


Capital Market Scrutiny and Strategic Distinctiveness of the Firm: Evidence from a Natural Experiment

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Several streams of strategy literature emphasize firms' distinctive strategy as being key to sustainable competitive advantage. Using a unique natural experiment setting, we examine how increased scrutiny and pressure from short-sellers affect the strategic distinctiveness of the firm. We find that increasing short-selling pressure reduces the strategic distinctiveness of the firm and that this negative effect is more pronounced for more visible and underperforming firms. Our findings suggest that removing restrictions on short-selling can have an unintended side-effect of reducing the strategic distinctiveness of firms.

Introduction

Strategy researchers have emphasized strategic distinctiveness as being key to sustainable competitive advantage (Chen and Hambrick, 1995; Deephouse, 1999; Zhao *et al.*, 2017). The emphasis on strategic distinctiveness dates back to the early days of strategy literature. The strategic positioning literature, based on industrial organization economics, emphasizes that firms need to occupy unique positions in the industry to outperform their competitors (Porter, 1979, 1996). The resource-based view and dynamic capabilities literature emphasizes the importance of unique resources and capabilities and constant updating of such capabilities as a source of sustainable competitive advantage (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984).

On the other hand, strategy and organization theory researchers have emphasized the importance of strategic conformity for firm performance and survival (Chen and Hambrick, 1995; Finkelstein and Hambrick, 1990). New institutional theory scholars argue that conformity helps firms gain legitimacy and avoid the penalties of de-

viating from existing norms, practices and expectations (DiMaggio and Powell, 1983). Conformity helps firms avoid legitimacy challenges, which diminish firms' ability to acquire resources from potential exchange partners. Firms that conform to existing norms can acquire resources of higher quality on favourable terms because they are considered more trustworthy, reliable and accountable.

Given the validity of both arguments and the significant impact of strategic distinctiveness on firms' performance and survival, scholars have argued that firms need to find optimal levels of distinctiveness, balancing between differentiation and conformity (Deephouse, 1999; Ramaswamy, 1997; Zenger, 2013). Reflecting the importance of the topic, scholars have conducted research to examine diverse factors that shape the level of strategic distinctiveness (Deephouse, 1999; Finkelstein and Hambrick, 1990; Zhao and Glynn, 2022). However, despite their impact on strategic distinctiveness, our understanding of the external contextual factors that affect firms' level of strategic distinctiveness remains limited (Miller and Chen, 1996; Zhao and Glynn, 2022; Zhao *et al.*, 2017). In this study, we identify increased scrutiny and pressure from an external group of investors as an important contextual factor that influences firms' strategic distinctiveness. Scholars have identified increased scrutiny as an important factor that

Both authors contributed equally and are listed in alphabetical order. We appreciate comments from seminar participants at the Chinese University of Hong Kong and Nanyang Technological University.

affects firms' strategies (Carrothers, 2019; Chatterji and Toffel, 2010; Kubick *et al.*, 2016), and they suggest that examining its influence can help us better understand the forces that determine firms' optimal level of distinctiveness.

In this study, we examine how increased scrutiny and pressure from short-selling affect firms' strategic distinctiveness. Recently, short-sellers have received increasing attention from scholars due to their unique trading strategy and pressure on firms (Grullon, Michenaud and Weston, 2015; Jia, Gao and Julian, 2020). Short-sellers borrow stocks and sell them at the current market price to willing buyers. They then later buy the stocks from others and return the stocks to the initial lender. Hence, short-selling is a trading strategy that bets on declining stock prices. The target firm is closely observed, looking for information that may lead to a decrease in stock prices. Short-selling has become a major force in the stock market. It makes up 24% and 31% of annual trading volumes on the NYSE and NASDAQ, respectively (Diether, Lee and Werner, 2009). Short-selling increases scrutiny for firms and adds to downward pressure on the stock price, and thus affects firm behaviour (Massa, Zhang and Zhang, 2015; Shi, Connelly and Cirik, 2018). Given the importance of strategic distinctiveness for sustainable competitive advantage, and the influence of scrutiny and pressure on firm behaviour, we argue that it is imperative to understand whether and how greater scrutiny from short-selling affects firms' strategic distinctiveness.

It is, however, a challenge to empirically test the impact of short-selling on firm behaviour. Short-selling activities reflect the endogenous choices of short-sellers. Short-selling activities reflect short-sellers' private knowledge about the targeted firms, and such knowledge is often unobservable to researchers. The endogenous nature of short-selling poses a challenge when investigating the influence of short-selling on firm strategy. To circumvent this problem, we use the Regulation SHO (Reg SHO) experiment, whereby the Securities and Exchange Commission (SEC) removed a short-selling restriction for randomly chosen firms (i.e. the pilot firms).

In July 2004, the SEC removed the uptick rule for a group of randomly selected pilot firms. The uptick rule restricts short-selling by stipulating that short positions cannot be taken when stock prices are declining. The removal of the uptick rule by the Reg SHO experiment made it easier for traders to short-sell stocks and increased the risk of short-selling for the pilot firms (De Angelis, Grullon and Michenaud, 2017; Diether, Lee and Werner, 2009). The SEC selected firms from the Russell 3000 Index listed on the NYSE, AMEX and NASDAQ and ranked them separately for each stock exchange in order of average trading volume. For each stock exchange, the SEC chose every third firm for

the pilot programme. This stratified random sampling enabled the SEC to construct a random sample to represent three major US stock exchanges. The random treatment of the Reg SHO experiment provides a setting to investigate how increasing short-selling pressure affects firms' strategic distinctiveness.

We predict that the pilot firms facing greater scrutiny from short-sellers will reduce their strategic distinctiveness more than the control firms. Firms pursuing a distinctive strategy are more likely to draw attention from short-sellers (Andrei and Hasler, 2015; Bushee and Miller, 2012). Moreover, a unique strategy entails greater risk, and these firms are exposed to greater variance in performance and stock price volatility (Andrei and Hasler, 2015; Knickerbocker, 1973). Firms with greater variance in performance make an attractive target for short-sellers, who profit from price fluctuations in a short time period (Angel, Christophe and Ferri, 2003). We predict that the pilot firms facing a greater risk of short-selling have a greater incentive to reduce their strategic distinctiveness. Our firm and year fixed-effect difference-in-differences (DiD) regressions show that the pilot firms reduce their strategic distinctiveness more than the control firms during the Reg SHO period. Furthermore, we show that the impact of Reg SHO on strategic distinctiveness is more pronounced among firms that are more visible and underperforming.

We contribute to the literature on optimal distinctiveness by adding insights into the tensions around strategic distinctiveness. One stream of research emphasizes differentiation as a key to sustainable competitive advantage (Barney, 1991; Wernerfelt, 1984). Another stream of research emphasizes the benefits of conformity to firm performance and survival (DiMaggio and Powell, 1983; Finkelstein and Hambrick, 1990). Given the validity of both arguments, scholars suggest that firms need to balance differentiation and conformity to find an optimal level (Deephouse, 1999; Zhao *et al.*, 2017, 2018). However, research on strategic distinctiveness has mainly focused on its implications for firm performance and survival, with very few studies examining contextual factors that shape strategic distinctiveness (Zhao and Glynn, 2022; Zhao *et al.*, 2017). In this study, we add insights into these tensions in the optimal distinctiveness literature by identifying scrutiny from short-sellers as an important contextual factor that firms consider when choosing the level of distinctiveness, and argue that strategic distinctiveness can be a burden for firms under greater scrutiny.

We contribute to the strategy literature by explaining how increased scrutiny and pressure from the capital market affect firms' strategic distinctiveness. Strategic distinctiveness is a fundamental aspect of firms as it determines their sustainable competitive advantage (Deephouse, 1999; Zhao *et al.*, 2017). Extant studies have identified increase in scrutiny as an important factor that has

great impact on firms' decisions (Carrothers, 2019; Forcadell, Lorena and Aracil, 2023). We utilize increases in short-selling pressure as an event that captures increases in scrutiny for firms. Despite evidence showing that pressure and scrutiny from short-selling is a critical force that shapes firm behaviours and decisions (Grullon, Michenaud and Weston, 2015; Jia, Gao and Julian, 2020), the strategy literature has overlooked the impact of short-selling on strategic distinctiveness. By identifying short-selling pressure as an important determinant of firms' strategic distinctiveness, this study highlights the role of the capital market in understanding fundamental strategy questions (David, Hitt and Gimeno, 2001; Keum, 2021).

Theory and hypotheses

Increased scrutiny from short-selling as a threat to firms

Pressure and scrutiny from stakeholders are important factors that can affect firms' strategic decisions (Chatterji and Toffel, 2010; Forcadell, Lorena and Aracil, 2023). When under closer observation from stakeholders, firms make changes to their strategies to respond to increased scrutiny and minimize the possibility of negative impact on them. Extant studies show that increased scrutiny has a significant impact on the diverse decisions of firms. For example, Kubick *et al.* (2016) have identified that increased regulatory scrutiny can influence firms' tax avoidance. Carrothers (2019) found that greater public scrutiny can lead to a decrease in CEO pay. Durand and Vergne (2015) showed that firms can respond to increased pressure from the media through divestments.

Researchers have recently started to examine the impact of short-sellers as an important factor in the capital market that increases scrutiny and pressure on firms. From the firm's perspective, short-selling poses a serious threat (Jia, Gao and Julian, 2020; Kunzmann and Meier, 2018). An increasing volume of short positions adds to the downward pressure on stock prices. Short-sellers closely observe the target firm and identify information that can result in decreased stock prices. Moreover, short-selling by sophisticated traders has the effect of encouraging other investors to join the selling bandwagon (Ornelas and de Carvalho, 2020; Robotti, 2006). Uninformed investors often take short-selling by sophisticated investors as a signal that stocks have problems they do not know about. Hence, these uninformed investors join the selling position, aggravating the downward pressure on stock prices (Brunnermeier and Pedersen, 2005; Robotti, 2006).

Some short-sellers take short positions and spread negative information about the firm to drive down the stock price. This so-called bear raid can have a significant impact on the stock price and the firm (Goldstein

and Guembel, 2008; Khanna and Mathews, 2012). As firms try to defend themselves against short-sellers, their resources are diverted, operations are disrupted and future projects are put on hold, taking a toll on firm performance and long-term competitive advantage (Goldstein and Guembel, 2008). Moreover, stock price declines caused by targeted short-selling can make creditors lose confidence in the firm, increasing its default risk (Khanna and Mathews, 2012). The pressure on the stock price from short-selling can even lead to replacing the senior executives (Kunzmann and Meier, 2018).

Firms are fearful about the destructive and manipulative effects of short-selling (Grullon, Michenaud and Weston, 2015; Jia, Gao and Julian, 2020). In a 2008 NYSE survey, 85% of senior executives surveyed demanded more restrictions on short-selling. In open letters to the SEC in 2004, managers, NYSE officials and NYSE specialists also expressed support for short-selling restrictions (Grullon, Michenaud and Weston, 2015).

Impact of short-selling on firms' strategic distinctiveness

Short-sellers search the stock market to find firms that are facing problems (Christophe, Ferri and Angel, 2004; Dechow *et al.*, 2001; Karpoff and Lou, 2010). However, a challenge to short-sellers is that they do not have complete information about all firms in the stock market (Barber and Odean, 2008; Odean, 1999). They also have limited resources for the search and assessment of potential short-selling targets. As a result, short-sellers can evaluate only a limited number of firms in the stock market (Barber and Odean, 2008). Research shows that investors with limited information and search capabilities first consider more visible firms that catch their attention (Cooper and Kaplanis, 1994; Coval and Moskowitz, 2001; Merton, 1987). This suggests that more visible firms are at greater risk of drawing short-sellers' attention.

We argue that firms pursuing a distinctive strategy are more visible than those pursuing a common strategy, and thus are more likely to draw attention from short-sellers. Strategic distinctiveness refers to the degree to which a firm's strategy deviates from the strategies of other firms in the same industry (Finkelstein and Hambrick, 1990). Firms pursuing distinctive strategies use different approaches to most other firms in the industry. Their different behaviour makes them more noticeable. These firms occupy distinct locations across the competitive landscape of the industry (Porter, 1979; Siggelkow, 2001), which makes these unconventional firms more noticeable to transaction partners (Deephouse, 1999).

Another disadvantage of a distinctive strategy in the context of short-selling is that it also entails a greater performance risk (Christophe, Ferri and Angel, 2004; Dechow *et al.*, 2001; Geczy, Musto and Reed, 2002).

Firms that adopt a conventional strategy in the industry have the advantage of reduced risk (Deephouse, 1999; DiMaggio and Powell, 1983). These firms tend to generate stable and industry-average firm performance (Garcia-Pont and Nohria, 2002; Lieberman and Asaba, 2006). In comparison, firms that pursue distinctive strategies often 'experience very high or very low performance' (Finkelstein and Hambrick, 1990, p. 488), indicating that distinctive strategies pose a greater risk to these firms and increase the variance in performance (Knickerbocker, 1973). Moreover, these firms face legitimacy challenges because their strategies reject the accepted wisdom incorporated in the common strategy (Miller and Chen, 1996; Porac, Thomas and Baden-Fuller, 1989). Legitimacy challenges reduce the ability to obtain resources from exchange partners and put these firms at a disadvantage (DiMaggio and Powell, 1983).

Research shows that short-sellers target firms with a greater risk and large variance in performance (Angel, Christophe and Ferri, 2003; Dechow *et al.*, 2001; Geczy, Musto and Reed, 2002). The profit short-sellers make is in proportion to the difference between high and low prices over a relatively short period of time. Short-sellers also prefer stocks with greater volatility to compensate for the significant transaction costs associated with short-selling (Dechow *et al.*, 2001).¹ The price movement of low-risk stocks is often insufficient to generate a level of expected profit in excess of transaction costs (Angel, Christophe and Ferri, 2003; Geczy, Musto and Reed, 2002). In contrast, high-risk firms exposed to a large variance in firm performance and stock prices generate significant profit for short-sellers.

Being targeted by short-sellers and being under increased scrutiny can be a significant burden for the firm. Under such circumstances, the burden of pursuing distinctive strategies would increase because firms must deal with the negative impact from short-selling pressure, due to distinctive firms drawing more attention and being more easily targeted by short-sellers. For short-sellers who have limited information about the choice of firms to target, firms using distinctive strategies attract more attention due to their visible and noticeable strategies (Deephouse, 1999). More importantly, a unique strategy entails a greater risk and these firms are exposed to greater variance in performance and stock price volatility (Andrei and Hasler, 2015; Knickerbocker, 1973; Lieberman and Asaba, 2006). As

¹For example, the Federal Reserve requires short-sellers to deposit additional collateral of 50% of the market value to the shorted shares. In addition, all profits from a short sale are taxed at the short-term capital gains rate and short-sellers are required to reimburse the stock lender for any dividends paid to the owners of the shorted stock whilst the short position remains open (Dechow *et al.*, 2001).

firms with greater variance in performance and stock prices make an attractive target for short-sellers (Angel, Christophe and Ferri, 2003), a distinctive strategy makes a firm a more attractive target for short-selling. Using distinctive strategies also means that the firm can face legitimacy challenges because they are not using established strategies accepted as the norm (Deephouse, 1999; DiMaggio and Powell, 1983). Thus, they face more disadvantages and risk, which are likely to lead to reduced stock price.

Anecdotal evidence shows that short-sellers tend to target firms with greater strategic distinctiveness. An article from the *New York Times* (Boudette, 2018) covered short-sellers targeting Tesla and stated that unusual selling, general and administrative expenses and inventory levels were reasons for an investor to short Tesla stocks. In another example, Valeant Pharmaceuticals was targeted by short-sellers due to the level of R&D expense, which was unusual compared to other firms in the industry (Lopez, 2015; Rolnik, 2018). These examples suggest that short-sellers target firms that use distinctive strategies with resource allocations deviating from industry norms.

For the reasons explained above, under greater scrutiny from short-sellers, distinctive strategies are likely to be a burden for the firm, rather than a source of competitive advantage. Considering that firms fear short-selling and try to avoid it (Grullon, Michenaud and Weston, 2015; Khanna and Mathews, 2012; Kunzmann and Meier, 2018), we predict that firms facing increasing short-selling pressure have an incentive to reduce their strategic distinctiveness to reduce the risk of short-selling.

H1: Firms facing increasing pressure of short-selling will reduce their level of strategic distinctiveness.

Moderators

We argue that a distinctive strategy increases the firm's (1) visibility to short-sellers and (2) performance risk, and therefore firms facing increasing short-selling pressure have an incentive to reduce their strategic distinctiveness. To test the suggested mechanism, we examine whether firm characteristics that affect the firm's visibility and performance risk moderate the relationship between short-selling and strategic distinctiveness.

The first part of our argument is that firms have an incentive to reduce their strategic distinctiveness to avoid attention from short-sellers. We argue that this tendency is more pronounced for more visible firms. More visible firms receive more media attention and analyst coverage (Fang and Peress, 2009). Therefore, when they pursue a distinctive strategy, they draw more attention than when a less visible firm pursues a distinctive strategy. For example, companies like Google have received

extensive media attention for adopting a unique strategy.² In contrast, smaller and less visible companies (e.g. TargetProcess) receive little attention for adopting the same unique strategy. Distinctive strategies adopted by less visible firms often go unnoticed by the public and investors. This suggests that the attention-catching effect of a distinctive strategy is stronger when it is pursued by more visible firms. Therefore, we predict that pursuing a distinctive strategy more significantly increases visible firms' risk of drawing short-sellers' attention.

Firm size is a commonly used proxy for the firm's visibility (Bowen, 2002; Bushee and Miller, 2012; Kang and Kim, 2017). For example, research has shown that large firms receive more media attention and analyst coverage (Fang and Peress, 2009), and that their stocks are more frequently traded and preferred by investors (Bushee and Miller, 2012; Falkenstein, 1996). Hence, we expect that a distinctive strategy will draw more attention when it is pursued by larger, more visible firms. This suggests that pursuing a distinctive strategy in a short-selling-friendly environment is a worse idea for large and visible firms than for small and less visible firms. Therefore, we predict that large firms have a greater incentive to reduce their strategic distinctiveness when short-selling pressure increases. Hence, we hypothesize that the negative effect of increased short-selling pressure on strategic distinctiveness is more pronounced for larger firms.

H2: The negative effect of short-selling on strategic distinctiveness is more pronounced for more visible (i.e. larger) firms.

The second part of our argument for H1 is that a distinctive strategy exposes the firm to performance volatility and risk, making it an attractive target for short-selling. Whilst these firms are a preferred target for short-sellers (Angel, Christophe and Ferri, 2003; Dechow *et al.*, 2001), the large performance variance and risk do not necessarily mean that the stock price will decrease. This is important because short-sellers make a profit when stock prices go down. The greater performance risk of a distinctive strategy only means that firms pursuing distinctive strategies have an equal probability of very high or very low performance (Finkelstein and Hambrick, 1990). If the firm pursuing a distinctive strategy is more likely to perform well, its distinctive strategy and the prospect of short-selling may not pose a threat to the firm.

This argument indicates that short-selling poses more threat to firms that are more likely to experience a drop in performance. Studies have found that there is often a linear trend in firm performance (Short *et al.*, 2006) and that recent poor performance precedes a declining

stock price (Abarbanell and Bushee, 1997; Chambers and Penman, 1984; Strong and Walker, 1993). Hence, we expect that firms which are not performing well are more likely to experience a drop in their stock price. We predict that firms which do not perform well will take the threat of short-selling more seriously because they are more likely to undergo a drop in stock price compared to firms that perform well. Therefore, we hypothesize that the negative effect of short-selling on strategic distinctiveness is more pronounced for firms with poor performance.

H3: The negative effect of short-selling on strategic distinctiveness is more pronounced for poor-performing firms.

Method

Data and sample

Our empirical setting is based on a policy experiment that the SEC conducted between 2004 and 2007. The SEC announced the removal of short-selling restrictions for randomly selected pilot firms. This Reg SHO experiment was intended to evaluate the effectiveness of the uptick rule, a short-selling restriction. In Rule 202T of Reg SHO, 986 pilot firms were randomly chosen from the Russell 3000 Index and exempted from the uptick rule.

We used multiple data sources to construct our sample: the Russell 3000 Index from FTSE Russell, Compustat, Execucomp, Institutional Shareholder Services (ISS) and BoardEx. Our data collection started with the Russell 3000 Index in 2004. We then obtained the list of 986 Reg SHO pilot firms as published in the Securities Exchange Act Release No. 50104.³ Our sample period spans 2002 to 2008. We set 2002 and 2003 as the pre-Reg SHO period, 2005 and 2006 as the during-Reg SHO period, and 2007 and 2008 as the post-Reg SHO period. Following previous studies (Bai, Lee and Zhang, 2020; De Angelis, Grullon and Michenaud, 2017), the year 2004 was removed because the pilot firm list was announced on 28 July 2004 but the actual removal of the uptick rule was implemented on 2 May 2005, making it unclear whether the announcement year should be included in the pre- or during-Reg SHO period.⁴ In our DiD regressions, we required sample firms to have observations at least 1 year before and during the Reg SHO experiment. Our final sample consisted of 2692 firm-year observations from 883 firms, among which 929 observations were from 300 pilot firms and 1763 from 583 non-pilot firms.

³<https://www.sec.gov/rules/other/34-50104.htm>.

⁴Our inferences remained unchanged when year 2004 was included.

²<https://venturebeat.com/2017/05/13/can-googles-20-time-really-work-for-your-startup/>.

Table 1. Characteristics prior to the regulation SHO pilot programme

Variable	Pilot			Non-pilot			Difference	
	Mean	Median	SD	Mean	Median	SD	t-Statistic	p-Value
Strategic distinctiveness (t + 1)	-0.155	-0.702	2.422	0.004	-0.642	3.021	0.998	0.319
Firm size	1.421	1.163	1.200	1.432	1.070	1.235	0.238	0.812
ROE	-0.058	0.100	5.155	-0.362	0.097	18.035	-0.508	0.612
Tobin's q	2.244	1.635	1.742	2.227	1.623	1.882	-0.224	0.823
Firm age	18.176	12	15.543	17.074	11	15.193	-1.815	0.070
CEO tenure	7.303	5	7.880	6.566	5	6.536	-1.947	0.052
CEO gender	0.987	1	0.115	0.980	1	0.140	-0.933	0.351
CEO is an outsider	0.230	0	0.422	0.246	0	0.431	0.653	0.514
CEO ownership	0.041	0	0.704	0.077	0	1.149	0.656	0.512
CEO age	56.237	56	7.260	55.080	55	7.463	-2.901	0.004
CEO duality	0.583	1	0.494	0.619	1	0.486	1.364	0.173
Board size	9.082	9	2.719	9.175	9	2.953	0.798	0.425
Inside director	1.589	1	1.177	1.542	1	1.182	-0.974	0.330
Industry munificence	10.603	2.496	21.354	11.868	2.342	23.665	1.392	0.164
Industry dynamism	61.705	18.044	94.789	67.348	18.314	98.938	1.459	0.145
Strategic distinctiveness (t)	-0.128	-0.635	2.569	-0.036	-0.654	2.912	0.587	0.557
Strategic distinctiveness growth rate (2002–2003)	1.509	-0.061	29.818	2.054	-0.086	71.415	0.156	0.876
Strategic distinctiveness growth rate (2003–2004)	1.166	-0.066	15.607	4.870	-0.040	151.366	0.511	0.609
Strategic distinctiveness growth rate (2002–2004)	1.340	-0.062	23.877	3.448	-0.068	117.960	0.528	0.598

Note: Variables are measured in year 2003, except for growth rate variables. Variables are rescaled to allow proper reporting. Industry munificence and industry dynamism are rescaled to 1000th and 100th of their original values, respectively.

Before conducting DiD analyses, we compared the characteristics of the pilot and non-pilot firms before the beginning of Reg SHO. We report the results in Table 1. The strategic distinctiveness of the two groups is not statistically different. Although the indifference in the dependent variable between the treatment and control groups before treatment is not required for DiD analysis (He and Tian, 2016; Wing, Simon and Bello-Gomez, 2018), it provides some confidence about the quality of the stratified random sampling process in Reg SHO. We also compared other characteristics between the two groups of firms in our sample. Table 1 shows that most variables are not meaningfully different across the groups.

We also checked the parallel trend assumption in our sample. The DiD methodology requires similar trends in the dependent variable for the treatment and control group firms before treatment. We first plotted the mean of strategic distinctiveness by group and time period (Wing, Simon and Bello-Gomez, 2018). Figure 1 shows that there is an increasing trend of strategic distinctiveness for non-pilot firms over the 2002–2008 period. For pilot firms, there seems to be a similar and parallel increasing trend before 2005. For more evidence, we compared the yearly growth rates of strategic distinctiveness between the two groups (He and Tian, 2016). Table 1 shows that the strategic distinctiveness change rates of the treatment and control firms do not differ meaningfully during the 2002–2003, 2003–2004 and 2002–2004 periods. The lack of significant difference in yearly growth rates of strategic distinctiveness, together with the graphical evidence, supports

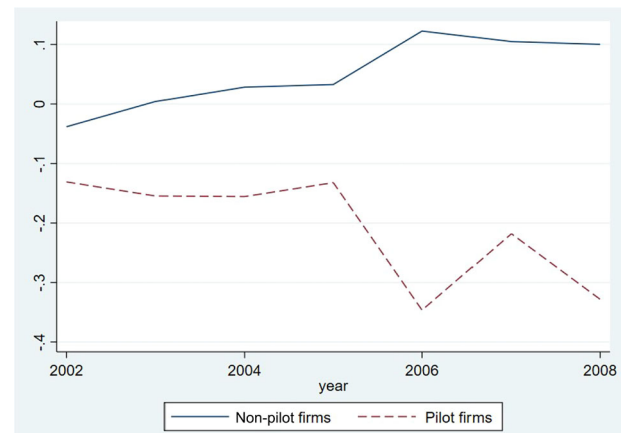


Figure 1. Difference in strategic distinctiveness between pilot and non-pilot firms over time

the validity of the parallel trend assumption in our data.

Additionally, we performed two tests for the parallel trend assumption in the pre-Reg SHO years in our sample (2002 and 2003). First, we analysed the significance of the interaction term Pilot \times PreSHO2002. PreSHO2002 is a dummy variable with a value of 1 for year 2002 and 0 for year 2003 in the pre-Reg SHO period. We analysed the interaction term using the same model that we use in our primary analyses. The statistically significant coefficient of the interaction term suggests that there is a yearly difference between the samples for year 2002 and 2003, and the parallel trend assumption is rejected. We found that the interaction term Pilot \times PreSHO2002 is not significant. Second, we

examined the significance of the interaction term $\text{Pilot} \times \text{Year trend}$. Year trend is a linear time variable with a value of 1 for year 2002 and 2 for year 2003 in the pre-Reg SHO period. As this variable increases by one every year, it captures the time trend between years. The statistically significant result of the interaction term suggests that there is a divergence in time trend between pilot and non-pilot groups, and the parallel trend assumption is violated. We found that the interaction term $\text{Pilot} \times \text{Year trend}$ is not significant. The results from additional tests suggest that the parallel trend assumption in the pre-Reg SHO period holds.

Empirical model

We used DiD analysis to examine whether pilot firms' strategic distinctiveness decreases more than non-pilot firms in response to the increased short-selling pressure caused by Reg SHO. Our regression model adopts the following specification:

$$\text{Strategic distinctiveness}_{it+1} = \beta (\text{Pilot} \times \text{During}) + \gamma nX_{it} + \lambda_{it} + \delta_{it} + \varepsilon_{it}, \quad (1)$$

where i and t index firms and years; Pilot is an indicator variable equal to 1 for pilot firms and 0 for non-pilot firms; During denotes the during-Reg SHO pilot programme period (equal to 1 for the during-Reg SHO period, and 0 otherwise); X is a vector of control variables; λ and δ are firm and year fixed effects; and ε is the error term. We do not include Pilot and During in the above equation, as they are perfectly correlated with and fully absorbed by the firm and year fixed effects. We obtain similar results when we include Pilot and During and drop firm fixed effects (see the Online Appendix). Standard errors are clustered at the firm level to account for possible dependence at the firm level. The coefficient estimate of β is the DiD estimator, which represents the difference in strategic distinctiveness between the pilot and non-pilot groups in the during-Reg SHO period (2005–2006) relative to the pre-Reg SHO period (2002–2003).

To test the moderating effects, we utilized a split-sample analysis using the median value of the moderators. For the moderating effect of firm size, we divided our sample into two groups using the median value of the logarithm of number of employees before the Reg SHO period. For the moderating effect of firm performance, we used return on equity (ROE) and Tobin's q . ROE captures firms' short-term performance and Tobin's q captures the long-term performance (Lavie, Kang and Rosenkopf, 2011; Wernerfelt and Montgomery, 1988). For the moderating effect of short-term performance, we divided our sample firms

into two groups using the median value of ROE before the Reg SHO period. We also tested the moderating effect of long-term performance by dividing our sample into two groups based on the median value of Tobin's q before the Reg SHO period. We ran a DiD analysis on each of the divided groups and compared the results between the subsamples.

We calculated the strategic distinctiveness using six dimensions (Crossland *et al.*, 2014; Finkelstein and Hambrick, 1990): (1) advertising intensity (advertising expense/sales); (2) inventory level (inventories/sales); (3) plant and equipment newness (net plant and equipment/gross plant and equipment); (4) R&D intensity (R&D expense/sales); (5) non-production overhead (selling, general and administrative expense/sales); and (6) financial leverage (total debt/equity). These dimensions were used to capture the strategic distinctiveness because they have a profound impact on firm performance, represent major dimensions of firm strategies, are controllable by CEOs and can be compared between firms (Finkelstein and Hambrick, 1990). The absolute difference between a firm and the industry average in each year was calculated for each dimension and then standardized by industry and year. The strategic distinctiveness is the sum of these standardized values. We measured the strategic distinctiveness at time $t + 1$ because decisions made by the firm take time to be fully implemented as a strategy.

At the firm level, we controlled for firm size (logarithm of number of employees), short-term firm performance (ROE), long-term firm performance (Tobin's q) and firm age (years since the initial public offering) because these variables can affect firms' strategic decisions (Rajagopalan and Spreitzer, 1997; Udayasankar, 2008; Westphal and Bednar, 2005). We controlled for the following CEO-level variables: CEO tenure in the focal firm; CEO gender (a dummy variable set to 1 if the CEO is male, and 0 otherwise); CEO origin (a dummy variable set to 1 if the CEO was appointed from outside the firm, and 0 otherwise); CEO ownership (percentage of shares owned by the CEO); and CEO age. At the board level, we controlled for CEO duality (a dummy variable set to 1 when the CEO is also the board chair, and 0 otherwise), board size and the number of inside directors because they can influence firms' strategies and performance (Guest, 2009; Krause, Semadeni and Cannella, 2014; Masulis and Mobbs, 2011). At the industry level, we controlled for munificence and dynamism to consider environmental conditions that can influence firms' strategies. We measured these variables utilizing the regression coefficient and standard error obtained by regressing industry sales against year from year $t - 4$ to year t (Keats and Hitt, 1988). The regression coefficient was used to measure munificence and the standard error for dynamism. The 1-year lagged dependent variable (i.e. strategic distinctiveness at t) was included as a

Table 2. Summary statistics and correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Strategic distinctiveness (t + 1)	-0.418	2.408								
2. Pilot	0.345	0.475	-0.008							
3. During	0.513	0.500	0.021	0.003						
4. Firm size	1.900	1.254	-0.010	0.030	0.029					
5. ROE	-0.243	15.286	-0.024	0.015	0.023	0.012				
6. Tobin's q	2.141	1.403	0.049	0.032	0.042	-0.120	0.003			
7. Firm age	23.304	16.493	-0.053	0.078	0.069	0.474	-0.014	-0.136		
8. CEO tenure	7.049	7.413	-0.015	0.068	-0.001	-0.084	-0.039	0.050	-0.088	
9. CEO gender	0.984	0.127	-0.013	0.026	-0.002	-0.023	-0.003	-0.026	0.026	0.052
10. CEO is an outsider	0.264	0.441	-0.033	-0.002	-0.042	-0.198	0.009	0.109	-0.147	0.222
11. CEO ownership	0.560	2.993	0.023	0.005	0.174	-0.050	0.003	0.063	-0.077	0.117
12. CEO age	55.134	7.481	-0.049	0.118	0.038	0.084	0.007	-0.051	0.148	0.407
13. CEO duality	0.555	0.497	-0.034	-0.013	-0.091	0.186	-0.014	-0.038	0.176	0.224
14. Board size	8.769	2.328	0.028	0.006	0.015	0.538	0.010	-0.155	0.413	-0.149
15. Inside director	1.442	0.965	-0.011	0.068	-0.173	0.104	0.008	-0.008	0.031	0.142
16. Industry munificence	10.395	15.873	-0.003	0.020	0.259	0.009	0.018	-0.017	0.017	0.015
17. Industry dynamism	38.030	39.896	0.011	0.008	-0.110	-0.116	0.006	-0.028	-0.132	0.028
18. Strategic distinctiveness (t)	-0.428	2.469	0.842	0.002	0.009	-0.010	-0.051	0.059	-0.044	-0.024

Variable	9	10	11	12	13	14	15	16	17
10. CEO is an outsider	0.024								
11. CEO ownership	-0.027	0.016							
12. CEO age	0.076	0.029	0.053						
13. CEO duality	0.038	0.017	0.029	0.276					
14. Board size	0.026	-0.183	-0.121	0.057	0.090				
15. Board independence	0.001	-0.047	0.004	0.082	-0.044	0.232			
16. Industry munificence	0.016	-0.026	0.067	0.004	-0.041	0.045	-0.048		
17. Industry dynamism	0.016	0.115	-0.017	-0.089	-0.066	-0.093	-0.020	0.461	1.000
18. Strategic distinctiveness (t)	-0.009	-0.015	0.022	-0.054	-0.036	0.025	-0.023	-0.009	0.021

Note: N = 2692. Variables are rescaled to allow proper reporting. Industry munificence and industry dynamism are rescaled to 1000th and 100th of their original values, respectively.

control variable. We included firm and year fixed effects in all models.

Results

Table 2 presents descriptive statistics and correlations for the variables used in our analyses. The mean value of Pilot is 0.345, consistent with the SEC's selection process of choosing every third firm in the stock exchange lists. The mean value of During is 0.513, suggesting that our sample is balanced across the pre- and during-Reg SHO periods. Table 3 presents the results of the DiD analysis on strategic distinctiveness. Column (1) shows the results of differences between pre- and during-Reg SHO periods. Column (2) presents the results of differences between the pre- and post-Reg SHO periods. Column (3) shows the pre-, during- and post-Reg SHO periods in one model. In this model, Pilot \times During and Pilot \times Post are included together. Post denotes the post-Reg SHO pilot programme period (equal to 1 for the post-Reg SHO period of 2007–2008, and 0 otherwise). Columns (4)–(9) present the results of the split-sample analysis on the pre- and during-Reg SHO pe-

riods for the moderating effect of firm size and firm performance.

Changes in strategic distinctiveness in response to Reg SHO

H1 predicts that an increase in short-selling pressure will reduce firms' strategic distinctiveness. In Column (1) of Table 3, the results show that there is a negative influence of Pilot \times During on strategic distinctiveness (-0.236 , $p = 0.040$), providing support for H1. The level of strategic distinctiveness decreases from -0.376 for the non-treatment group (i.e. Pilot \times During = 0) to -0.612 for the treatment group (i.e. Pilot \times During = 1). Considering that the mean level of strategic distinctiveness in our final sample is -0.418 , a decrease of 0.236 is a significant change, with great impact on firms' strategies. The results in Column (3), which include Pilot \times During and Pilot \times Post in the same model, also show that the influence of short-selling pressure on strategic distinctiveness is negative (-0.219 , $p = 0.048$). The results in Columns (4) and (5) show that the negative relationship between short-selling pressure and strategic distinctiveness is stronger for larger firms, providing support

Table 3. Difference-in-differences analysis on strategic distinctiveness with firm and year fixed effects

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Firm size: small	Firm size: large	ROE: low	ROE: high	Tobin's q: low	Tobin's q: high
Pilot × During	-0.236*		-0.219*	-0.120	-0.322*	-0.378*	-0.099	-0.433**	-0.019
	(0.115)		(0.111)	(0.160)	(0.160)	(0.167)	(0.160)	(0.156)	(0.164)
Pilot × Post		-0.206	-0.228 ⁺						
		(0.139)	(0.132)						
Firm size	0.005	0.134	-0.044	-0.041	-0.092	0.042	-0.053	0.423	-0.472
	(0.221)	(0.201)	(0.172)	(0.326)	(0.293)	(0.303)	(0.341)	(0.286)	(0.330)
ROE	0.005***	0.002	0.002	0.005***	-0.009	0.005***	0.020	0.049	0.004***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.037)	(0.000)	(0.032)	(0.032)	(0.000)
Tobin's q	-0.067	-0.057	-0.071	-0.041	-0.108	-0.184*	-0.007	-0.368*	-0.030
	(0.046)	(0.051)	(0.049)	(0.056)	(0.066)	(0.080)	(0.044)	(0.153)	(0.044)
Firm age	-0.002	0.039	0.024	0.078	-0.035	-0.103	0.070	-0.061	0.089
	(0.065)	(0.073)	(0.070)	(0.110)	(0.083)	(0.099)	(0.085)	(0.102)	(0.085)
CEO tenure	-0.017	-0.009	-0.014 ⁺	-0.012	-0.018	-0.012	-0.023	-0.012	-0.023
	(0.010)	(0.008)	(0.008)	(0.014)	(0.015)	(0.011)	(0.018)	(0.010)	(0.020)
CEO gender	-0.056	0.837	0.541 ⁺	-0.294	0.095	-0.046	-0.053	0.024	-0.314
	(0.188)	(0.520)	(0.319)	(0.291)	(0.187)	(0.274)	(0.396)	(0.267)	(0.343)
CEO is an outsider	-0.108	-0.327*	-0.249 ⁺	-0.172	0.001	-0.000	-0.259	-0.014	-0.161
	(0.179)	(0.147)	(0.131)	(0.256)	(0.249)	(0.254)	(0.242)	(0.212)	(0.279)
CEO ownership	0.011	0.016 ⁺	0.011 ⁺	0.006	0.011	0.019	0.004	0.020 ⁺	0.007
	(0.010)	(0.008)	(0.006)	(0.014)	(0.013)	(0.012)	(0.018)	(0.012)	(0.013)
CEO age	0.004	0.003	0.003	-0.003	0.009	0.005	0.006	0.005	0.005
	(0.010)	(0.008)	(0.008)	(0.016)	(0.013)	(0.013)	(0.016)	(0.012)	(0.016)
CEO duality	0.166	0.145	0.118	0.391*	-0.032	0.059	0.275	-0.025	0.472**
	(0.119)	(0.126)	(0.098)	(0.161)	(0.164)	(0.146)	(0.187)	(0.149)	(0.181)
Board size	-0.033	-0.036	-0.045 ⁺	-0.007	-0.046	0.005	-0.065	-0.027	-0.047
	(0.031)	(0.029)	(0.024)	(0.040)	(0.043)	(0.036)	(0.055)	(0.043)	(0.039)
Inside director	-0.010	0.030	0.027	0.064	-0.082	-0.097	0.071	-0.083	0.126
	(0.061)	(0.051)	(0.043)	(0.082)	(0.087)	(0.084)	(0.094)	(0.076)	(0.098)
Industry munificence	-0.003	-0.008*	-0.005 ⁺	-0.000	-0.007	-0.007	-0.002	-0.002	-0.005
	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)
Industry dynamism	-0.003 ⁺	-0.004***	-0.004***	0.000	-0.006*	-0.003	-0.003	-0.003	-0.003
	(0.002)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Strategic distinctiveness (t)	0.311***	0.383***	0.343***	0.286***	0.346***	0.326***	0.302***	0.383***	0.245***
	(0.035)	(0.047)	(0.034)	(0.048)	(0.053)	(0.043)	(0.060)	(0.051)	(0.051)
Constant	0.356	-1.671	-0.558	-1.046	1.691	2.736	-1.539	1.531	-0.869
	(1.802)	(2.086)	(1.949)	(2.136)	(2.843)	(2.550)	(2.579)	(3.192)	(2.145)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2692	2767	4149	1166	1526	1181	1511	1194	1498
R-squared	0.855	0.846	0.823	0.843	0.866	0.853	0.859	0.854	0.861

Note: Standard errors in parentheses. Variables are rescaled to allow proper reporting. Industry munificence and industry dynamism are rescaled to 1000th and 100th of their original values, respectively. ⁺p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001.

for H2. The coefficient estimate of Pilot × During is not significant for small firms (-0.120, p = 0.453), but we find a negative impact for large firms (-0.322, p = 0.045). Figure 2 shows that the difference in strategic distinctiveness between the treatment group and the non-treatment group is greater for large firms than for small firms. Columns (6)–(9) present the results for the split-sample analysis for the moderating effect of firm performance, and the results provide support for H3. Columns (6) and (7) show that there is a negative effect of Pilot × During for firms with low ROE (-0.378, p = 0.024) and not for firms with high ROE (-0.099, p = 0.537). Columns (8) and (9) show the results for the moderating effect of long-term performance. We find a negative effect of Pilot × During for firms with low Tobin's q (-0.433, p = 0.006) and not for firms with high Tobin's q (-0.019, p = 0.909). Figures 3 and 4 show that the difference in strategic distinctiveness between the treatment

group and the non-treatment group is greater for low-performance firms than high-performance firms. These results provide support for H3 and suggest that the negative effect of short-selling pressure on strategic distinctiveness is stronger for low-performance firms compared to high-performance firms.

Convergence in strategic distinctiveness after Reg SHO

The pilot programme ended in 2007 and the uptick rule was removed for both pilot and non-pilot firms. Since the restriction was removed for all firms in the post-Reg SHO period, we predict that a difference in strategic distinctiveness will no longer be observable in the post-Reg SHO period (2007 and 2008) compared to the pre-Reg SHO period (2002 and 2003). Column (2) in Table 3 shows that the influence of short-selling pressure on strategic distinctiveness in the post-Reg

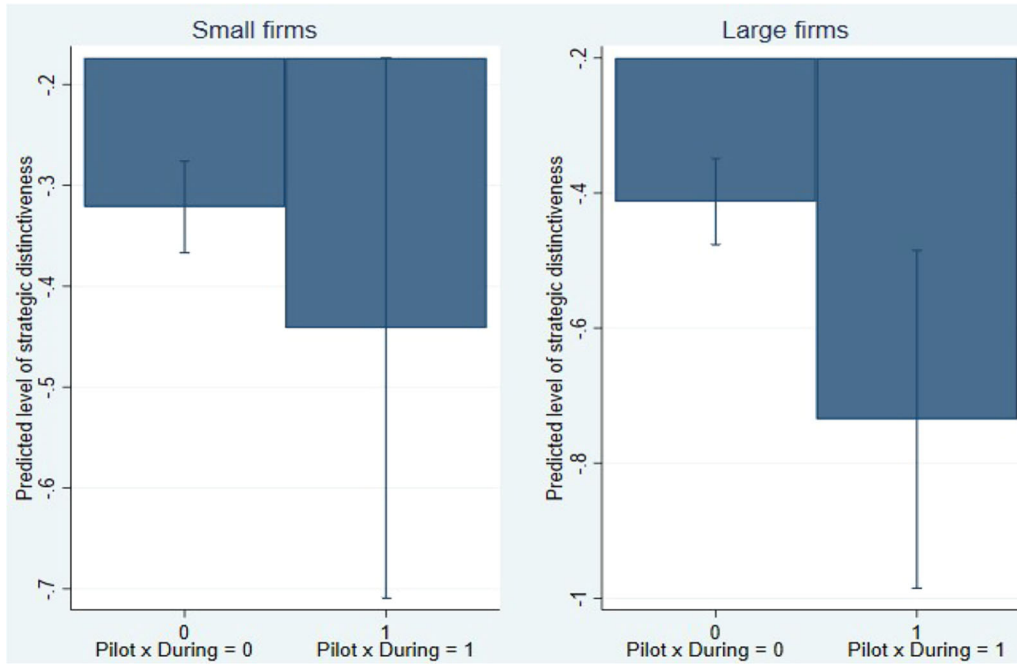


Figure 2. Moderating effect of firm size

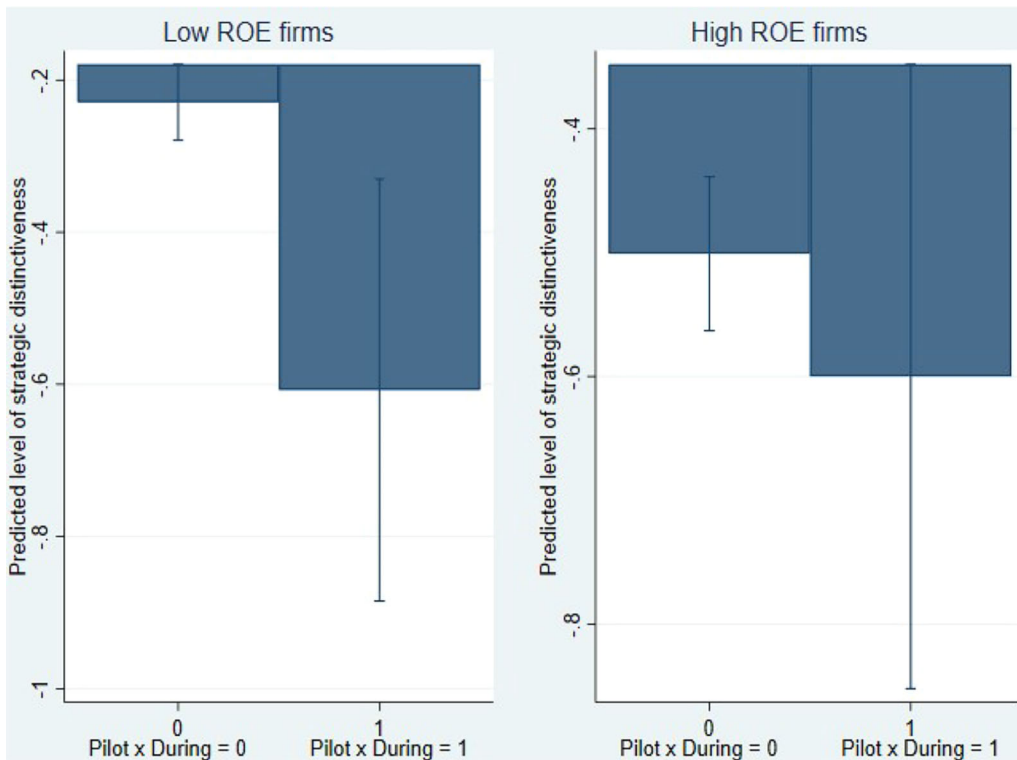


Figure 3. Moderating effect of ROE

SHO period compared to the pre-Reg SHO period is negative but not significant (-0.206 , $p = 0.139$). Column (3) also shows that there is a negative influence of Pilot \times During on strategic distinctiveness (-0.219 , $p = 0.048$), but the coefficient estimate of Pilot \times Post

is only marginally significant (-0.228 , $p = 0.083$). These results suggest that the treatment effect of the Reg SHO pilot programme on firms' strategic distinctiveness disappeared after the Reg SHO experiment ended.

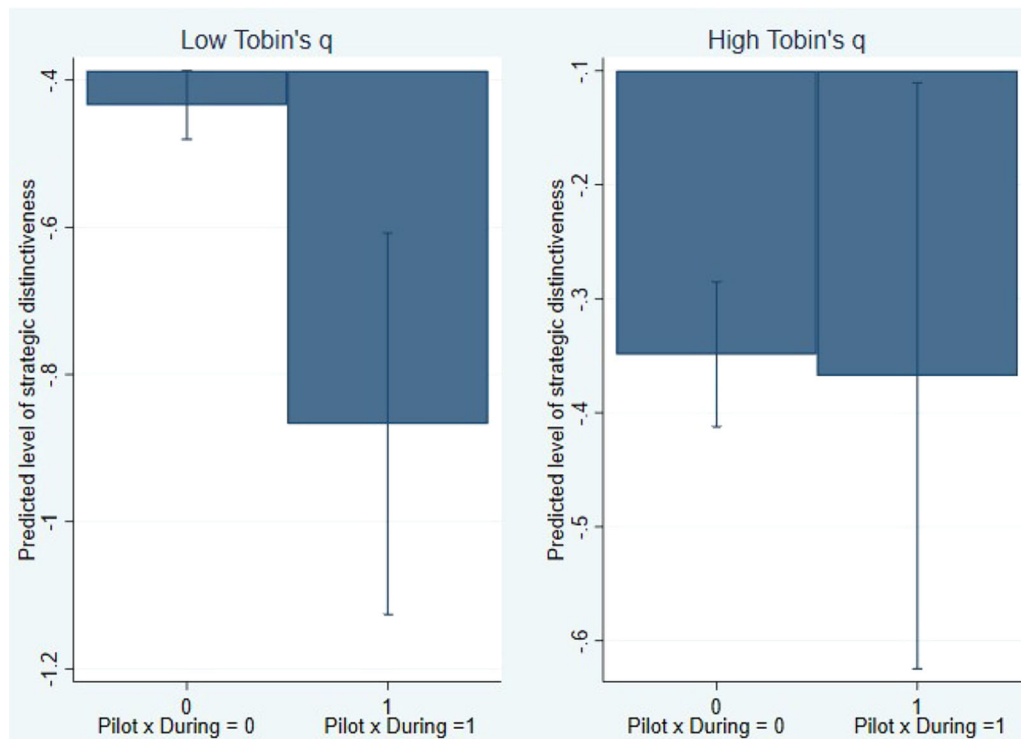


Figure 4. Moderating effect of Tobin's q

Strategic distinctiveness and short interest

In an additional analysis, we further explored the relationship between short interests and strategic distinctiveness. By analysing this relationship, we examine whether a decrease in strategic distinctiveness provided intended protection from short-sellers for firms. We conducted two additional analyses to examine whether pilot firms that reduce strategic distinctiveness experienced lower short interests (Jia, Gao and Julian, 2020). First, to test the changes in short interest due to changes in the level of strategic distinctiveness, we checked the yearly short interest (average short interest divided by shares outstanding times 100) of pilot firms. We plotted separately the short interests of pilot firms that decreased strategic distinctiveness from the pre-Reg SHO period to the during-Reg SHO period and pilot firms that did not decrease strategic distinctiveness during the same period. Figure 5 shows that pilot firms that decreased strategic distinctiveness had lower short interests after the removal of short-selling constraints. Additionally, we examined the relationship between yearly changes in strategic distinctiveness and short interest among pilot firms during the Reg SHO period, using a fixed-effects regression with major firm-level variables as controls (firm size, ROE, Tobin's q, firm age). If a lower level of strategic distinctiveness can protect the firm from short-selling attacks, we should observe a positive impact of an increase in strategic distinctiveness on short interests. The results of the analysis showed a positive impact of

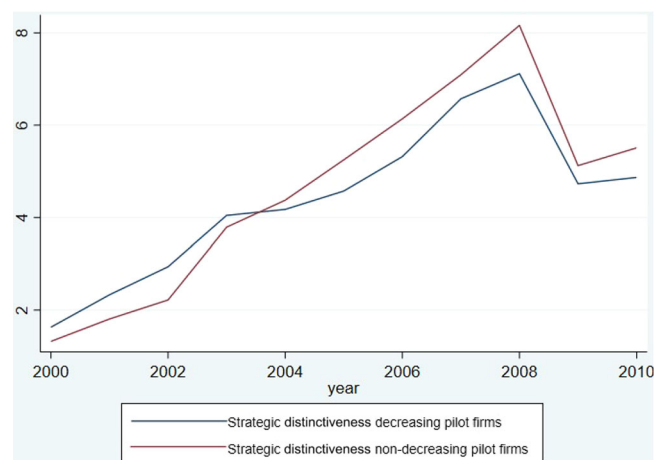


Figure 5. Comparison of short interests

an increase in strategic distinctiveness among pilot firms on their short interests (0.103, $p = 0.095$).

Robustness checks

We applied additional placebo tests as robustness checks (He and Tian, 2016; Jang and Lee, 2018). In the first test, we randomized the selection of pilot and non-pilot firms in our analysis. By testing our model on randomly selected treatment and non-treatment groups, we can be more confident that our findings are not driven by

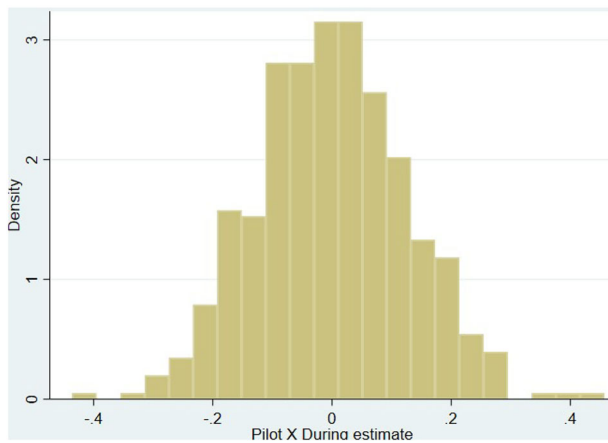


Figure 6. Distribution of estimated coefficients of 500 falsification test

random chances. If the findings from our primary analysis were merely a result of chance, analyses on observations from a randomized group of pilot and non-pilot firms may provide significant results. First, we randomly chose one-third of the firms and assigned them to the pilot firm group, and assigned the rest of the firms to the non-pilot firm group. Using this randomly selected sample, we ran the same analysis that we used in our main analysis. We found that the DiD estimators are not statistically significant. This result reduces the possibility that our sample firms are not randomly selected and the results from the main analysis are driven by chance.

We further repeated the process of randomly selecting one-third of the firms (Ferrara, Chong and Duryea, 2012; Li, Lu and Wang, 2016). We repeated the randomization placebo analysis 500 times. The sampling distribution of the DiD coefficient is shown in Figure 6. The distribution of estimated coefficients from 500 random assignments of treatment is centred around zero, and placebo coefficients with a value near our benchmark estimate (-0.236) appear rarely in the entire distribution. Considering that we are repeatedly selecting one-third of the firms from the same group of firms, the results from this repeated randomization process suggest that the negative effect of short-selling pressure on strategic distinctiveness is not spurious.

In the second placebo test, we artificially assigned a year as a pseudo-event year. By examining the impact of short-selling on strategic distinctiveness using an artificial event year, we can be more confident that our findings are not driven by exogenous shocks other than Reg SHO. If the results from our primary analysis are driven by an unobservable shock during our sample period, we may find similar significant results compared to our main analysis, even for artificially assigned pseudo-event years. We set years 2002, 2003, 2005 and 2006 as the shock year, respectively. We restricted the list of pseudo-event years to 2002–2006 because our analysis

requires two pre-shock years and four after-shock years, whilst our initial sample was from 2000 to 2010. We ran the same analysis that we used in our main model on the same sample of firms, but with an artificially assigned event year different from our primary analysis. We found that the DiD estimators are not significant. The coefficients of Pilot \times During were also different from the benchmark coefficient estimate from our main analysis. This test addresses issues related to the possibility that shocks other than Reg SHO may be affecting our results. The results of the placebo tests suggest that the findings from the main analysis are not driven by unobservable differences that we did not capture in our model between the pilot and non-pilot firms, or shocks other than Reg SHO.

As a robustness test for our measure of strategic distinctiveness, we utilized an alternative measure comprised of four dimensions. In our primary analysis, we included six dimensions in our measure for strategic distinctiveness. As an alternative measure, we calculated the dependent variable without advertising intensity and R&D intensity, using inventory level, plant and equipment newness, non-production overhead and financial leverage to capture strategic distinctiveness. We found consistent support for the negative impact of short-selling pressure on firms' strategic distinctiveness using this measure.

Lastly, we employed a coarsened exact matching (CEM) analysis as a robustness test (Blackwell *et al.*, 2009; Iacus, King and Porro, 2012). We first divided all observations into pilot and non-pilot groups. We then identified matched observations between the two groups based on similarity in terms of firm-level variables included in our model (i.e. firm size, firm performance, Tobin's q , firm age). We then used the same model as in the primary analysis to analyse the combined matched sample. The results from the analysis were consistent with the findings from the primary analysis.

Discussion

Strategic distinctiveness has been considered key to understanding sustainable competitive advantage (Barney, 1991; Deephouse, 1999; Zhao *et al.*, 2017). With a different focus on the determinants of firms' level of distinctiveness, scholars have emphasized the importance of differentiation and conformity as opposing pressures that affect firms' level of distinctiveness (Deephouse, 1999; DiMaggio and Powell, 1983; Porter, 1979). Given the critical impact on firms' survival and performance, balancing between differentiation and conformity to find the optimal level of distinctiveness is a critical issue for firms. Despite the importance of understanding the forces that shape firms' strategic distinctiveness, extant studies have largely neglected the influence of a

critical external factor: the level of scrutiny on firms. An increase in scrutiny is an important factor that influences firms' strategic decisions (Carrothers, 2019; Chatterji and Toffel, 2010; Kubick *et al.*, 2016), and examining its impact can greatly help us to understand the forces that shape the optimal level of firms' distinctiveness.

In this study, we focus on the short-selling threat to investigate how greater scrutiny and pressure affect strategic distinctiveness. Short-selling is an important factor in the capital market, which greatly increases the level of scrutiny and pressure that targeted firms face. Short-selling pressure has received attention from business researchers due to its growing significance (Clinch, Li and Zhang, 2019; Fang, Huang and Karpoff, 2016; He and Tian, 2016). Studies have shown that short-selling not only affects stock prices and investors, but also diverse firm behaviour and decisions. We argue that in a short-selling-friendly environment, firms will try to reduce the risk of becoming a target of short-sellers by avoiding a distinctive strategy. Using DiD analysis, we find that the increased pressure of short-selling caused by the Reg SHO has a negative effect on the strategic distinctiveness of the pilot firms. We also find that the negative effect is more pronounced for more visible firms and underperforming firms. These findings provide support for our prediction that short-selling pressure reduces firms' strategic distinctiveness because a distinctive strategy increases firms' visibility and performance risks, making them more vulnerable to short-sellers.

This study contributes to research on optimal distinctiveness. Our study provides a novel perspective to understand firms' distinctive strategies by identifying increased scrutiny from short-sellers as an important but understudied determinant of strategic distinctiveness. Many studies have identified not only the benefits of distinctiveness, but also the downsides of being different from others. Studies building on strategic positioning and the resource-based view suggest that strategic distinctiveness is a differentiation tactic that is essential to achieve sustainable competitive advantage (Barney, 1991; Peteraf, 1993; Porter, 1996). On the contrary, there are studies which suggest that not conforming to the norms can harm firms through reduced legitimacy (DiMaggio and Powell, 1983; Finkelstein and Hambrick, 1990). Owing to tensions about the influence of distinctiveness, scholars argue that finding the optimal level of strategic distinctiveness is important for firms' survival and performance (Deephouse, 1999; Zhao *et al.*, 2017, 2018). Although previous studies have enhanced our understanding of the determinants of strategic distinctiveness, they have largely overlooked an important and unique contextual factor: the scrutiny and pressure from short-sellers. Our findings suggest that greater scrutiny on firms can influence their decision balance between differentiation and conformity.

Firms under closer observation may move towards conformity because being different can be more of a burden than a benefit in such circumstances.

This study makes contributions to research on the influence of increased scrutiny on firms. Scholars have examined the reactions of firms under scrutiny and pressure and suggest that increasing scrutiny is an important factor influencing strategic decisions (e.g. Chatterji and Toffel, 2010; Kubick *et al.*, 2016). In this study, we focus on a unique group of capital market participants known as short-sellers, who increase scrutiny on their target firms. Our findings suggest that firms reduce their distinctiveness of strategy to avoid unwanted attention and reduce uncertainty and risks, as a response to greater scrutiny and pressure. By examining firms' responses to closer observation from a unique factor in the capital market, we provide insights that can help us better understand firms' strategic reactions to a sudden increase in scrutiny and pressure from external actors.

Lastly, we contribute to the discussion on capital market restrictions. In general, removing restrictions in capital markets is believed to improve the transparency of firm behaviour and informativeness of stock prices (Hong and Stein, 2003; Scheinkman and Xiong, 2003). The proponents of a less restricted capital market argue that removing short-selling restrictions benefits investors and the economy. However, our findings suggest that a less restricted capital market has an unintended side-effect of reducing the strategic distinctiveness of firms and strategic heterogeneity in the industry. Fewer restrictions on short-selling activities may increase the timely introduction of information to the capital market, but may also be viewed as a threat for managers, leading to a decrease in strategic distinctiveness. Given that strategic uniqueness and diversity are necessary conditions for firms' sustainable competitive advantage and economic progress (March, 1991; Morck, Yeung and Yu, 2000), a less restricted capital market may inadvertently compromise the competitive advantage of firms and the vitality of the economy.

This study also has practical implications. Our findings can help diverse stakeholders understand firms' strategic decisions. Managers who need to balance differentiation and conformity for an optimal level of distinctiveness may consider external scrutiny and pressure as important factors that can influence the adequate level of distinctiveness. They may further consider adapting the firm's level of strategic distinctiveness when they sense an increase in scrutiny. Under increased pressure and scrutiny, being different can be a burden rather than an advantage, and using more conforming strategies should be considered by decision-makers. Employees can expect to see a decrease in firms' strategic distinctiveness when there is more attention and closer observation from external actors. Competitors of a firm targeted by short-sellers can prepare themselves against

strategic moves towards conformity as a response to increased scrutiny. Investors may want to manage their portfolio by identifying firms under short-selling pressure and predicting their strategies. Our findings provide insights for policy-makers by improving their predictions on the impact of their decisions around capital market restrictions on firms' strategies. Removing capital market restrictions can increase perceived pressure for firms, having the unintended consequence of a reduction in diversity among firms. Policy-makers should carefully coordinate the restrictions, depending on the target level of homogeneity among firms.

Our study has limitations that suggest future research opportunities. We focused on Reg SHO and our findings may not be generalizable to other circumstances that lead to greater scrutiny. We utilized Reg SHO as a proxy for greater scrutiny and did not capture the precise level of scrutiny or pressure faced by firms. Future studies may identify other circumstances that can better capture the level of scrutiny and test the hypothesized relationships. Also, although we have used DiD analysis, conducted placebo tests and included many control variables, we may not have fully resolved concerns about alternative explanations. Our research design was not able to directly capture the underlying mechanisms of the relationship between scrutiny and distinctiveness. Furthermore, we were not able to capture whether the firms indeed perceive greater scrutiny from short-sellers as a threat. Future studies may use survey or interview data to directly understand the mechanisms that link increases in scrutiny and firms' reactions. Lastly, there are limitations related to our moderators. There can be important factors other than visibility or performance that may have an impact on the relationship between increased scrutiny and strategic distinctiveness. We were not able to cover other factors that can influence our findings, and future studies may explore this issue further. More importantly, our measure of firm visibility has limitations. We capture firm visibility using firm size as a proxy. However, there can be cases where larger firms may not be more visible. Some firms may be larger in size but may not be widely known to the public. Future studies may explore situations where larger firms may not be more noticeable to others.

Future studies can also extend our research by testing the influence of short-selling pressure on other strategic decisions. We focus on strategic distinctiveness, but the potential influence of short-selling pressure can affect other strategic decisions. For example, short-selling pressure may affect firms' stakeholder strategy and change their focus to prioritize shareholders or other groups of stakeholders. Firms may want to focus on shareholders to manage their stock prices, but they may also aim to reduce potential risks by trying to satisfy diverse groups of stakeholders. Extending this line

of research to test the influence of short-selling pressure on firm outcomes is a promising area of research that can enhance our understanding of the impact of short-selling on the firm.

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