

ARTICLE



What a relief: How do firms respond to competitors' listing delays?

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Abstract

We examine the effect of product market competitors' listing delays on incumbent firms' defensive strategies, including efforts in customer retention and acquisition as well as merger and acquisition (M&A) activities. To establish causality, we use four regulation-induced IPO suspensions in China that expose firms already approved for an IPO to indeterminate listing delays. Using a difference-in-differences design, we find that incumbent firms reduce efforts in customer retention and acquisition, as manifested in an increase in accounts receivable turnover and a decrease in selling expenses. Incumbent firms also reduce M&A activities, including high-premium and horizontal ones. The effects are stronger for incumbent firms that are subject to more intensive competition from the suspended firm, face larger competitive pressure from existing public firms, and are more financially constrained. Additionally, incumbent firms' managers reduce competition-related disclosures, and the firms' financial performance improves after competitors' listing delays. Consistent with the findings based on listing delays, we find that incumbent firms increase efforts in customer retention and acquisition and M&As surrounding competitors' IPO application and approval. Our paper sheds new light on the IPO peer effect, especially on how incumbent firms respond to the product market competitor's capital market entry.

KEYWORDS

customer retention and acquisition, initial public offering, mergers and acquisitions, product market competition

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Quel soulagement : comment les entreprises réagissent-elles aux retards de cotation de leurs concurrents?

Résumé

Nous examinons l'effet des retards de cotation des concurrents sur les marchés de produits sur les stratégies défensives des entreprises en place, y compris les efforts de rétention et d'acquisition de clients ainsi que les activités de fusion et d'acquisition (F&A). Pour établir la causalité, nous utilisons quatre suspensions d'introduction en bourse induites par la réglementation en Chine, qui exposent les entreprises déjà approuvées pour une introduction en bourse à des retards de cotation indéterminés. En utilisant un modèle de différences dans les différences, nous constatons que les entreprises en place réduisent leurs efforts de fidélisation et d'acquisition de clients, ce qui se traduit par une augmentation du taux de rotation des comptes clients et une diminution des frais de vente. Les entreprises en place réduisent également leurs activités de fusion et d'acquisition, y compris les fusions horizontales et à prix élevé. Les effets sont plus marqués pour les entreprises en place qui sont soumises à une concurrence plus intense de la part de l'entreprise suspendue, qui subissent une pression concurrentielle plus forte de la part des entreprises publiques existantes et qui sont soumises à des contraintes financières plus importantes. En outre, les dirigeants des entreprises en place réduisent les informations relatives à la concurrence et les performances financières des entreprises s'améliorent après le report de la cotation des concurrents. Conformément aux conclusions basées sur les retards de cotation, nous constatons que les entreprises en place redoublent d'efforts en matière de fidélisation et d'acquisition de clients et de fusions-acquisitions après la demande et l'approbation de l'introduction en bourse de leurs concurrents. Notre étude jette un nouvel éclairage sur l'effet des pairs lors de l'introduction en bourse, en particulier sur la manière dont les entreprises en place réagissent à l'entrée sur le marché des capitaux d'un concurrent sur le marché des produits.

MOTS-CLÉS

concurrence sur le marché des produits, fidélisation et acquisition de la clientèle, fusions et acquisitions, introduction en bourse

1 | INTRODUCTION

Capital market access via an IPO provides issuing firms with significant competitive advantages relative to their product market rivals, including relaxed financial constraints, greater investment flexibility, and enhanced product credibility (Chemmanur et al., 2010; Hsu et al., 2010; Jain & Kini, 1994; Ritter, 1991, 2011). These advantages expose existing public firms ("incumbent firms")

that compete with issuing firms in the same product market to a higher level of competitive threat (Braun & Larrain, 2009). Given the rich theoretical literature on incumbent firms' strategic responses to entry threat (e.g., Fudenberg & Tirole, 1986; Milgrom & Roberts, 1982), it is important to understand how incumbent firms change their defensive strategies, such as attracting customers through generous trade credit policy or marketing, in response to the expectation of the competitive threats from rivals' IPOs or their reversal.

We address this question using a unique setting of regulation-induced IPO suspensions in China that generate plausibly exogenous delays in the issuer's listing process. Chinese firms seeking a public listing must go through a multistep application process governed by the regulatory body—the China Securities Regulatory Commission (CSRC). From time to time, the CSRC engages in market-wide IPO suspensions that expose firms already approved for an IPO to indeterminate listing delays. These suspensions occur at different times and for different regulatory reasons (Packer & Spiegel, 2016; Piotroski & Zhang, 2014; Shi et al., 2018; Tian, 2011). These reasons are generally unrelated to firm-level factors, allowing for causal inferences that are potentially more clean in comparison to other settings, such as IPO withdrawals (e.g., Hsu et al., 2010).

Strategic models of entry deterrence suggest that, in anticipation of heightened competitive threats, incumbent firms would engage in defensive moves to secure their market positions and fend off competition. Such actions may include reputation building and signal jamming through operating and investment activities as well as corporate disclosure (Darrough & Stoughton, 1990; Fudenberg & Tirole, 1986; Milgrom & Roberts, 1982; Wagenhofer, 1990). Hence, the incumbent firms likely engage in defensive moves in anticipation of heightened competition threats associated with the rival's IPO. It is less clear how they would respond to the reversal of such expectations that arises from the rival's subsequent listing delay. Incumbent firms likely respond to this event, because prior studies have found listing delay to have a material adverse impact on the issuing firm. Cong and Howell (2021) find that listing delay has an adverse impact on the issuing firm's innovation for at least 4 years. On the one hand, one stream of theoretical research suggests that incumbent firms would engage in predatory behavior; that is, they would continue to defend against weakened competitors to make them even weaker (Bolton & Scharfstein, 1990; Fudenberg & Tirole, 1986; Grieser & Liu, 2019). On the other hand, another stream of theoretical research suggests that because defensive moves are usually costly, incumbent firms may curtail defensive moves in response to reduced expectations of competitive threats (Clinch & Verrecchia, 1997; Horen, 2005; Huang, et al., 2017; Milgrom & Roberts, 1982).¹ Thus, how an incumbent firm would respond to a rival firm's IPO delay is an open empirical question.

Drawing upon theory and anecdotal evidence, we consider two defensive strategies in anticipation of heightened competitive threats arising from a competitor's IPO. First, the competitor is expected to seize a larger market share and attract more customers after its IPO. Thus, one plausible defensive strategy of the incumbent firms is to increase efforts in customer retention and acquisition, such as offering a more generous trade credit policy (Horen, 2005; Summers & Wilson, 2003) and/or spending more resources to promote sales to customers (Chintagunta & Vilcassim, 1992). Second, prior research has highlighted the potential for mergers and acquisitions (M&As) to fend off competition by decreasing the number of competitors (Clougherty & Duso, 2011). Kim and Singal (1993) and Chatterjee (1986) show that acquisitions can reduce competitive rivalry and engender accommodation of the merging firms by their rivals, all creating a competitive context favorable to the acquirer.

We use four major IPO suspensions in the history of China's capital markets, occurring in 2004, 2008, 2012, and 2015, respectively, to examine the effect of a rival firm's listing delay on

¹ Milgrom and Roberts (1982) note that defense through aggressive investment activities is usually costly. Defense through the provision of a favorable credit policy to secure relationships with upstream and downstream partners is also costly because it will jeopardize a firm's working capital situation (Horen, 2005). Defense through the disclosure of good news also entails significant information processing and proprietary costs (Aobdia, 2015; Cheng & Lo, 2006; Verrecchia, 2001).

the incumbent firm's behavior. Because IPO applicants that have been approved by the CSRC face varying times to the final listing, each suspension event partitions the applicant firms into two groups based on the ultimate listing outcome: (1) firms that are successfully listed before the suspension and (2) firms that are caught by the suspension and thus must postpone their listing until the suspension ends. We define "suspended firms" as those whose IPO application was approved by the CSRC but did not reach completion of the listing process before the IPO suspension started. We define "non-suspended firms" as those that were on schedule and were successfully listed on the stock market within 12 months before the IPO suspension. Among the former group of firms that were delayed by the suspension, we keep firms that were approved in the 12 months before the suspension and were delayed by the suspension, but were eventually listed within 12 months after the suspension ended.

We define a treatment firm as an incumbent firm whose biggest IPO competitor is a "suspended firm" in the year before the suspension. The control firm is an incumbent firm whose biggest IPO competitor in the year before the suspension is a "non-suspended firm." We identify a firm's product market competitors based on the degree of product similarity between them using a text-based analysis of the firm's business descriptions in its annual report (Hoberg & Phillips, 2016).² The key idea is that closeness in the product space reflects the degree to which a firm is similar to its competitor as well as the level of competition between them. Among the four IPO suspension events, two have a duration of less than 6 months.³ To mitigate the confounding effect of IPO reinitiation, for the main analysis we focus on $[-2, 1]$ quarters surrounding each suspension, with quarter 0 being the quarter when suspension begins.

To examine the incumbent firms' efforts in customer retention and acquisition, we investigate the generosity of their trade credit policy, measured inversely with accounts receivable turnover (Barrot, 2016; Horen, 2005; Murfin & Njoroge, 2015). We also examine the amount of resources firms allocate to customer retention and acquisition, measured by selling expenses as a percentage of revenue. Selling expenses include advertising and other costs associated with generating revenue through sales activities.⁴ For acquisition activities, we examine three M&A variables where the firm participates as a bidder—the total number of M&As initiated, the number of high-premium acquisitions initiated, and the number of horizontal acquisitions initiated (Shahrur, 2005; Stigler, 1950, 1964).

We begin the analysis by conducting a univariate analysis separately for the treatment and control firms.⁵ Empirical evidence shows that treatment firms experience a significant reduction in defensive moves after rival firms' IPO suspension, as manifested by a higher accounts receivable turnover, lower selling expenses, and fewer M&A activities, including high-premium and horizontal acquisitions. In contrast, there are no significant changes in control firms' behavior. These findings are further confirmed using difference-in-differences (DiD) regressions. The effects are economically significant. Incumbent firms experience a 12.0% increase in accounts receivable turnover and an 11.1% standard deviation decrease in selling expenses. M&A activities decrease by 14.9% standard deviation. In particular, high-premium and horizontal acquisition decrease by 22.7% and 18.3% standard deviation, respectively.

We conduct several further analyses to strengthen the validity of our main findings. First, the validity of DiD analysis hinges critically upon the satisfaction of the parallel trend assumption. We provide empirical evidence suggesting that this assumption is not violated. Second,

²For Chinese listed firms, the "Overview of Business" section and/or the "Report of the Directors" section of the annual report provide detailed business descriptions of the firm.

³Two suspension events with a duration of less than 6 months are Suspension #1 (August 26, 2004, to January 23, 2005) and Suspension #4 (July 4, 2015, to November 6, 2015).

⁴Most Chinese firms do not report advertising expenses, but all Chinese firms are required to report selling expenses separately.

⁵The univariate analysis is important because DiD regression results are subject to an alternative explanation that they may not be driven by changes in treatment firms' behavior, but by control firms' slow reactions to rival firms' IPOs. Under this alternative explanation, treatment firms may not have had the chance to react to rival firms' IPO suspensions in a short period of time, whereas control firms whose rival firms were successfully listed before the suspension may engage in defensive moves gradually over time.

we conduct two placebo tests to further ensure the validity of our identification strategy. In the first placebo test, we randomly assign firms in our sample as treatment or control firms and repeat the main analyses 1,000 times. The DiD estimates from these placebo tests are all weaker than the true estimates and are, on average, indistinguishable from zero, suggesting that our main findings are unlikely to be driven by chance. In the second placebo test, we use a “placebo event time” that is 18 months before each actual IPO suspension and repeat the main analyses. We no longer observe any significant results.⁶ Third, we repeat the main analysis for each of the four IPO suspension events. The empirical results exhibit consistent patterns. This analysis corroborates our main findings, and more importantly, it alleviates the concern that our results based on pooled events could be driven by a single event, which is more likely to be confounded by concurrent events.

To shed light on the conditions under which the documented effects are stronger and to strengthen identification, we conduct three sets of cross-sectional analyses. Our central argument is that a rival's listing delay reduces the expected competitive threat faced by incumbent firms, thus reducing the need for costly defensive moves. Following this logic, we expect the effect to be stronger when the harm caused by the new IPO rival is greater. We find supportive evidence that the documented effects are stronger for incumbent firms facing more intensive competition from the suspended firm. We also expect the effect to be stronger when the defensive moves are more costly for the incumbent firms. We find supportive evidence that the documented effect is stronger for incumbent firms that face greater competitive pressure from existing public rivals and those that are more financially constrained.

In the final part of the paper, we conduct additional analyses to corroborate our findings and to substantiate the argument that incumbent firms reduce defensive moves in response to competitors' listing delays. First, we test the conjecture that if incumbent firms cut back on defensive actions after the rival's listing delay, we would expect to see them engaging in such actions when the rival firm enters the IPO process in the first place. We examine two key events that may affect the incumbent firm's competition expectations—the rival firm's IPO application and IPO approval. We find supporting evidence that incumbent firms increase customer retention and acquisition efforts, as well as acquisitions, surrounding these two events. Second, we find that managers of incumbent firms reduce competition-related disclosures in quarterly reports. These results are consistent with the reduced competition perceived by managers (Hoberg & Phillips, 2016). Third, we find that incumbent firms experience better financial performance after a rival firm's IPO suspension. Fourth, we find that incumbent firms experience an increase in withdrawing previously initiated M&As, including those with negative announcement market reaction, after a rival firm's IPO suspension. Fifth, we confirm that incumbent firms experience significant positive returns after their competitor's IPO suspension. This result is consistent with US evidence based on IPO withdrawals (Hsu et al., 2010). Sixth, we examine whether incumbent firms reinstate defensive moves after the IPO suspension ends. We find some supporting evidence in the year after the suspension ends. Finally, to gain more practical insights, we conduct a survey among 199 senior managers of public firms in China. Survey evidence further corroborates our findings that incumbent firms pay attention to competitors' IPO processes and strategically respond during the process.

Our study contributes to two strands of literature. First, it adds to the IPO literature, especially the growing research on the IPO peer effect. The IPO suspensions in China provide a unique setting of plausibly exogenous increases in peer firms' IPO uncertainty, allowing us to study the causal effect of reduced competition expectations on focal firms' defensive strategies. Our finding of focal firms reducing costly defensive moves after rival firms' IPO suspensions

⁶In untabulated tests, we also examined other placebo event time (including 16 and 20 months before each IPO suspension), and the results are similar.

also sheds light on a potential source of positive stock returns after a rival firm’s IPO setbacks that are documented by prior studies (Hsu et al., 2010; Spiegel & Tookes, 2020).

Second, our paper contributes to the growing literature on corporate competitive strategies. Theoretical models and empirical evidence suggest that competition from potential entrants prompts incumbent firms to change their business decisions, including increasing investments to build a reputation of toughness, providing a more generous credit policy to lock in customers, and increasing optimistic disclosures (Darrough & Stoughton, 1990; Fudenberg & Tirole, 1986; Milgrom & Roberts, 1982). We add to this stream of literature by advancing the understanding of anticompetitive dynamics during the IPO process. We report evidence that firms engage in defensive actions, such as increasing efforts for customer retention and acquisition, as well as aggressive M&As, when a major competitor applies for an IPO, and subsequently reduce such actions when the competitor encounters a listing delay.

One may be concerned that our findings based on the China setting may not be generalizable to other countries with different institutions. While we acknowledge such a concern, we believe external validity is unlikely to be a serious issue for two reasons. First, we focus on entry deterrence in the context of a competitor’s IPO, which is also relevant to the United States and other countries with substantial product market competition and IPO activities. Moreover, the two defensive strategies—extra efforts in maintaining the customer base and aggressive acquisitions—are also expected in other economies. Second, if there is any bias in the China setting, it tends to bias toward no results because China has traditionally been a relationship-based economy (DeFond et al., 2024; Lin et al., 1996), and thus incumbent firms may respond to increased competition due to competitors’ IPOs using nonmarket strategies.

2 | INSTITUTIONAL BACKGROUND

2.1 | The IPO process in China

Firms seeking a public listing in China must go through a multistep administrative process governed by the CSRC. On average, it takes a firm approximately 3 years to complete the listing process. The process begins with the firm hiring a qualified investment bank, an accounting firm, and a law firm to help navigate through the complexities of the IPO process, including restructuring the firm into a qualified stock share limited company and making sure the firm’s financial reporting and corporate governance are in full compliance with the CSRC’s requirements (Yang, 2013).⁷ The firm then files a formal IPO application with the CSRC. Afterward, the firm enters an IPO queue and the application goes through a compliance review on a first come, first served basis. The Stock Issuance Examination and Verification Committee (SIEVC) of the CSRC determines whether the firm meets the regulatory requirements and is eligible for an IPO. After being approved by the SIEVC, the firm waits for the approval document and then prepares for the final stage of the listing process. The firm and its underwriter need to prepare the IPO prospectus and conduct the “road show” to build the book. The share subscription day is then determined through negotiation with the stock exchange. The firm needs to publish a listing statement at least 3 days before the subscription day. The time gap between CSRC approval and final listing is generally 2–5 months. The approval document was valid only for 6 months before 2013, and it has been extended to 12 months since 2013. In practice, all IPO applicants try to finish the process and become listed as soon as possible after the lengthy application process.

⁷See Piotroski and Zhang (2014) for details of the CSRC’s requirements.

2.2 | IPO suspensions

A major uncertainty facing IPO applicants in China is the market-wide IPO suspensions imposed by the CSRC. There have been nine IPO suspensions in the history of China's capital markets (Shi et al., 2018). The duration of each suspension varies from 4 to 13 months. During the suspension period, IPO review meetings are canceled so that no new IPO applications are approved. More importantly, even firms that have already been approved by the CSRC before the suspension can face a pending listing and must postpone their access to the capital market until the suspension ends.

These suspensions occur at different times and for different reasons (Cong & Howell, 2021). One main reason for suspensions is to maintain the stability of the capital markets. Such IPO suspensions are typically announced during a bear market, because the CSRC believes that too many IPOs could attract capital to new issues, thus putting downward pressure on the stock prices of existing public firms (Packer & Spiegel, 2016; Shi et al., 2018; Tian, 2011). Another main reason for suspensions is to facilitate capital market reform (Piotroski & Zhang, 2014). From time to time, the CSRC launches new capital market policies that take time to implement. For example, the IPO suspension in 2004 was due to the split share structure reform (see Firth et al., 2010, and Tan et al., 2020, for institutional details).⁸

3 | SAMPLE SELECTION, DATA, VARIABLE MEASUREMENT, AND SUMMARY STATISTICS

3.1 | Sample selection and data

Our sample selection process starts with firms that filed for an IPO on the main board, the small and medium-sized enterprises board, and the ChiNext board of the Shanghai and Shenzhen stock exchanges from 2004 to 2016.⁹ We retrieve the names of these firms and their IPO prospectuses from the CSRC's website. Information on the application date, approval status (date of approval or denial by the CSRC), and listing date of successful IPOs are obtained from the Wind database. IPO suspension information is hand-collected from the official announcements of the CSRC and news articles.

Among nine IPO suspensions in the history of China's capital markets, only four are used in this study—Suspension #1 (from August 26, 2004, to January 23, 2005), Suspension #2 (from September 16, 2008, to July 9, 2009), Suspension #3 (from November 16, 2012, to December 30, 2013), and Suspension #4 (from July 4, 2015, to November 6, 2015) (see Appendix 1 for details). We exclude four suspension events before 2004 because detailed information about the approval and listing of IPO applicants is not publicly available. We exclude another suspension between May 25, 2005, and June 2, 2006, because it began only 4 months after a preceding suspension that ended on January 23, 2005, and therefore may confound our findings.

Because each IPO suspension typically lasts only for months, we focus on incumbent firms' short-term behavior using quarterly data. Information on incumbent firms' activities is obtained from the CSMAR database. To identify product market competitors using text-based analysis, we collect incumbent firms' annual reports from the disclosure platform designated by the CSRC.¹⁰ We then exclude incumbent firms without suspension-affected IPO competitors in

⁸The reasons and details of the IPO suspensions can be found in the following sources: (1) "A Review of China IPO Suspensions," *Security Daily*, June 19, 2013, retrieved from http://epaper.zqrb.cn/html/2013-06/19/content_362206.htm and (2) "A Review of nine IPO Suspensions in China A-share market," *Finance Daily*, July 14, 2015, retrieved from <http://www.mrcjcn.com/n/49812.html>.

⁹The sample period ends in 2016 because the last IPO suspension was in 2015, and we examine several quarters surrounding each suspension.

¹⁰We collect the annual reports from <http://www.cninfo.com.cn/new/index>.

the text-based network. After excluding financial firms, firms with missing financial information, and firms with special treatment status, our sample is composed of 13,245 firm-quarter observations.¹¹

3.2 | Text-based identification of product market competitors and validation tests

Our empirical tests entail the identification of incumbent firms' product market competitors. Following Hoberg and Phillips (2016), we identify a competitor based on the degree of product similarity between them upon a text-based analysis of the firm's business descriptions in its annual report. The key idea is that closeness in the product space reflects the degree to which a firm is similar to its competitors and the level of competition between them.¹² We choose this classification scheme over traditional industry classifications for several reasons. First, two firms in the same industry defined by traditional classifications could operate in two sub-industries separately, without competitive relationships. Text-based classifications focusing on business descriptions can more accurately identify product market competitors. Second, Chinese companies frequently change their product offerings and expand into new sectors. They are required to disclose timely and accurate information about these changes in their annual reports. Therefore, text-based analysis of product similarity enables us to capture the dynamic changes in a firm's product mix and industry presence. Third, a text-based classification scheme captures cross-industry relatedness with the trend of firms' operational diversification. Fourth, text-based classification scheme also captures within-industry heterogeneity so that we can measure the intensity of competition between two firms in the same industry based on their product similarity.

Following Hoberg and Phillips (2016), we begin by downloading the annual reports of all public firms and identifying the "Report of the Directors" section of the annual report, which provides detailed business descriptions. If this section is not available, we use the "Overview of Business" section instead. We then parse all words contained in the section and keep words that are related to the firm's business and products, which results in a database (i.e., product market space) of 12,802 unique words. We vectorize the product market vocabulary so that a firm's vocabulary in each year can be represented by a vector, with each element being populated by one if the firm uses the word, and zero if it does not. We then assign pairwise similarity scores based on the cosine similarity between the two firms' vectorized business descriptions. The cosine similarity between two firms is higher when their product market descriptions are more similar. This similarity measure ranges from zero (no similarity) to one (perfect similarity).

Following Hoberg and Phillips (2016), we label firms i and j as a "membership pair" if they are in the same industry for a given classification. We determine the threshold-generating industries with the same fraction of membership pairs as Wind-3 industries (the Chinese equivalent of the three-digit SIC industry classifications). The mean threshold value for our sample is 0.289. Firms i and j are classified as product market competitors of each other if the similarity score between them is higher than the threshold value. Our final text-based network of firms includes 2,376,346 pair-year observations, and each firm has an average of 175 competitors. We provide a detailed description of the empirical procedure and a series of validation tests applying the Hoberg and Phillips (2016) method to Chinese firms, as well as examples of firms and their competitors in Appendices S1 and S2.¹³

¹¹The Shanghai and Shenzhen stock exchanges give "special treatment" status to listed companies with unusual financial or other conditions (e.g., net profit being negative for two consecutive fiscal years) that are prone to significant delisting risk.

¹²This method has also been used by researchers in China. For example, Ren and Wang (2019) use this classification scheme to study product market competition and corporate disclosure behavior in China.

¹³See the Supporting Information.

3.3 | Variable construction

3.3.1 | Efforts in customer retention and acquisition

We examine two variables that relate to a firm's efforts to strengthen customer retention and acquisition. The first variable is the natural logarithm of accounts receivable turnover $\text{Ln}(R/AR)$, calculated as a firm's revenue (R) divided by the average accounts receivable (AR) for a quarter. A liberal credit policy typically would give the firm a competitive edge in the product market when competing against other firms for customers. Accounts receivable turnover, as measured above, reflects (inversely) the generosity of a firm's trade credit policy and the firm's efforts in collecting its receivables (Murfin & Njoroge, 2015).¹⁴ A higher value of $\text{Ln}(R/AR)$ reflects lower efforts in customer retention and acquisition through the trade credit policy.

The second variable is selling expenses divided by revenue for a quarter (*Selling Expense*). The Chinese data provide selling expenses, which include advertising and other costs associated with promoting and marketing products and/or services to customers and generating revenue. A higher value of *Selling Expense* indicates more resources spent on customer retention and acquisition (Chintagunta & Vilcassim, 1992).¹⁵

3.3.2 | M&As

We examine three variables related to M&As. The first variable, *AcqNumber*, is the total number of acquisitions that a firm initiates as a bidder in a quarter (based on the announcement date). The second variable, *Premium_AcqNumber*, is the number of high-premium acquisitions that a firm initiates as a bidder in a quarter, where a high-premium acquisition is one where the acquisition price exceeds the target firm's book value. Even though paying a higher premium helps to win the deal, it implies higher costs and has been shown to be associated with poorer post-acquisition performance (Krishnan et al., 2007). The third variable, *Horizontal_AcqNumber*, is the number of horizontal acquisitions that a firm announces in a quarter. Prior studies suggest that horizontal and vertical acquisitions serve different purposes. Bain (1956) argues that horizontal acquisitions mainly serve the purpose of reducing the number of rivals. Stigler (1950, 1964) argues that horizontal acquisitions can decrease the intensity of industry competition. Further, he contends that horizontal acquisitions are more likely to have such effects when product similarity is high.

3.4 | Summary statistics

Table 1 provides summary statistics of the variables used in the main analyses. To minimize the effect of outliers, we winsorize all continuous variables at the 1st and 99th percentiles. The average firm in our sample has a natural logarithm of accounts receivable turnover of 0.53 and selling expenses (scaled by sales) of 0.07. The mean of total M&A activities, high-premium acquisitions, and horizontal acquisitions is 0.16, 0.06, and 0.02, respectively. Regarding control variables, an average firm has a natural logarithm of assets of 21.90, a leverage ratio of 45%, a natural logarithm of age of 2.07, a market-to-book ratio of 2.13, ROA of 1%, cash holding of 0.18, and nine directors. Forty-six percent of firms are state-owned.

¹⁴To see this, R/AR equals $\text{Credit}R/AR$ divided by $\text{Credit}R/R$, where $\text{Credit}R$ is credit sales. Lower $\text{Credit}R/R$ indicates a less generous trade credit policy in terms of the credit amount extended, while higher $\text{Credit}R/AR$ reflects the length of the trade credit term as well as a firm's efforts in collecting existing receivables. While the theoretical definition of accounts receivable turnover is $\text{Credit}R/AR$, R/AR is used in practice for financial analyses because credit sales are unavailable to outsiders.

¹⁵While accounts payable turnover and selling expenses reflect a firm's customer retention and acquisition efforts, they can potentially also capture other operational factors, such as operational efficiency and cost-cutting initiatives.

TABLE 1 Summary statistics.

Variable	Mean	Median	SD	N
Measures of defensive behaviors				
<i>Ln(R/AR)</i>	0.528	0.262	1.332	13,245
<i>Selling Expense</i>	0.066	0.040	0.081	13,245
<i>AcqNumber</i>	0.162	0.000	0.477	13,245
<i>Premium_AcqNumber</i>	0.055	0.000	0.229	13,245
<i>Horizontal_AcqNumber</i>	0.017	0.000	0.131	13,245
Measures of firm performance				
<i>Sales</i>	19.835	19.717	1.497	13,245
<i>Earnings</i>	17.158	17.151	1.656	13,245
<i>SalesGrowth</i>	0.144	0.027	0.683	13,245
<i>EarningsGrowth</i>	0.058	−0.134	4.639	13,245
Measures of competition disclosure				
<i>CompRelatedFrequency</i>	5.813	2.000	8.328	13,245
Control variables				
<i>Size</i>	21.901	21.714	1.256	13,245
<i>Leverage</i>	0.447	0.449	0.213	13,245
<i>Age</i>	2.073	2.197	0.760	13,245
<i>MB</i>	2.134	1.549	1.783	13,245
<i>ROA</i>	0.009	0.008	0.016	13,245
<i>CashHolding</i>	0.175	0.138	0.130	13,245
<i>SOE</i>	0.457	0.000	0.498	13,245
<i>BoardSize</i>	8.896	9.000	1.811	13,245

Note: This table reports the summary statistics of main variables used in subsequent analyses. Variable definitions are provided in Appendix 2.

4 | IDENTIFICATION STRATEGY

4.1 | Identifying treatment and control firms

Each IPO suspension partitions firms approved for IPO into two groups based on the ultimate listing outcome—firms that are successfully listed before the suspension begins, and firms that are affected by the suspension and thus must postpone their listing until the suspension ends. We define “suspended firms” as those whose IPO application was approved by the CSRC but did not finish the listing procedure before the IPO suspension began. We define “non-suspended firms” as those that were on schedule and successfully listed on the stock market within 12 months before the IPO suspension. Among the former group of firms, we keep firms that were approved in the 12 months before the IPO suspension but were eventually listed within 12 months after the suspension ended. We exclude firms that were unable to successfully list within a year after the IPO suspension because their listing delays could be caused by firm-specific factors rather than the regulation.¹⁶

¹⁶For example, Qiaodan Sports was approved for IPO on November 25, 2011. However, on February 23, 2012, US basketball star Michael Jordan filed a lawsuit against the company, asking for the cancellation of 78 registered trademarks of Qiaodan Sports, which caused a listing delay for the company. Although Qiaodan Sports’s IPO was also affected by the 2012 IPO suspension, its listing delay is not mainly due to this regulatory change but rather to the firm’s own lawsuit.

We define treatment firms as incumbent firms with at least one rival firm in the year before the suspension that is a suspended firm.¹⁷ We define control firms as incumbent firms with at least one rival firm in the year before the suspension that is a non-suspended firm. In some cases, an incumbent firm may have more than one competitor that applies for an IPO during the same time period. We cannot use all these IPOs because they are not isolated in time, and an incumbent firm could have two competitors, one of which is a suspended firm while the other is a non-suspended firm. Thus, the challenge is to choose IPO competitors for which the results are not contaminated by the effect of other IPOs competing with the same incumbent firm during the same IPO suspension. Following Hsu et al. (2010), we only keep the largest IPO competitor—measured by the average asset value over 3 years prior to the IPO year—to minimize cross-IPO contamination of the results.¹⁸

Another concern is that some non-suspended firms may be listed in two quarters before the IPO suspension, which may confound the behavior of control firms. We therefore require the listing time of non-suspended firms not to coincide with our examination window. Following our selection criteria, we end up with 223 IPO application firms, including 134 suspended firms and 89 non-suspended firms.

4.2 | Specifications

To assess the effect of product market competitors' listing delays on incumbent firms' defensive behaviors, we estimate the following model:

$$Y_{it} = \alpha + \beta \text{AfterTreat}_{it} + \gamma \text{Control}_{it} + \text{Quarter}_t + \text{Firm}_i + \varepsilon_{it}, \quad (1)$$

where i indexes firm and t indexes year-quarter. Because two IPO suspensions (Suspension #1 and Suspension #4) lasted less than two quarters, for the main analysis we use $[-2, +1]$ quarters surrounding each suspension (with 0 being the quarter when the suspension begins) to alleviate the confounding effect of IPO reinitiation. The dependent variable is the measures of firms' customer retention and acquisition efforts and M&A activities described in Sections 3.3.1 and 3.3.2. The main variable of interest, *AfterTreat*, is a dummy variable that equals one if the incumbent firm is in the treatment group and the time period is the post-IPO suspension period, and zero otherwise. *Control* is a vector of firm characteristics that may be associated with our dependent variables, including firm size, leverage, age, market-to-book ratio, profitability, sales growth, cash holding, state ownership, and board size. We provide detailed variable definitions in Appendix 2. *Quarter* and *Firm* capture quarter and firm fixed effects, respectively. We cluster standard errors at the firm level.

5 | MAIN RESULTS

5.1 | Univariate analysis

We begin with a univariate analysis separately for the treatment and control groups to understand the distinct patterns of change for each group. This analysis helps alleviate the concern that the results of the DiD analysis in the subsequent regressions may be driven by changes in control firms' behavior—at the time of a rival's IPO suspension, treatment firms may not be

¹⁷The matching time point is the year after rival firms' eventual successful listing, when their annual reports become available for the first time (and hence allow us to calculate the product market similarity).

¹⁸In an untabulated test, we use IPO proceeds as an alternative measure of competitor size and find similar results.

TABLE 2 Univariate analysis.

Panel A: Univariate analysis of treatment firms (number of suspended IPOs = 134; number of incumbent firms = 1,406)					
Variable		<i>Pre (2)</i>	<i>Pre (1)</i>	<i>Current</i>	<i>Post (1)</i>
Observations		1,633	1,688	1,725	1,794
Measures of defensive behavior					
<i>Ln(R/AR)</i>	Mean	0.493	0.627	0.459	0.690
	Median	0.257	0.347	0.229	0.393
<i>Selling Expense</i>	Mean	0.075	0.070	0.073	0.064
	Median	0.045	0.043	0.043	0.040
<i>AcqNumber</i>	Mean	0.166	0.173	0.189	0.115
	Median	0.000	0.000	0.000	0.000
<i>Premium_AcqNumber</i>	Mean	0.055	0.061	0.062	0.018
	Median	0.000	0.000	0.000	0.000
<i>Horizontal_AcqNumber</i>	Mean	0.022	0.017	0.026	0.001
	Median	0.000	0.000	0.000	0.000
Measures of competition disclosure					
<i>CompRelatedFrequency</i>	Mean	8.058	1.139	10.267	1.165
	Median	5.000	0.000	8.000	0.000
Measures of firm performance					
<i>Sales</i>	Mean	19.707	19.885	19.757	20.031
	Median	19.606	19.786	19.676	19.928
<i>Earnings</i>	Mean	17.026	17.286	17.080	17.465
	Median	17.000	17.244	17.057	17.428
<i>SalesGrowth</i>	Mean	-0.131	0.338	0.007	0.463
	Median	-0.126	0.144	-0.042	0.197
<i>EarningsGrowth</i>	Mean	-0.304	0.404	-0.208	0.381
	Median	-0.375	0.103	-0.245	0.117
Panel B: Univariate analysis of control firms (number of suspended IPOs = 89; number of incumbent firms = 1,372)					
Variable		<i>Pre (2)</i>	<i>Pre (1)</i>	<i>Current</i>	<i>Post (1)</i>
Observations		1,567	1,579	1,607	1,652
Measures of customer retention and acquisition					
<i>Ln(R/AR)</i>	Mean	0.455	0.565	0.416	0.496
	Median	0.206	0.292	0.152	0.216
<i>Selling Expense</i>	Mean	0.062	0.058	0.062	0.063
	Median	0.039	0.036	0.039	0.039
Measures of M&As					
<i>AcqNumber</i>	Mean	0.144	0.170	0.170	0.169
	Median	0.000	0.000	0.000	0.000
<i>Premium_AcqNumber</i>	Mean	0.054	0.068	0.056	0.068
	Median	0.000	0.000	0.000	0.000

TABLE 2 (Continued)

Panel B: Univariate analysis of control firms (number of suspended IPOs = 89; number of incumbent firms = 1,372)					
Variable Observations		Pre (2) 1,567	Pre (1) 1,579	Current 1,607	Post (1) 1,652
<i>Horizontal_AcqNumber</i>	Mean	0.019	0.015	0.019	0.019
	Median	0.000	0.000	0.000	0.000
Measures of competition disclosure					
<i>CompRelatedFrequency</i>	Mean	7.601	1.438	12.111	5.125
	Median	5.000	0.000	10.000	0.000
Measures of firm performance					
<i>Sales</i>	Mean	19.706	19.898	19.774	19.903
	Median	19.580	19.740	19.636	19.786
<i>Earnings</i>	Mean	16.897	17.263	16.983	17.217
	Median	16.910	17.251	16.983	17.278
<i>SalesGrowth</i>	Mean	−0.097	0.327	−0.029	0.234
	Median	−0.114	0.152	−0.054	0.104
<i>EarningsGrowth</i>	Mean	−0.146	0.576	−0.264	0.003
	Median	−0.316	0.154	−0.293	−0.016

Note: This table reports the univariate comparisons between treatment firms (in Panel A) and control firms (in Panel B) for measures of customer retention and acquisition efforts, M&A activities, competition disclosure, and financial performance. *Pre (2)* and *Pre (1)* denote two quarters and one quarter before the IPO suspension, respectively; *Current* denotes the quarter of the IPO suspension; *Post (1)* denotes one quarter after the IPO suspension. Other variables are defined in Appendix 2.

able to react in a short period of time, while control firms whose rival is successfully listed before the suspension may change behavior gradually over time.

We present the univariate results on measures of customer retention and acquisition efforts and M&A activities in Table 2 and the corresponding plots in Figure 1. As shown, the treatment and control firms exhibit similar trends in the pre-suspension period. However, in the post-suspension period, treatment firms experience an obvious increase in accounts receivable turnover and decrease in selling expenses, as well as an obvious reduction in the number of acquisitions, including high-premium and horizontal acquisitions. In contrast, control firms exhibit no similar changes.¹⁹ We also report the univariate results on managers' competition disclosures and firm performance. Treatment firms experience a decrease in their managers' competition disclosures and an increase in financial performance, but we find no similar patterns for control firms. Taken together, the univariate analysis provides preliminary evidence for the conjecture that, in anticipation of reduced imminent competitive threats, the incumbent firms reduce costly defensive moves.²⁰

¹⁹In untabulated tests, we confirm the findings of the univariate analysis by conducting regression analysis separately for the treatment and control firms. While treatment firms experience a significant increase in defensive moves, control firms exhibit no significant changes.

²⁰The average time gap between IPO approval and final listing for suspended and non-suspended firms was 426 and 64 days, respectively. Additionally, for all non-suspended firms in our sample, a total of 531 M&A deals were initiated and 11 deals were withdrawn within the approval-listing window. For all suspended firms, the corresponding numbers were 1,553 and 70, respectively.

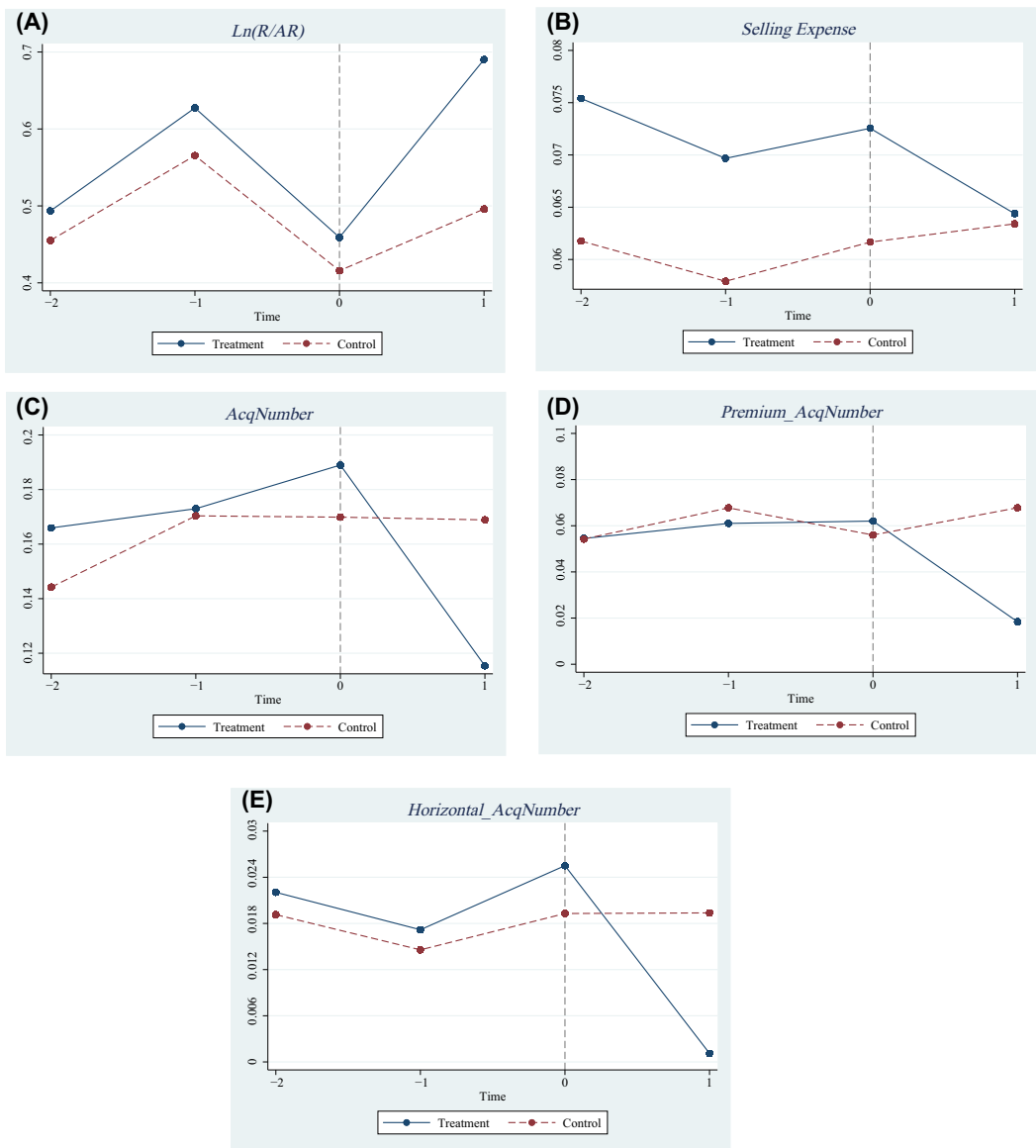


FIGURE 1 Time trends of defensive behaviors of treatment and control firms. This figure plots the means of measures of defensive behaviors by quarter separately for treatment and control firms over time. Defensive behavior is measured by (A) $\ln(R/AR)$, which is defined as a firm's revenue (R) divided by the average accounts receivable (AR); (B) $Selling\ Expense$, which is defined as selling expenses divided by revenue; (C) $AcqNumber$, which is defined as the total number of acquisitions that a firm initiates as a bidder; (D) $Premium_AcqNumber$, which is defined as the number of high-premium acquisitions that a firm initiates as a bidder; and (E) $Horizontal_AcqNumber$, which is defined as the number of high-premium acquisitions that a firm initiates as a bidder. Quarter 0 is the IPO suspension quarter. The solid line represents the treatment group, the non-vertical dashed line represents the control group, and the vertical dashed line indicates the IPO suspension quarter.

5.2 | The DiD estimation

Table 3, Panel A, presents the results of the DiD estimation for customer retention and acquisition efforts. In Column 1, in which the dependent variable is $\ln(R/AR)$, the coefficient estimate

TABLE 3 Impact of rival firms' IPO suspension on incumbent firms' defensive behavior.

Panel A: Customer retention and acquisition efforts

Dependent variable	(1) Ln(RAR)	(2) Selling Expense
AfterTreat	0.120*** (0.015)	−0.009*** (0.001)
Size	0.213*** (0.047)	−0.016** (0.007)
Leverage	0.753*** (0.127)	−0.013 (0.010)
Age	0.065 (0.057)	0.010* (0.005)
MB	0.010 (0.007)	−0.001 (0.001)
ROA	0.095*** (0.005)	−0.006*** (0.001)
SalesGrowth	0.000 (0.000)	−0.000 (0.000)
CashHolding	0.269*** (0.092)	0.021** (0.010)
SOE	−0.119 (0.145)	−0.026 (0.021)
BoardSize	0.003 (0.012)	−0.001 (0.001)
Firm and Quarter FE	Included	Included
Observations	13,245	13,245
Adjusted R ²	0.96	0.91

Panel B: M&As

Dependent variable	(1) AcqNumber	(2) Premium_AcqNumber	(3) Horizontal_AcqNumber
AfterTreat	−0.071*** (0.017)	−0.052*** (0.009)	−0.024*** (0.004)
Size	−0.040 (0.044)	−0.093*** (0.029)	−0.011 (0.013)
Leverage	0.216 (0.149)	0.043 (0.077)	0.041 (0.045)
Age	−0.075 (0.095)	−0.004 (0.045)	0.035 (0.023)
MB	0.017* (0.009)	0.005 (0.005)	0.002 (0.003)
ROA	0.001 (0.004)	−0.001 (0.002)	−0.001 (0.001)
SalesGrowth	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)

(Continues)

TABLE 3 (Continued)

Panel B: M&As			
Dependent variable	(1) <i>AcqNumber</i>	(2) <i>Premium_AcqNumber</i>	(3) <i>Horizontal_AcqNumber</i>
<i>CashHolding</i>	−0.117 (0.107)	0.047 (0.053)	0.035 (0.032)
<i>SOE</i>	−0.198 (0.121)	−0.065 (0.054)	−0.003 (0.004)
<i>BoardSize</i>	−0.029* (0.017)	−0.011 (0.010)	−0.000 (0.004)
Firm and Quarter FE	Included	Included	Included
Observations	13,245	13,245	13,245
Adjusted R^2	0.33	0.32	0.31

Note: This table reports the results of the DiD tests on the impact of rival firms' IPO suspension on incumbent firms' defensive behavior. Panels A and B present the results for customer retention and acquisition efforts and M&As, respectively. Each regression includes quarter and firm fixed effects. The coefficient for the constant is omitted. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

on *AfterTreat* is positive and significant (0.120), implying that incumbent firms' accounts receivable turnover experiences a 12.0% increase after a rival's IPO suspension. This finding suggests that treatment firms extend trade credit less generously and/or become less lenient in the collection of accounts receivable after the rival firm's IPO suspension relative to control firms. In Column 2, in which the dependent variable is *Selling Expense*, the coefficient estimate on *AfterTreat* is significantly negative (−0.009), implying that treatment firms' selling expenses decrease by 0.009 after the rival firm's IPO suspension relative to control firms. The magnitude of 0.009 represents 11.1% of the sample standard deviation. Taken together, these findings suggest that incumbent firms significantly reduce efforts in customer retention and acquisition after their rival firms' IPO suspension.²¹

Table 3, Panel B, presents the results for M&A activities. The coefficients on *AfterTreat* are all significantly negative, −0.071, −0.052, and −0.024, respectively, for all, high-premium, and horizontal M&As. These results suggest that rival firms' IPO suspension leads to a decrease in treatment firms' number of acquisitions by 0.071, number of high-premium acquisitions by 0.052, and number of horizontal acquisitions by 0.024, relative to control firms. The magnitudes represent 14.9%, 22.7%, and 18.3% of respective sample standard deviations.²² Taken together, these findings suggest that incumbent firms experience a significant reduction in M&A activities, including high-premium and horizontal acquisitions, after a rival firm's IPO suspension.²³

5.3 | Parallel trends assumption

The validity of our DiD analysis hinges critically upon the validity of the parallel trends assumption that the difference in the dependent variable between treatment and control firms would have been constant over time in the absence of treatment. Theoretically, the assumption

²¹In an untabulated test, we find that treatment firms experience an improvement in operating cash flows after rivals' IPO suspension relative to control firms. This finding is consistent with the notion that a more generous trade policy adversely affects the firm's cash flows.

²²In an untabulated test, we also use the natural logarithm of M&A variables as dependent variables, and the results are similar.

²³One may argue that a rival firm filing for an IPO could increase market attention to the incumbent firms, who might seize this opportunity to hype up the stock price by announcing new M&As. Thus, our M&A results could be due to reduced market attention caused by the rival's IPO delay. We rule out this alternative explanation by showing in an untabulated analysis that treatment firms do not experience significant changes in media coverage, our proxy for market attention, relative to control firms after a rival's IPO suspension.

cannot be tested. We follow the literature to provide suggestive evidence by exploring whether our dependent variables exhibit similar trends in the pre-suspension period for the treatment and control groups (e.g., Acharya et al., 2014; Bertrand & Mullainathan, 2003). We decompose each IPO suspension event into separate periods and construct indicator dummies accordingly: *Pre (I)* is a dummy variable that equals one for treatment firms in the first quarter before the IPO suspension, and zero otherwise; *Current* is a dummy variable that equals one for treatment firms in the suspension quarter, and zero otherwise; *Post (I)* is a dummy variable that equals one for treatment firms in the first quarter after the suspension, and zero otherwise. The second quarter before the suspension is used as the benchmark period.

We replace *AfterTreat* in Equation (1) with these dummy variables and report the results in Table 4. Panels A and B report the results for customer retention and acquisition efforts and M&A activities, respectively. As shown, the difference in each dependent variable between the treatment and control firms in quarter -1 and current quarter is insignificantly different from that in quarter -2 , as evidenced by the insignificant coefficients on *Pre (I)* and *Current* across all panels. This suggests that the parallel trend assumption for our DiD analysis is likely valid. Furthermore, we observe significant coefficient estimates on *Post (I)*, which is consistent with the treatment effect documented in Table 3.

5.4 | Placebo and robustness tests

We further conduct placebo and robustness tests to strengthen the validity of our main findings. In the first placebo test, we randomly assign a firm in our sample as a “treatment” firm or a “control” firm. We keep the number of firms in both groups the same as the baseline regression sample and repeat the placebo estimation 1,000 times. We plot the distribution of the estimated treatment effects from these tests in Appendix S3. For $\text{Ln}(R/AR)$, the estimated effects from the placebo tests are centered around zero and are all lower than the true treatment effect (the vertical line); for the other measures, the estimated effects from the placebo tests, also centered around zero, are all higher than the true treatment effects (the vertical lines). Untabulated tests indicate that for each measure, the average treatment effect from the placebo tests is indistinguishable from zero. In the second placebo test, we keep treatment and control firms intact but use 18 months before each actual IPO suspension as the “pseudo-event” time.²⁴ We repeat our main analyses using the placebo event time and report the results in Appendix S4. The coefficient estimates on *AfterTreat* are statistically insignificant across all panels. Both placebo tests suggest that our main results are unlikely to be driven by chance.

Next, we repeat the main analysis separately for each of the four IPO suspensions. Untabulated results show largely consistent patterns with those reported in Sections 5.1 and 5.2. This analysis corroborates our main findings, and more importantly, it alleviates the concern that our results based on pooled events could be driven by a single event, which is more likely to be confounded by concurrent events. Finally, we extend the event window to $[-2, +2]$ quarters surrounding the suspension and find similar results (untabulated).²⁵

5.5 | Cross-sectional heterogeneity

We further conduct heterogeneity analyses to investigate conditions under which the effect of a rival's listing delay on incumbent firms' defensive behaviors is stronger. Our central argument is

²⁴We choose 18 months to ensure that the pseudo-event time is not too close to the real event time and that it does not overlap with the previous IPO suspension (the time gap between two consecutive IPO suspensions is not long). Our findings are robust to using 16 and 20 months before each actual IPO suspension as alternative pseudo-event times.

²⁵In another untabulated robustness test, we also include policy uncertainty (EPU) as an additional control variable. Our inferences remain unchanged.

TABLE 4 Dynamic analyses.

Panel A: Customer retention and acquisition efforts			
Dependent variable	(1) Ln(<i>R/AR</i>)	(2) <i>Selling Expense</i>	
<i>Pre (I)</i>	0.016 (0.016)	−0.001 (0.002)	
<i>Current</i>	0.019 (0.018)	−0.001 (0.002)	
<i>Post (I)</i>	0.132*** (0.020)	−0.009*** (0.002)	
Controls	Included	Included	
Firm and Quarter FE	Included	Included	
Observations	13,245	13,245	
Adjusted <i>R</i> ²	0.96	0.91	
Panel B: M&As			
Dependent variable	(1) <i>AcqNumber</i>	(2) <i>Premium_AcqNumber</i>	(3) <i>Horizontal_AcqNumber</i>
<i>Pre (I)</i>	−0.016 (0.024)	−0.005 (0.011)	−0.003 (0.007)
<i>Current</i>	−0.013 (0.025)	0.003 (0.011)	0.001 (0.007)
<i>Post (I)</i>	−0.081*** (0.022)	−0.052*** (0.011)	−0.025*** (0.006)
Controls	Included	Included	Included
Firm and Quarter FE	Included	Included	Included
Observations	13,245	13,245	13,245
Adjusted <i>R</i> ²	0.33	0.32	0.31

Note: This table reports the results for the timing of the impact of rival firms' IPO suspension on incumbent firms' defensive behaviors. Panels A and B present the results for customer retention and acquisition efforts and M&As, respectively. *Pre (I)* is a dummy variable that equals one for treatment firms in the first quarter before the IPO suspension, and zero otherwise; *Current* is a dummy variable that equals one for treatment firms in the suspension quarter, and zero otherwise; *Post (I)* is a dummy variable that equals one for treatment firms in the first quarter after the suspension, and zero otherwise. The results for control variables and the constant are omitted. Each regression includes quarter and firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. Other variables are defined in Appendix 2.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

that a rival's listing delay reduces the expected competitive threat faced by incumbent firms, thus reducing the need for defensive moves that are costly to the incumbent firms. Following this logic, we expect the effect to be stronger when the harm caused by the new IPO rival is greater and when the defensive moves are more costly to the incumbent firm. The heterogeneity tests provide further support for our causal inferences because it is difficult to come up with an omitted variable that biases our results in all the cross-sectional dimensions examined below.

5.5.1 | Competitive threat from new IPO rivals

We first examine how the estimated treatment effect varies with the intensity of competition from the new rivals. When the new rival firm imposes a greater competitive threat on

incumbent firms, substantially weakening their competitive edge, the rival's IPO suspension would represent a larger reduction in the expected competitive threat. Thus, after such a rival firm experiences an IPO delay, we expect to observe a greater decline in incumbent firms' defensive activities. To test this conjecture, we measure the intensity of competition as the pairwise cosine similarity in product market descriptions between two firms, as described in Section 3.2. We construct a dummy variable *HighComp-New* that equals one if the rival firm's product market similarity with the incumbent firm is above the median among all competitors, and zero otherwise. We then partition the sample by *HighComp-New* and repeat the main DiD analyses separately for the two subsamples.

We report the results in Table 5. Panels A and B report the results for customer retention and acquisition efforts and M&A activities, respectively. For each dependent variable, while the estimated treatment effect is significant in both subsamples, it is more pronounced in the subsample with *HighComp-New* equal to one than in the subsample with *HighComp-New* equal to zero, with the statistical difference tested using seemingly unrelated estimation (SUE). These findings are consistent with our expectation that incumbent firms facing higher competitive pressures from new IPO rivals are more likely to reduce defensive activities after a rival firm's IPO suspension.

5.5.2 | Competitive pressure from existing public rivals

We next examine how the estimated treatment effect varies with the intensity of competition from existing publicly listed rivals. We posit that when incumbent firms face more intense competition from existing public rivals, it would be more costly for them to divert their attention and resources to address the competitive threat from a new IPO rival. Thus, they are more likely to reduce defensive moves against new IPO entrants after the rivals' listing delays and redirect their focus and resources on competition with existing public rivals.

To test this conjecture, we define a dummy variable *HighComp-Exist* that equals one if the competition intensity between an incumbent firm and its public rivals (other than the new IPO entrant) is above the sample median, and zero otherwise. We measure the intensity of competition as the pairwise cosine similarity in product market descriptions between two firms, as described in Section 3.2. We partition the sample by *HighComp-Exist*, repeat the main DiD analyses separately for each of the two subsamples and report the results in Table 6. Panels A and B report the results for customer retention and acquisition efforts and M&A activities, respectively. For all dependent variables, the estimated treatment effect is significantly more pronounced in the subsample with *HighComp-Exist* equal to one than in the subsample with *HighComp-Exist* equal to zero, with the statistical difference tested using SUE. These findings are consistent with our expectation that incumbent firms facing higher competitive pressures from existing public rivals are more likely to reduce defensive activities after a rival firm's IPO suspension.

5.5.3 | Incumbent firms' financial constraints

Finally, we examine how the estimated treatment effect varies with incumbent firms' financial constraints. We posit that when incumbent firms are more financially constrained, engaging in defensive moves would be more costly for them. For example, if the incumbent firms are already financially constrained, extending more trade credit to customers would jeopardize their liquidity. As a result, they are more likely to reduce defensive moves after the rival firm experiences a listing delay.

To test this conjecture, we measure financial constraints with Hadlock and Pierce's (2010) SA index and construct a dummy variable *HighConst* that equals one if the incumbent firm's financial constraint before the IPO suspension is above the sample median, and zero otherwise. We again partition the sample by *HighConst* and reconduct the main analyses separately for the two

TABLE 5 Cross-sectional test based on competition from new IPO rivals.

Panel A: Customer retention and acquisition efforts						
Dependent variable	Ln(R/AR)		Selling Expense			
	(1)	(2)	(3)	(4)		
Partitioning variable	<i>HighComp-New</i> = 1	<i>HighComp-New</i> = 0	<i>HighComp-New</i> = 1	<i>HighComp-New</i> = 0		
<i>AfterTreat</i>	0.148*** (0.025)	0.107*** (0.020)	−0.010*** (0.002)	−0.007*** (0.002)		
Controls	Included	Included	Included	Included		
Firm and Quarter FE	Included	Included	Included	Included		
Observations	6,482	6,763	6,482	6,763		
Adjusted <i>R</i> ²	0.96	0.96	0.92	0.89		
<i>p</i> -value for coeff. difference	<0.010		<0.050			
Panel B: M&As						
Dependent variable	<i>AcqNumber</i>		<i>Premium_AcqNumber</i>		<i>Horizontal_AcqNumber</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Partitioning variable	<i>HighComp-New</i> = 1	<i>HighComp-New</i> = 0	<i>HighComp-New</i> = 1	<i>HighComp-New</i> = 0	<i>HighComp-New</i> = 1	<i>HighComp-New</i> = 0
<i>AfterTreat</i>	−0.118*** (0.026)	−0.050** (0.024)	−0.076*** (0.013)	−0.036*** (0.012)	−0.031*** (0.007)	−0.020*** (0.006)
Controls	Included	Included	Included	Included	Included	Included
Firm and Quarter FE	Included	Included	Included	Included	Included	Included
Observations	6,482	6,763	6,482	6,763	6,482	6,763
Adjusted <i>R</i> ²	0.34	0.32	0.32	0.32	0.32	0.31
<i>p</i> -value for coeff. difference	<0.050		<0.050		<0.050	

Note: This table reports the results of the heterogeneity tests on how suspension-induced listing delay of competitors affects incumbent firms' behavior. The results for control variables and the constant are omitted. Each regression includes quarter and firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

subsamples. Table 7 reports the results. Panels A and B report the results for customer retention and acquisition efforts and M&A activities, respectively. For all dependent variables, the estimated treatment effect is significantly more pronounced in the subsample with *HighConst* equal to one than in the subsample with *HighConst* equal to zero, with the statistical difference tested using SUE. These findings are consistent with our expectation that incumbent firms subject to higher financial constraints are more likely to reduce defensive activities after a rival firm's IPO suspension.

6 | ADDITIONAL ANALYSES

6.1 | Incumbent firms' reaction to rival firm's IPO application and IPO approval

If incumbent firms cut back on defensive actions after a rival's IPO delay, we would see them engaging in such actions when a rival firm enters the IPO process in the first place. To explore

TABLE 6 Cross-sectional test based on competition from existing public rivals.

Panel A: Customer retention and acquisition efforts						
Dependent variable	Ln(R/AR)		Selling Expense			
	(1)	(2)	(3)	(4)		
Partitioning variable	<i>HighComp-Exist</i> = 1	<i>HighComp-Exist</i> = 0	<i>HighComp-Exist</i> = 1	<i>HighComp-Exist</i> = 0		
<i>AfterTreat</i>	0.164*** (0.024)	0.067*** (0.018)	−0.010*** (0.002)	−0.006*** (0.001)		
Controls	Included	Included	Included	Included		
Firm and Quarter FE	Included	Included	Included	Included		
Observations	6,138	7,107	6,138	7,107		
Adjusted <i>R</i> ²	0.96	0.95	0.93	0.87		
<i>p</i> -value for coeff. difference	<0.050		<0.050			
Panel B: M&As						
Dependent variable	<i>AcqNumber</i>		<i>Premium_AcqNumber</i>		<i>Horizontal_AcqNumber</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Partitioning variable	<i>HighComp-Exist</i> = 1	<i>HighComp-Exist</i> = 0	<i>HighComp-Exit</i> = 1	<i>HighComp-Exist</i> = 0	<i>HighComp-Exist</i> = 1	<i>HighComp-Exist</i> = 0
<i>AfterTreat</i>	−0.108*** (0.024)	−0.037 (0.024)	−0.061*** (0.012)	−0.043*** (0.012)	−0.034*** (0.007)	−0.017*** (0.006)
Controls	Included	Included	Included	Included	Included	Included
Firm and Quarter FE	Included	Included	Included	Included	Included	Included
Observations	6,138	7,107	6,138	7,107	6,138	7,107
Adjusted <i>R</i> ²	0.35	0.31	0.32	0.32	0.32	0.30
<i>p</i> -value for coeff. difference	<0.010		<0.010		<0.050	

Note: This table reports the results of the heterogeneity tests on how suspension-induced listing delay of competitors affects incumbent firms' behavior. The results for control variables and the constant are omitted. Each regression includes quarter and firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

this issue, we focus on two major events in the rival's IPO process that may affect incumbent firms' expectations of competitive threats—IPO application and IPO approval. We identify rival firm's IPO application and approval dates from the Wind database and examine changes in incumbent firms' behavior for $[-2, 1]$ quarters surrounding each event, where quarter 0 is the event quarter. We define two indicators based on these two events: *AfterApply* (*AfterApproval*) is a dummy variable that equals one for the post-application (−approval) period, and zero otherwise. Because at the time of the rival's IPO application it is unknown which firm would be later delayed by the suspension, we pool the treatment and control firms together for this analysis. We expect both types of firms to increase defensive actions after rival firm's IPO application/approval.

We report the results in Table 8. Panels A and B report the results for the IPO application and approval, respectively. The sample size in Panel A is much smaller than that in Panel B due to the more missing IPO application dates.²⁶ Both panels show that incumbent firms increase customer retention and acquisition efforts and M&As following rival firm's IPO application

²⁶In an untabulated test, we restrict the sample in Panel B to be the same as those in Panel A. The inferences remain the same.

TABLE 7 Cross-sectional test based on incumbent firm's financial constraints.

Panel A: Customer retention and acquisition efforts						
Dependent variable	Ln(R/AR)		Selling Expense			
	(1)	(2)	(3)	(4)		
Partitioning variable	HighConst = 1	HighConst = 0	HighConst = 1	HighConst = 0		
AfterTreat	0.173*** (0.022)	0.068*** (0.021)	−0.011*** (0.001)	−0.007*** (0.002)		
Controls	Included	Included	Included	Included		
Firm and Quarter FE	Included	Included	Included	Included		
Observations	6,628	6,617	6,628	6,617		
Adjusted R ²	0.96	0.94	0.93	0.89		
p-value for coeff. difference	<0.010		<0.050			
Panel B: M&As						
Dependent variable	AcqNumber		Premium_AcqNumber		Horizontal_AcqNumber	
	(1)	(2)	(3)	(4)	(5)	(6)
Partitioning variable	High Const = 1	High Const = 0	High Const = 1	High Const = 0	High Const = 1	High Const = 0
AfterTreat	−0.096*** (0.025)	−0.043* (0.023)	−0.060*** (0.012)	−0.043*** (0.012)	−0.031*** (0.006)	−0.017*** (0.006)
Controls	Included	Included	Included	Included	Included	Included
Firm and Quarter FE	Included	Included	Included	Included	Included	Included
Observations	6,628	6,617	6,628	6,617	6,628	6,617
Adjusted R ²	0.34	0.32	0.32	0.32	0.32	0.20
p-value for coeff. difference	<0.050		<0.100		<0.050	

Note: This table reports the results of the heterogeneity tests on how suspension-induced listing delay of competitors affects incumbent the firms' behavior. The results for control variables and the constant are omitted. Each regression includes quarter and firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

and approval. Taken together, these results are consistent with our findings from IPO delays and are supportive of the entry deterrence theory that incumbent firms engage in defensive actions in anticipation of heightened competitive threats upon rival firms' IPO application and approval.

6.2 | Changes in incumbent firms' perceived competition

One maintained assumption of our study is that rivals' IPO delays reduce incumbent firms' competition pressure. In this section, we test whether rival firms' listing delays indeed reduce incumbent firms' competition intensity, as perceived by managers. We use the frequency of competition-related words in incumbent firms' quarterly reports, denoted as *CompRelatedFrequency*, to measure a firm's competitive environment as perceived by managers (Hoberg & Phillips, 2016).²⁷

²⁷Hoberg and Phillips (2016) show that firms with more rivals or greater product market competition are more likely to disclose competition-related product market information in their 10-Ks.

TABLE 8 Analyses based on rival firms' IPO application and IPO approval.

Panel A: Reactions to the rival's IPO application					
Dependent variable	(1) Ln(R/AR)	(2) Selling Expense	(3) AcqNumber	(4) Premium_AcqNumber	(5) Horizontal_AcqNumber
<i>AfterApply</i>	−0.185*** (0.016)	0.010*** (0.001)	0.262*** (0.047)	0.138*** (0.021)	0.127*** (0.016)
Controls	Included	Included	Included	Included	Included
Firm FE	Included	Included	Included	Included	Included
Observations	2,672	2,672	2,672	2,672	2,672
Adjusted R^2	0.96	0.94	0.36	0.35	0.34
Panel B: Reactions to the rival's IPO approval					
Dependent variable	(1) Ln(R/AR)	(2) Selling Expense	(3) AcqNumber	(4) Premium_AcqNumber	(5) Horizontal_AcqNumber
<i>AfterApproval</i>	−0.028*** (0.009)	0.003*** (0.001)	0.033*** (0.012)	0.020*** (0.006)	0.012*** (0.004)
Controls	Included	Included	Included	Included	Included
Firm FE	Included	Included	Included	Included	Included
Observations	12,763	12,763	12,763	12,763	12,763
Adjusted R^2	0.34	0.34	0.03	0.03	0.03

Note: This table reports the results of the analysis on changes in incumbent firms' behavior within $[-2, 1]$ quarter surrounding rival firms' IPO application (Panel A) and IPO approval (Panel B). *AfterApply* is a dummy variable that equals one for the post-IPO filing quarters, and zero otherwise. *AfterApproval* is a dummy variable that equals one for the post-IPO approval quarters, and zero otherwise. Other variables are defined in Appendix 2. The results for control variables and the constant are omitted. Each regression includes firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

We estimate Equation (1) using the variable defined above as the dependent variable and report the results in Table 9. The coefficients on *AfterTreat* are negative and significant. This evidence suggests that treatment firms' managers reduce disclosures of product market competition relative to control firms after rival firms' IPO suspension. The findings confirm that incumbent firms' perceived product market competition decreases after rivals' IPO delays.

6.3 | Changes in incumbent firms' M&A withdrawals

If some M&As initiated by incumbent firms are for defensive purpose, we expect that after rival firm's IPO suspension, incumbent firms may voluntarily withdraw such M&As. We examine two variables related to M&A withdrawals—*MAwithdrawn*, which is the number of previously initiated M&As (where the incumbent firm is a bidder) that the incumbent firm voluntarily withdraws in a quarter, and *NegCarMAwithdrawn*, which is the number of previously initiated M&As (where the incumbent firm is a bidder) with a negative announcement cumulative abnormal return (CAR) that the incumbent firm voluntarily withdraws in a quarter.

We estimate Equation (1) using the two variables defined above as the dependent variables and report the results in Table 10. The coefficients on *AfterTreat* are positive and significant for both dependent variables. This evidence suggests that after competitive threats are reduced, incumbent firms experience a greater withdrawal of previously initiated M&As, including those that are perceived by the capital markets as value-destroying to the firm.

TABLE 9 Impact of rival firms' IPO suspension on incumbent firms' competition concerns.

Dependent variable	(1) <i>CompRelatedFrequency</i>
<i>AfterTreat</i>	−3.583*** (0.219)
<i>Size</i>	0.323 (0.453)
<i>Age</i>	0.314 (1.243)
<i>Leverage</i>	2.427** (0.982)
<i>MB</i>	0.198* (0.112)
<i>ROA</i>	0.093** (0.045)
<i>CashHolding</i>	−0.000* (0.000)
<i>SalesGrowth</i>	−2.257** (1.118)
<i>SOE</i>	−0.013 (1.148)
<i>BoardSize</i>	0.377* (0.201)
Firm and Quarter FE	Included
Observations	13,245
Adjusted R^2	0.71

Note: This table reports the results of the DiD test on how suspension-induced listing delay of competitors affects incumbent firms' concerns over competition. The regression includes quarter and firm fixed effects. The result for the constant is omitted. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

6.4 | Changes in incumbent firms' financial performance

One reason incumbent firms reduce defensive moves after rivals' IPO delays is that these moves are costly. If this is the case, we should expect such changes to be associated with an improvement in incumbent firms' financial performance. To provide evidence for this prediction, we examine four performance measures related to revenue, earnings, and their growth and report the results in Table 11. We find supporting evidence that incumbent firms experience a performance improvement after rival firm's IPO suspension.²⁸

²⁸There are several plausible explanations for why a firm's sales revenue could increase despite cutting back on selling expenses or tightening working capital policy. One plausible explanation is that reduced competition pressure may provide incumbent firms an opportunity to focus more on improving internal operating efficiency (including improving marketing efficiency and effectiveness), which help to improve sales. Another plausible explanation is that incumbent firms may redirect capital saved from defensive marketing activities to other revenue-generating activities, such as efforts to enhance product/service quality and/or investing in digital transformation, which also help to improve sales.

TABLE 10 Effect of rival firm's IPO suspension on incumbent firms' M&A withdrawals.

Dependent variable	(1) <i>MAwithdrawn</i>	(2) <i>NegCarMAwithdrawn</i>
<i>AfterTreat</i>	0.016*** (0.005)	0.005*** (0.002)
Controls	Included	Included
Firm and Quarter FE	Included	Included
Observations	13,245	13,245
Adjusted R^2	0.28	0.28

Note: This table reports the results of the DiD tests on the effect of rival firm's IPO suspension on incumbent firms' M&A withdrawals. The results for control variables and the constant are omitted. Each regression includes quarter and firm fixed effects. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 11 Impact of rival firms' IPO suspension on incumbent firm performance.

Dependent variable	(1) <i>Sales</i>	(2) <i>Earnings</i>	(3) <i>SalesGrowth</i>	(4) <i>EarningsGrowth</i>
<i>AfterTreat</i>	0.152*** (0.016)	0.190*** (0.040)	0.247*** (0.030)	0.490** (0.222)
<i>Size</i>	0.982*** (0.094)	1.330*** (0.100)	0.899*** (0.111)	0.810 (0.791)
<i>Leverage</i>	0.448** (0.180)	−0.681** (0.318)	0.488** (0.235)	2.711 (1.706)
<i>Age</i>	0.145*** (0.050)	0.005 (0.140)	0.329*** (0.122)	0.344 (0.774)
<i>MB</i>	0.018** (0.009)	0.026 (0.022)	−0.006 (0.018)	0.025 (0.115)
<i>CashHolding</i>	−0.047 (0.111)	0.475** (0.221)	−0.053 (0.177)	−0.782 (1.243)
<i>SOE</i>	−0.060 (0.153)	−0.452 (0.358)	−0.281 (0.456)	1.760 (3.173)
<i>BoardSize</i>	0.010 (0.012)	−0.032 (0.036)	−0.007 (0.026)	−0.097 (0.195)
Firm and Quarter FE	Included	Included	Included	Included
Observations	13,245	13,245	13,245	13,245
Adjusted R^2	0.96	0.84	0.34	0.28

Note: This table reports the results of the DiD tests on how suspension-induced listing delay of competitors affects incumbent firms' performance. Each regression includes quarter and firm fixed effects. The results for the constant are omitted. Robust standard errors clustered by firm are displayed in parentheses. See Appendix 2 for detailed variable definitions.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

6.5 | Stock market reaction to incumbent firms after the rival's IPO suspension

In this section we confirm that incumbent firms experience a positive stock market reaction to rival firm's IPO suspension, which has been shown in the context of IPO withdrawals in the

United States (Hsu et al., 2010). To that end, we follow the empirical design of Hsu et al. (2010) to examine the CAR for the $[-30, 30]$ day window surrounding rival firm's IPO suspension. As shown in Appendix S5, we find supportive evidence of a significant and positive stock market reaction to the rival's IPO suspension.²⁹

6.6 | What happens after the IPO suspension ends?

Because IPO suspensions are temporary, a natural question is whether incumbent firms would regain their defensive stance after their competitors resume the listing process. To that end, we examine changes in incumbent firms' customer retention and acquisition efforts as well as M&A activities after the suspension ends. Untabulated results show some supportive evidence of reinitiation of defensive actions: selling expenses and the number of M&As increase in the four quarters after the suspension ends, while the results on other variables are not significant at the conventional level. One plausible explanation for the modest evidence is that the suspended rival firm already suffers material and long-term damage in competitive advantages. For example, Cong and Howell (2021) find that listing delay has an adverse impact on the issuing firm's innovation for at least 4 years. Therefore, the suspended rival firm may be perceived as less threatening to the incumbent firm, at least in the near future, and thus, for some firms, there may not be an immediate need to reinitiate the costly defensive moves.³⁰

6.7 | Survey evidence

To supplement our empirical analysis and further understand how incumbent firms respond to rival firms' IPO processes, we conduct a survey among senior managers of publicly listed firms in China.³¹ We provide survey questions and results in Appendix 3. We sent out 1,855 surveys and received 199 responses, representing a 10.6% response rate, which is comparable to other studies that conduct surveys among Chinese firms (e.g., Liu & Tian, 2022). These firms span a wide range of industries, and the surveyed managers are all senior executives of the firm, including the President, CEO, COO, CFO, and other VPs. Of the respondents, 81.9% note that they pay attention to major competitors' IPO processes, and 79.9% indicate that they would respond to the expectation of heightened competitive threats arising from the rival's IPO, while 74.4% state that they would consider reducing defensive activities when the rival firm faces a listing setback. Taken together, the practitioner insights are supportive of our empirical evidence.

7 | CONCLUSION

We examine the effect of product market competitors' listing delays on existing public firms' ("incumbent firms") defensive behavior in response to the expected increase in competitive pressure due to the competitors' IPO. Using four regulation-induced IPO suspensions in China that expose firms already approved for an IPO to indeterminate listing delays, we find that incumbent firms reduce efforts in customer retention and acquisition, as manifested in a higher receivable turnover and lower selling expenses after rival firm's IPO delay. Incumbent firms also reduce acquisition activities, including high-premium and horizontal acquisitions. The documented effects are stronger for incumbent firms that face more intensive competition from the

²⁹In an untabulated test, we conduct a regression analysis, and the inferences remain the same.

³⁰In an untabulated test, we examine the market reaction analysis around the end of IPO suspension and find modest evidence of significant market reaction.

³¹We obtained the approval of IRB for using human subjects before conducting the survey.

suspended firm, encounter greater competitive pressures from existing public rivals, and are more financially constrained.

We further find that managers of incumbent firms reduce competition-related disclosures in quarterly reports after rival firm's IPO suspension, which is consistent with the reduced competition perceived by managers. Incumbent firms' financial performance also improves after competitors' listing delays. Consistent with the findings based on listing delays, we find that incumbent firms increase efforts in customer retention and acquisition and M&As following competitors' IPO application and approval.

We contribute to the growing research on the IPO peer effect by advancing the understanding of anti-competitive dynamics during the IPO process and incumbent firms' defensive strategies. We show evidence that firms engage in defensive actions, such as increasing efforts for customer retention and acquisition, as well as aggressive M&As, when a major competitor applies for an IPO and subsequently reducing such actions when the competitor encounters a listing delay. Our findings also shed light on a potential source of positive stock returns to a rival firm's IPO setbacks documented by prior studies (Hsu et al., 2010; Spiegel & Tookes, 2020).

We acknowledge several caveats of our research. First, although IPO suspensions in China are not caused by factors related to any single firm, they may be related to market-wide situations. Therefore, our setting may not be fully exogenous or unexpected when used to study the IPO peer effect. However, even if the suspensions were not totally unexpected, the changes were substantially less affected by the firm-level factors that contribute to the IPO withdrawals examined in prior research (Hsu et al., 2010). Second, we acknowledge the possibility that in addition to reacting to the competitor's IPO suspension, incumbent firms may also enjoy passive benefits arising from the competitor's listing suspension, which contribute to their positive returns to rival firms' IPO setbacks. Third, our study only provides evidence for two defensive strategies. We leave the exploration of other defensive strategies for future research.

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DATA AVAILABILITY STATEMENT

The data are available from public sources identified in the text.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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APPENDIX 1: IPO SUSPENSION EVENTS USED IN THIS STUDY

Suspension period	Main reasons
Suspension #1 August 26, 2004 to January 23, 2005	In December 2004, the CSRC issued the Notice on Several Issues on the Trial Implementation of the Inquiry System for Initial Public Offering of Stocks. The notice stipulates that the IPO firm and its sponsoring institution should determine the offering price by way of cumulative bidding and inquiry to institutional investors. This regulation marks the initial establishment of a market-based pricing mechanism for China's initial public offerings. The IPOs were suspended until this regulation was formally launched
Suspension #2 September 16, 2008 to July 9, 2009	The US subprime mortgage crisis triggered the international financial crisis, leading to the collapse of global stock prices. In September 2008, Lehman Brothers filed for bankruptcy protection. Spillover effects resulted in a record low of 1802.33 points of A-share market on September 18, 2008. Under this context, IPOs were suspended
Suspension #3 November 16, 2012 to December 30, 2013	Despite the good performance of indices in Europe and the United States, A-share market had been falling since August 2009, making it the worst performing market among the major economies for 3 years. In addition, CSRC started the biggest inspection of financial reporting for IPO firms. Under this context, IPOs were suspended
Suspension #4 July 4, 2015 to November 6, 2015	Since June 2015, A-share market had experienced an instable slump, dropping from more than 5,100 points to around 3,800 points in just 20 days. The IPO suspension is one of several measures undertaken by CSRC to boost the market

Note: Sourced from (1) "A Review of China IPO Suspensions," Security Daily, June 19, 2013, retrieved from http://epaper.zqrb.cn/html/2013-06/19/content_362206.htm and (2) "A Review of nine IPO Suspensions in China A-share market," Finance Daily, July 14, 2015, retrieved from <http://www.mrcjcn.com/n/49812.html>.

APPENDIX 2: VARIABLE DEFINITIONS

Variable	Definition
Measures of defensive behavior	
$\ln(R/AR)_t$	Accounts receivable turnover, defined as the natural logarithm of a firm's revenue (R) divided by accounts receivable (AR), measured as the average of the beginning and end of fiscal quarter t
$Selling\ Expense_t$	Selling expense intensity, defined as a firm's selling expenses divided by sales, measured at end of fiscal quarter t
$AcqNumber_t$	Number of M&As initiated (based on the announcement date) for which the firm is a bidder (set to zero if missing) in fiscal quarter t
$Premium_AcqNumber_t$	Number of M&As initiated (based on the announcement date) by a firm in fiscal quarter t for which price paid for the deal is higher than its underlying asset value, and zero otherwise. Only successful deals for which the firm is a bidder are considered
$Horizontal_AcqNumber_t$	Number of horizontal M&As initiated (based on the announcement date) by a firm in fiscal quarter t for which the firm and the target firm are in the same industry (based on Wind Industry Classification)
$MAwithdrawn_t$	Number of previously initiated M&As (where the incumbent firm is a bidder) that the incumbent firm voluntarily withdraws in a given quarter t

APPENDIX 2: (Continued)

Variable	Definition
<i>NegCarMAwithdrawn_t</i>	Number of previously initiated M&As (where the incumbent firm is a bidder) with a negative announcement CAR that the incumbent firm voluntarily withdraws in a given quarter <i>t</i>
Measures of cross-sectional variables	
<i>HighComp-New_t</i>	Dummy variable that equals one if the competition intensity between the incumbent firm and the IPO rival is above the median among all sample, and zero otherwise, where competitive intensity is the pairwise cosine similarity in product market descriptions between two firms as developed by Hoberg and Phillips (2016)
<i>HighComp-Exist_t</i>	Dummy variable that equals one if the competition intensity between the incumbent firm and existing public rivals is above the median among all public rivals, and zero otherwise
<i>HighConst_t</i>	Dummy variable that equals one if the incumbent firm's average financial constraints in two quarters before IPO suspension is higher than the median among all public firms, and zero otherwise. Financial constraints are measured by the SA index in Hadlock and Pierce (2010)
Measures of firm performance	
<i>Sales_t</i>	Sales, defined as the natural logarithm of a firm's revenue, measured at the end of fiscal quarter <i>t</i>
<i>Earnings_t</i>	Earnings, defined as the natural logarithm of a firm's net income, measured at the end of fiscal quarter <i>t</i>
<i>SalesGrowth_t</i>	Sales growth, defined as a firm's sales measured at the end of fiscal quarter <i>t</i> , minus the sales measured at the end of fiscal quarter <i>t-1</i> , divided by the sales measured at the end of fiscal quarter <i>t-1</i>
<i>EarningsGrowth_t</i>	Earnings growth, defined as a firm's net income measured at the end of fiscal quarter <i>t</i> , minus the net income measured at the end of fiscal quarter <i>t-1</i> , divided by the net income (in absolute value) measured at the end of fiscal quarter <i>t-1</i>
Measures of competition disclosure	
<i>CompRelatedFrequency_t</i>	Incumbent firm's disclosure of competition-related information, defined as the frequency of the word "competition" in the quarterly reports for firm <i>i</i> in fiscal quarter <i>t</i>
Measures of control variables	
<i>Age_t</i>	Firm age, defined as one plus the natural logarithm of the difference between fiscal year <i>t</i> and a firm's IPO year
<i>Size_t</i>	Firm size, defined as the natural logarithm of a firm's book value of total assets, measured at the end of fiscal quarter <i>t</i>
<i>Leverage_t</i>	Leverage ratio, defined as a firm's book value of debt divided by book value of total assets, measured at the end of fiscal quarter <i>t</i>
<i>MB_t</i>	Market-to-book ratio, calculated as a firm's [market value of equity plus book value of assets minus book value of equity minus balance sheet deferred taxes (set to zero if missing)] divided by book value of assets at the end of fiscal quarter <i>t</i>
<i>ROA_t</i>	ROA, defined as a firm's net income before depreciation divided by book value of total assets, measured at the end of fiscal quarter <i>t</i>
<i>CashHolding_t</i>	Cash holding, defined as a firm's cash divided by book value of total assets, measured at the end of fiscal quarter <i>t</i>
<i>SOE_t</i>	A dummy variable that equals one if a firm is government controlled or owned, and zero otherwise. State ownership includes central and provincial government ownership
<i>BoardSize_t</i>	Board size, defined as the number of directors on a firm's board in year <i>t</i>

APPENDIX 3: MANAGERIAL SURVEY

Question 1: What is your current position in the company?

- A. President/CEO [58.8%]
- B. COO [5.0%]
- C. CFO [8.0%]
- D. Other VPs [28.2%]

Question 2: Which industry does your company mainly operate in?

- A. Energy [7.0%]
- B. Materials [7.0%]
- C. Manufacturing [11.6%]
- D. Consumer [10.6%]
- E. Healthcare [9.5%]
- F. Information Technology [27.1%]
- G. Telecommunication [1.0%]
- H. Utility [3.0%]
- I. Real Estate [4.0%]
- J. Others [19.1%]

Question 3: Does your company pay attention to the initial public offering (IPO) process of your major competitors?

- A. Yes [81.9%]
- B. No [18.1%]

Question 4: When a major competitor files for an IPO that may lead to greater competitive pressure in the future, would your company respond to such event?

- A. Yes [79.9%]
- B. No [20.1%]

Question 5: If your answer to Question 4 is yes, what specific actions would your company consider? (multiple choices)

- A. Strengthen customer relationship (e.g., offer a more generous credit policy) [72.9%]
- B. Strengthen supplier relationship (e.g., shorten the accounting payable cycle) [62.3%]
- C. Increase investment activities (e.g., more mergers and acquisitions) [66.8%]
- D. Other (please specify) [12.1%; Respondent answers include cost saving, innovation, international expansion]

Question 6: When the competitor experiences a setback during the IPO process (e.g., caught by the IPO suspension), would your company consider cutting back on some of the actions taken in Question 5?

- A. Yes [74.4%]
- B. No [25.6%]