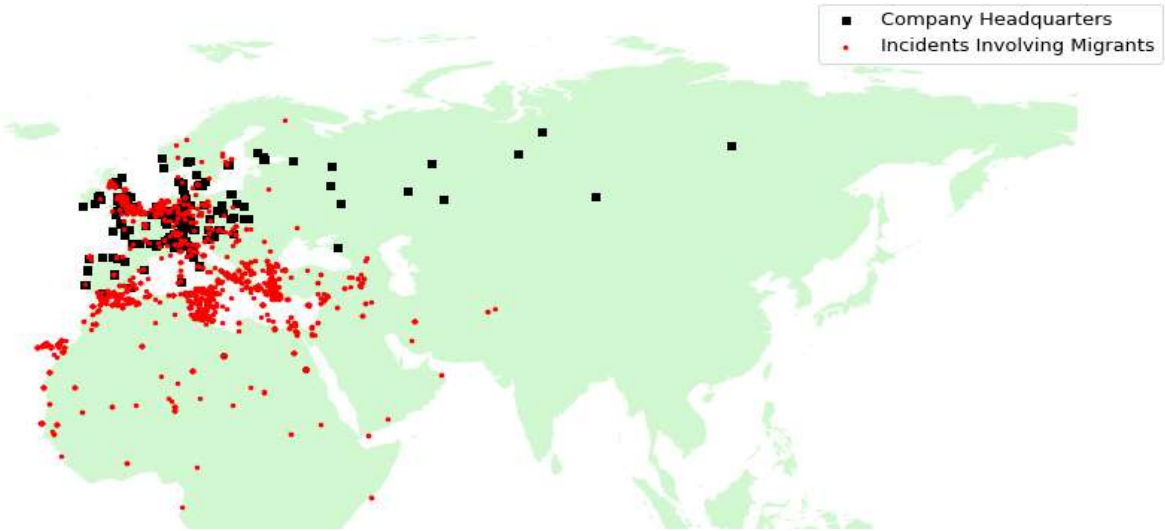


Table 1. Country-Level Correlation Between Refugee Population and Proportion/Number of Firms Located Close to Refugee Incidents

DV:	(1) **Proportion of Firms Close to an Incident**	(2) **Proportion of Firms Close to an Incident**	(3) **Number of Firms Close to an Incident**	(4) **Number of Firms Close to an Incident**
Refugee Population (log)	0.055* (0.023)	0.056* (0.024)	0.158** (0.059)	0.185** (0.061)
Citizenships Acquired (log)		-0.009 (0.029)		0.038 (0.114)
Number of Firms (log)		-0.034 (0.047)		0.843** (0.272)
Year fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Number of observations	264	264	218	218

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Models 1 and 2: OLS. Models 3 and 4: Poisson. Standard errors (in parentheses) clustered at the country level. A firm is close to a migrant incident if its headquarter is located within 100 km of that incident. The constant is omitted.

Table 2: Descriptive Statistics

Variables	Min.	Max.	Mean	St.Dev.	N.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
[1] Low-Materiality Policies	0.00	24.00	6.23	4.94	3,688	1.00										
[2] High-Materiality Policies	0.00	29.00	5.85	4.83	3,688	0.34	1.00									
[3] ROA	-0.13	0.34	0.07	0.08	3,688	-0.06	0.01	1.00								
[4] Assets (log)	12.45	21.03	16.13	1.86	3,688	0.34	0.24	-0.34	1.00							
[5] R&D Intensity	0.00	0.16	0.01	0.03	3,688	-0.01	0.04	0.11	-0.21	1.00						
[6] Advertising Intensity	0.00	0.84	0.12	0.16	3,688	0.03	0.08	0.27	-0.35	0.33	1.00					
[7] Social Performance	0.35	98.5	45.14	24.65	3,686	0.74	0.70	-0.03	0.37	0.02	0.04	1.00				
[8] Low-Materiality Policies - Employees	0.00	14.00	4.22	3.06	3,688	0.87	0.38	-0.02	0.35	0.01	0.02	0.67	1.00			
[9] Low-Materiality Policies - Community/HR	0.00	14.00	1.88	2.63	3,688	0.82	0.16	-0.09	0.21	-0.01	0.05	0.57	0.47	1.00		
[10] Low-Materiality Policies - Prod. Respons.	0.00	5.00	0.11	0.48	3,688	0.14	0.20	0.01	0.08	-0.08	-0.10	0.20	0.06	-0.02	1.00	
[11] Low-Materiality Policies - Environment	0.00	13.00	1.88	2.81	3,688	0.47	0.11	-0.18	0.43	-0.10	-0.12	0.38	0.47	0.34	-0.09	1.00

Table 3. Main Results

DV:	(1) **Low-Materiality Policies**	(2) **High-Materiality Policies**	(3) **Low-Materiality Policies**	(4) **High-Materiality Policies**
t-6 and before	-0.035	0.073	-0.030	0.078
	(0.120)	(0.126)	(0.120)	(0.124)
t-5	-0.033	0.006	-0.028	0.006
	(0.095)	(0.098)	(0.093)	(0.097)
t-4	-0.112	-0.116	-0.106	-0.120
	(0.088)	(0.069)	(0.087)	(0.070)
t-3	-0.045	-0.056	-0.040	-0.059
	(0.063)	(0.065)	(0.063)	(0.067)
t-2	-0.032	-0.078	-0.031	-0.081
	(0.046)	(0.043)	(0.047)	(0.043)
t	0.058	-0.016	0.059	-0.014
	(0.035)	(0.026)	(0.035)	(0.027)
t+1	0.136**	0.038	0.140**	0.040
	(0.044)	(0.047)	(0.044)	(0.047)
t+2	0.146**	-0.008	0.148**	-0.010
	(0.049)	(0.056)	(0.050)	(0.056)
t+3	0.159**	-0.020	0.164**	-0.013
	(0.055)	(0.058)	(0.055)	(0.057)
t+4	0.138*	-0.093	0.145*	-0.082
	(0.059)	(0.060)	(0.060)	(0.060)
t+5	0.155*	-0.113	0.163*	-0.099
	(0.063)	(0.065)	(0.064)	(0.065)
t+6	0.151*	-0.148*	0.161*	-0.132
	(0.067)	(0.070)	(0.068)	(0.071)
t+7	0.144	-0.187*	0.156*	-0.168*
	(0.075)	(0.076)	(0.076)	(0.076)
t+8	0.118	-0.210*	0.128	-0.191*
	(0.079)	(0.083)	(0.080)	(0.083)
t+9	0.124	-0.248**	0.135	-0.227*
	(0.092)	(0.089)	(0.093)	(0.089)
t+10 and after	0.128	-0.328**	0.135	-0.306**
	(0.092)	(0.100)	(0.094)	(0.100)
Control variables	No	No	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry-year f.e.	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Pseudo R-squared	0.47	0.49	0.47	0.49
Number of obs.	3,337	3,283	3,337	3,283
Number of firms	349	347	349	347

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All models: Poisson fixed effects with standard errors (in parentheses) clustered at the firm level. Treatment happens at time t and the base level is set at t-1.

Event Study Plots (All Plots Show 95% Confidence Intervals)

Figure 2. Main Results: Event Study Plots

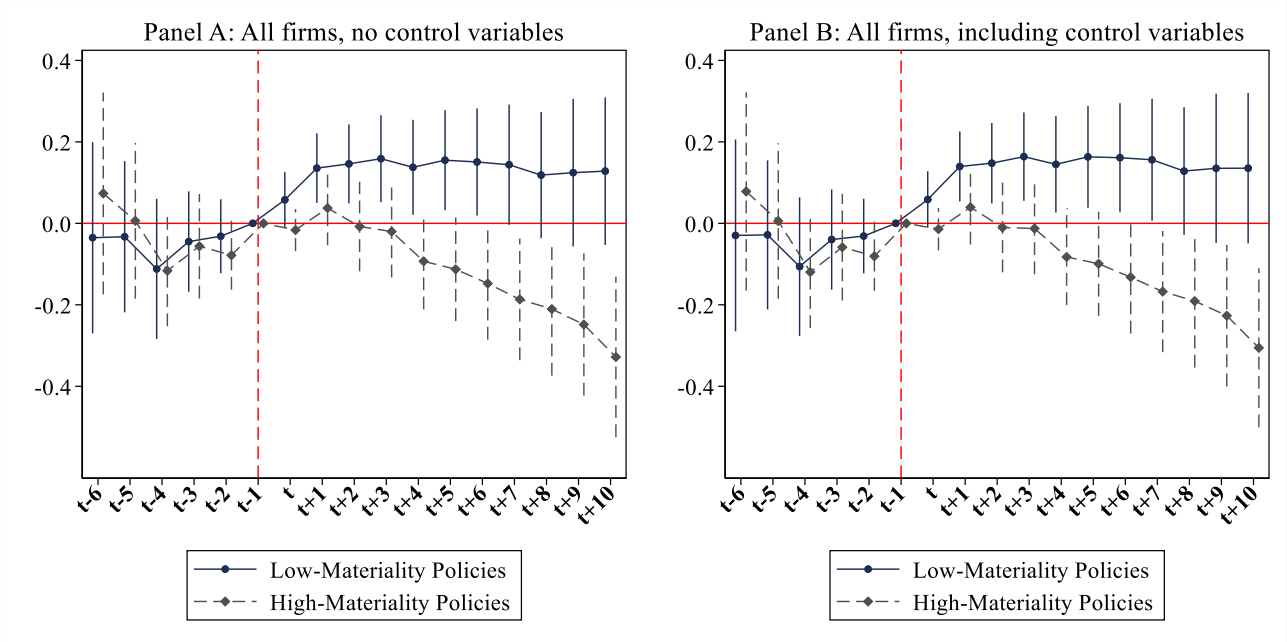


Figure 3. Results: Supporting Analyses – Alternative Treatment Definitions

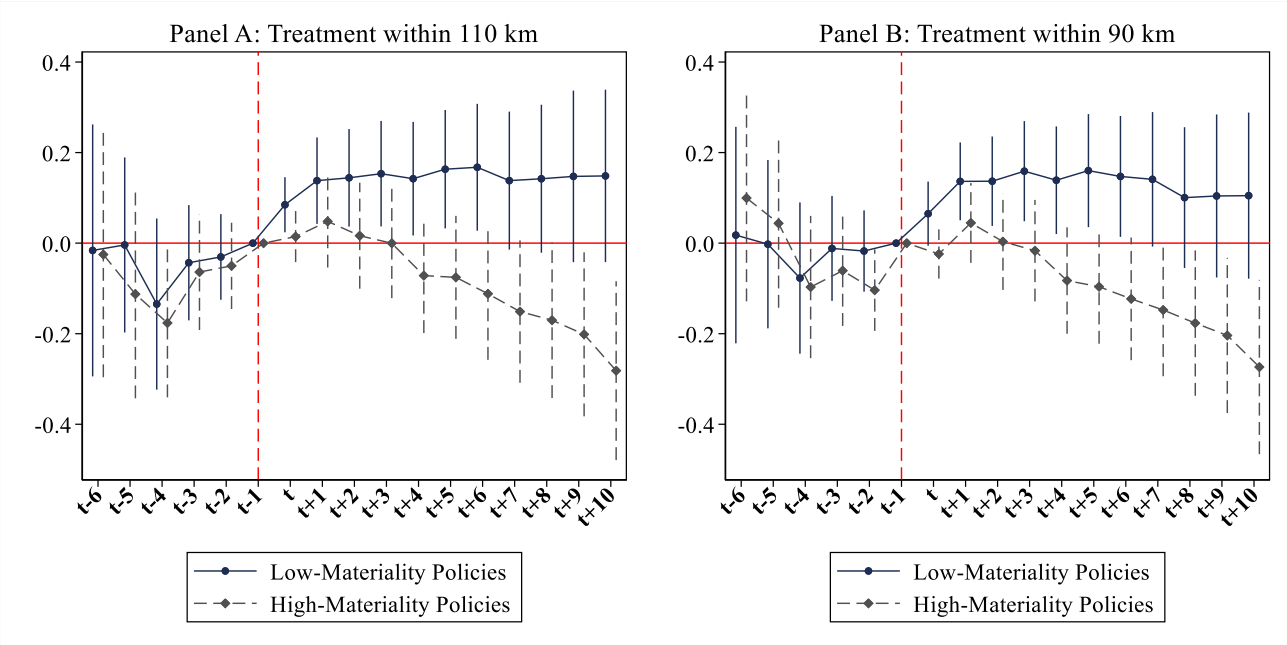


Figure 4. Results: Supporting Analyses – Placebo Tests

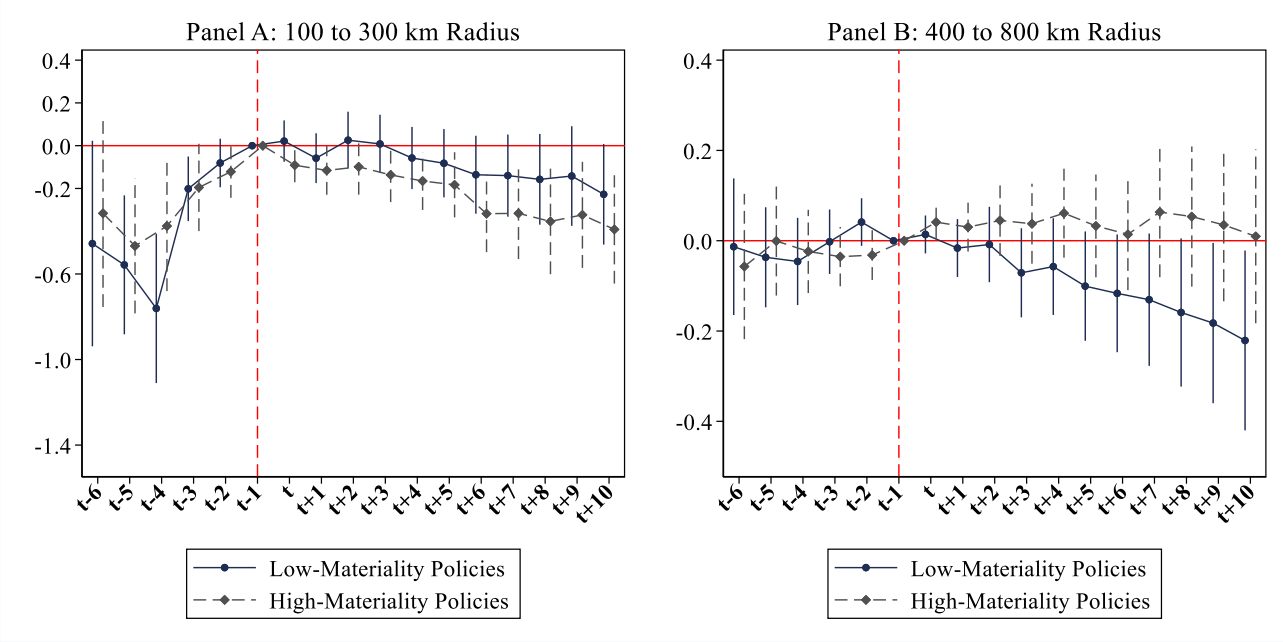


Figure 5. Auxiliary Analysis: Social Performance as a Proxy for Stakeholder Orientation

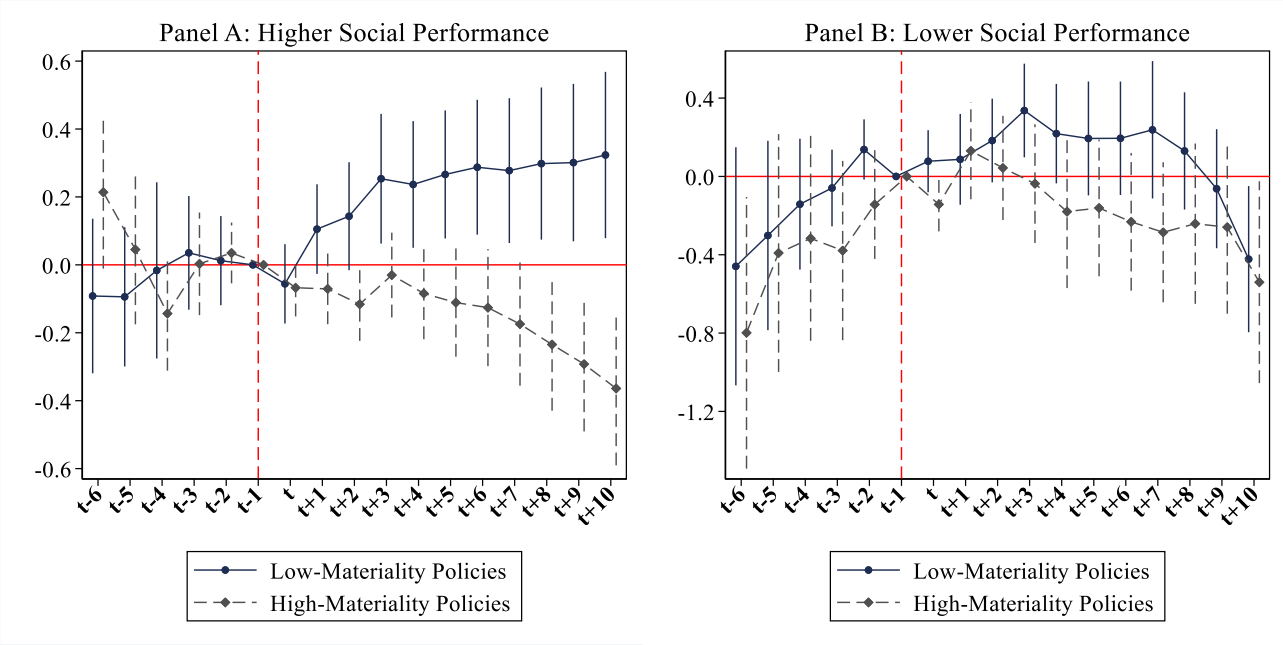


Figure 6. Auxiliary Analysis: The 2015 Refugee Crisis and ChangesF Across Stakeholder-Related Dimensions

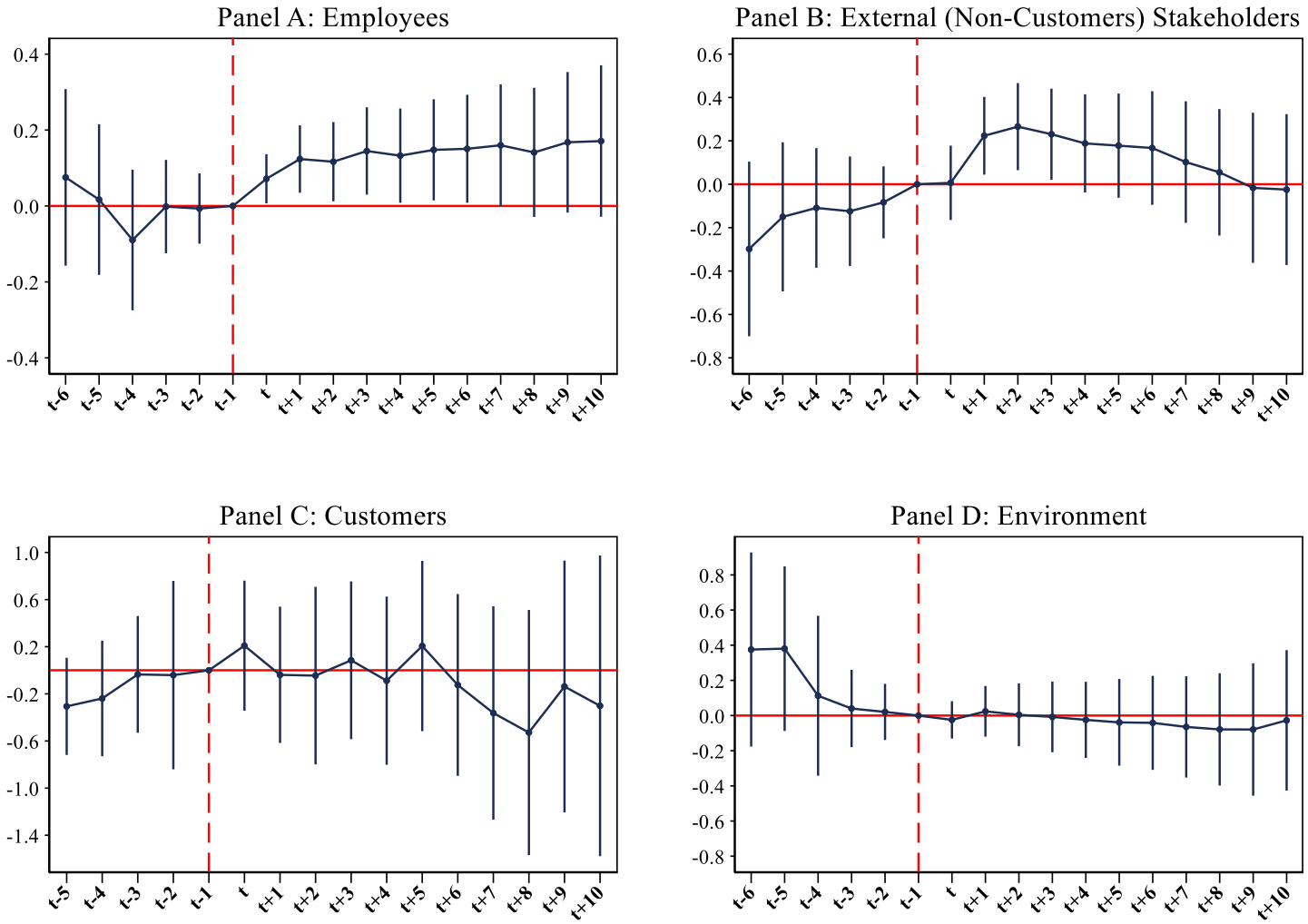


Figure 7. Robustness Check: Country-level controls

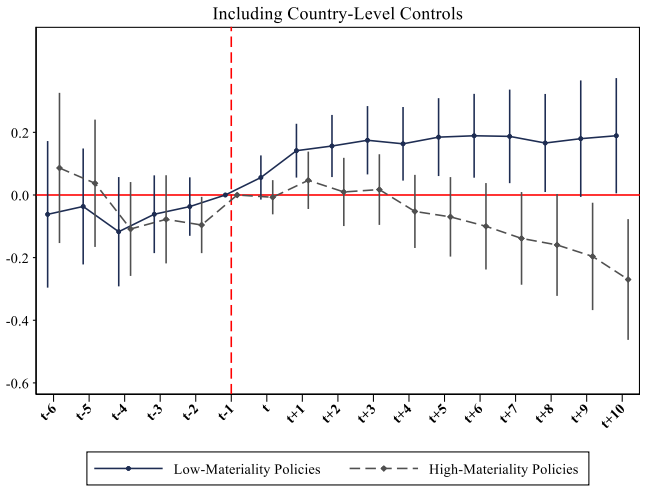


Figure 8. Robustness Check: Employee dimensions

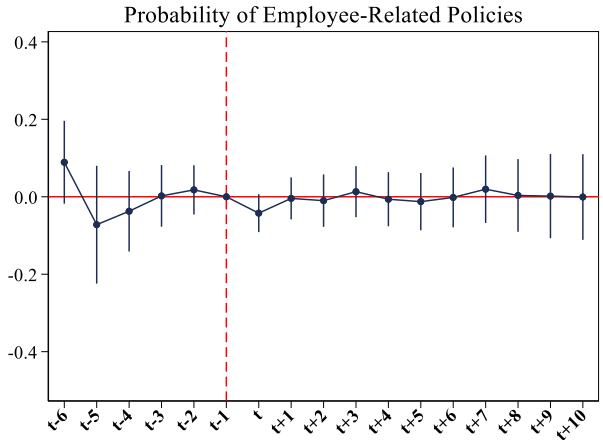
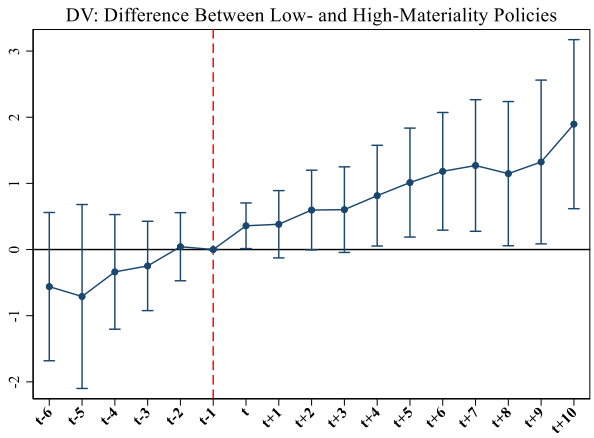


Figure 9. Robustness Check: Sun & Abraham (2020)'s Estimator



Appendix A1

This appendix contains all formal proofs and more technical arguments used in the analysis of our framework. The game unfolds as described in the main text (steps $t = 0$, $t = 1$, and $t = 2$). The following assumption restricts the parameter space and avoids a CSR technology that only accomodates high-materiality policies:

$$\text{Assumption } \mathbf{a1}\text{: } \bar{a}_\iota > \frac{2A}{x\theta_L\theta_H} \qquad (a1)$$

Proof of Lemma 1

Suppose that the community observes θ. Note, first, that the technology constraint holds with equality as profits are increasing in a_F^θ. Then, if $\theta = \theta_L$, the community always chooses zero engagement and the firm solves:

$$\max_{a_F^L, a_N^L} Aa_F^L - a_F^L - a_N^L; \text{ s.t. } a_F^L + a_N^L = \bar{a}_\iota,$$

yielding $a_F^{L*} = \bar{a}_\iota$ and $a_N^{L*} = 0$. On the other hand, if $\theta = \theta_H$, the firm solves:

$$\max_{a_F^H, a_N^H} Aa_F^H + \theta_H x a_F^H a_N^H - a_F^H - a_N^H; \text{ s.t. } a_F^H + a_N^H = \bar{a}_\iota.$$

Regularity conditions ensure an inner solution. The first order condition is:

$$-A + x\theta_H(\bar{a}_\iota - 2a_N^{H*}) = 0, \qquad (a2)$$

and leads to $a_F^{H*} = \frac{\bar{a}_\iota}{2} + \frac{A}{2x\theta_H}$ and $a_N^{H*} = \frac{\bar{a}_\iota}{2} - \frac{A}{2x\theta_H}$.■

Proof of Lemma 2

First, we show that $a_F^{L**} = \bar{a}_\iota$, $a_N^{L**} = 0$ are a best response when $\theta = \theta_L$, given μ^{**}. Suppose in negation that this is not the case. Then there exists a profitable deviation $a_N^{L\#} > 0$ such that $\pi_L\left(a_N^L = a_N^{L\#}\right) > \pi_L(a_N^L = a_N^{L**}) = A\bar{a}_\iota - \bar{a}_\iota$. Given μ^{**}, it must be that $a_N^{L**} \geq a_N^{H**} = \bar{a}_\iota - \frac{A}{x\theta_L}$, as π_L is decreasing in a_N when the community does not engage with the firm. By replacing θ_H with θ_L in Equation (a2), it is also clear that π_L decreases with a_N^L for all $a_N^L > \frac{\bar{a}_\iota}{2} - \frac{A}{2x\theta_L}$. Hence, if $a_N^{L\#} > a_N^{H**} > \frac{\bar{a}_\iota}{2} - \frac{A}{2x\theta_L}$, $a_N^{L\#}$ is not profitable; thus, $a_N^{L\#} = a_N^{H**}$. Next, note that $\pi_L(a_N^L = a_N^{H**}) = A\bar{a}_\iota - \bar{a}_\iota$. Hence, $A\bar{a}_\iota - \bar{a}_\iota = \pi_L(a_N^L = a_N^{L**}) < \pi_L\left(a_N^L = a_N^{L\#}\right) = \pi_L(a_N^L = a_N^{H**}) = A\bar{a}_\iota - \bar{a}_\iota$, a contradiction with $a_N^{L\#}$ being a profitable deviation. Therefore,

$a_N^{L**} = 0$ is a best response when $\theta = \theta_L$. Since profits increase with a_F, it follows that $a_F^{L**} = \bar{a}_\iota$.

Next, we show that $a_F^{H**} = \frac{A}{x\theta_L}$, $a_N^{H**} = \bar{a}_\iota - \frac{A}{x\theta_L}$ are a best response when $\theta = \theta_H$, given μ^{**}.

Similar to above, suppose in negation that there exists a profitable deviation $a_N^{H\#} \neq a_N^{H**}$. From Equation (a2), π_H is decreasing in a_N^H if $a_N^H > a_N^{H*}$. Thus, $a_N^H > a_N^{H**} > a_N^{H*}$, implies that we must have $a_N^{H\#} \leq a_N^{H**}$. Now, suppose that $a_N^{H\#} < a_N^{H**}$. Given μ^{**}, it should be the case that $a_N^{H\#} = 0$, as π_H decreases with a_N^H when the community does not engage with the firm. Therefore, $\pi_H\left(a_N^H = a_N^{H\#} = 0\right) = A\bar{a}_\iota - \bar{a}_\iota > \pi_H(a_N^H = a_N^{H**})$, otherwise $a_N^{H\#}$ cannot be a profitable deviation for the high-type firm. So, we must have: $\pi_H(a_N^H = a_N^{H**}) = A(\bar{a}_\iota - a_N^{H**}) + \theta_H x(\bar{a}_\iota - a_N^{H**})a_N^{H**} - \bar{a}_\iota < A\bar{a}_\iota - \bar{a}_\iota$, which is true if and only if $a_N^{H**} > \bar{a}_\iota - \frac{A}{x\theta_H}$. But then, $a_N^{H**} > \bar{a}_\iota - \frac{A}{x\theta_H} > \bar{a}_\iota - \frac{A}{x\theta_L} = a_N^{H**}$, a contradiction. Therefore, a_N^{H**} and a_F^{H**} are a best response for the high-type firm.

Finally, note that, if the community observes $a_N = a_N^{H**}$ and $a_F = a_F^{H**}$, then, from Bayes' rule:

$$Prob(\theta = \theta_H |\, a_F = a_F^{H**}, a_N = a_N^{H**})$$

$$= \frac{Prob(a_N = a_N^{H**}, a_F = a_F^{H**} | \theta = \theta_H)\, Prob(\theta = \theta_H)}{Prob(a_N = a_N^{H**}, a_F = a_F^{H**} | \theta = \theta_H)\, Prob(\theta = \theta_H) + Prob(a_N = a_N^{H**}, a_F = a_F^{H**} | \theta = \theta_L)\, Prob(\theta = \theta_L)}$$

$$= \frac{1.p}{1.p + 0.(1-p)} = 1 = \mu \text{ if } a_F = a_F^{H**}, a_N = a_N^{H**}.$$

$$Prob(\theta = \theta_H |\, a_F \neq a_F^{H**}, a_N \neq a_N^{H**})$$

$$= \frac{Prob(a_N \neq a_N^{H**}, a_F \neq a_F^{H**} | \theta = \theta_H)\, Prob(\theta = \theta_H)}{Prob(a_N \neq a_N^{H**}, a_F \neq a_F^{H**} | \theta = \theta_H)\, Prob(\theta = \theta_H) + Prob(a_N \neq a_N^{H**}, a_F \neq a_F^{H**} | \theta = \theta_L)\, Prob(\theta = \theta_L)}$$

$$= \frac{0.p}{0.p + 1.(1-p)} = 0 = \mu \text{ if } a_F \neq a_F^{H**}, a_N \neq a_N^{H**}.$$

$Prob(\theta = \theta_L |\, a_F = a_F^{H**}, a_N = a_N^{H**})$ and $Prob(\theta = \theta_L |\, a_F \neq a_F^{H**}, a_N \neq a_N^{H**})$ can be similarly derived.■

Proof of Corollary 1

Follows from comparing a_N^{H**} with a_N^{H*} using Assumption a1.■

Proof of Hypothesis H1

On average, the optimal equilibrium quantities observed are: $\overline{a_F} = p\frac{A}{x\theta_L} + (1-p)\overline{a_\iota}$ and $\overline{a_N} = p\left(\overline{a_\iota} - \frac{A}{x\theta_L}\right)$. Then, taking derivatives:

$$\frac{\partial\overline{a_F}}{\partial x} = \frac{-pA\theta_L}{[x\theta_L]^2} < 0 \text{ and } \frac{\partial\overline{a_N}}{\partial x} = \frac{pA\theta_L}{[x\theta_L]^2} > 0. \blacksquare$$