Torpedo Your Competition: Strategic Reporting and Peer Firm IPO

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Abstract

A firm's initial public offering (IPO) generates negative externalities for industry competitors. To mitigate this threat, incumbent firms manage their earnings downwards, issue more negative management forecasts, and use a more negative disclosure tone when industry peers file for an IPO. Negative accruals reverse when the threat is resolved. Incumbents manage earnings more aggressively when costs are small and benefits are large. Such strategic disclosure lowers incumbent firm valuation multiples and associates with more negative IPO firm media sentiment. IPO firms obtain lower offer prices, raise less capital, and are more likely to withdraw from the offering. They also invest less, hoard more cash, and experience lower profitability post IPO, while incumbents experience higher profitability and market share growth. Our results highlight the role of strategic reporting on product market competition and identify a new cost of going public.

Keywords: Initial public offerings, product market competition, strategic reporting

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Torpedo Your Competition: Strategic Reporting and Peer Firm IPO

1. Introduction

An initial public offering (IPO) is arguably the most important milestone in a firm's life. By tapping a broad investor base and raising a large amount of capital, IPO firms typically expand production capacity, pursue growth opportunities, and generally become more competitive – much to the detriment of rival firms. Consequently, existing literature documents that a successful IPO hurts the performance of its industry competitors. On average, incumbent firms experience negative stock price reactions, dwindling market shares, and decreased operating performance around IPOs in their industries (Slovin, Sushka, and Ferraro 1995; Hsu, Reed, and Rocholl 2010; Chemmanur and He 2011; Chod and Lyandres 2011). While most of the literature focuses on the benefits accrued to IPO firms and the *ex-post* competitive effects on rivals, little research explores *ex-ante* actions by industry incumbents that potentially mitigate threats from rivals' IPOs.

Given that the IPO firm's ability to compete depends crucially on the amount of capital it will ultimately raise, incumbent firms have an incentive to negatively impact its IPO. Recognizing that investors make inferences from existing publicly traded peer firms (Kim and Ritter 1999), incumbents could take actions, perhaps via disclosures, that negatively affect the entrant's IPO prospects, therefore reducing its capital-raising ability.

We examine how firms report earnings in response to their peers' attempts to undertake an IPO. We postulate that industry incumbents strategically manage their accruals downwards in order to curtail peers' capital-raising efforts.[1] *Ex ante*, the effectiveness of such earnings management is debatable. Some studies find that investors do not fully detect accrual-based

[1] We rely on quarterly reported earnings for our primary tests for econometric identification reasons, which we detail below. We find consistent results when we explore management earnings guidance as well as management tone from 10Qs.

earnings management (Sloan 1996; Xie 2001), suggesting such actions by incumbents would be influential. Unlike altering real production or operations, managing accruals is timelier and more flexible, and possibly less costly in the long run. Given the pricing of a private firm's IPO relies less on firm-specific information and more on industry prospects and comparable firm multiples (Kim and Ritter 1999; Benveniste et al. 2003), downward earnings management by incumbents could have deleterious effects for the IPO firm's valuation and ultimate IPO success.[2] Such strategic earnings management, however, could have the opposite effect. Reporting unfavorable earnings news by incumbents may make the IPO firm look relatively more attractive to investors. In this case, the incumbent may have an incentive to manage earnings higher in order to hinder the IPO's prospects. Ultimately, the actions of incumbents and the influence of these actions on the IPO's prospects remain an empirical question.

To identify this strategic reporting channel, we exploit variation in mandatory quarterly disclosure dates (i.e., earnings announcement dates are largely set well in advance and seldomly depart significantly from the schedule).[3] This setting, along with our empirical design – in particular the inclusion of industry × quarter fixed effects, allows us to see how reporting behaviors of industry incumbents, *within the same quarter*, differ by whether or not their announcement date falls within versus just outside the rival firm's IPO filing window. We conjecture that incumbents reporting within the rival's filing window have an incentive to disclose poor earnings news that could harm the prospects of the IPO. This contrasts with incumbents reporting outside the filing window in the same quarter, given that their announcement will not influence the pricing of the IPO.

[2] This argument assumes that future prospects of the incumbent and IPO firm are positively correlated for such an information transfer to occur (see Foster 1981; Bowen, Castanias, and Daley 1983; Baginski 1987). We discuss and validate this assumption in Section A.4 of the Internet Appendix.
[3] See, e.g., Johnson and So (2018).

Using a sample of quarterly earnings announcements by US firms from 1991 to 2017, we find evidence of downward earnings management by incumbent firms following IPO filings by their industry peers. The downward discretionary accruals reverse in the following quarter when no peers file for an IPO. Our results are robust to a variety of alternative specifications, including various controls for firm-specific characteristics, the use of alternative earnings management measures – some of which does not rely on accruals, and the use of alternative industry classifications to identify peers, including the text-based approach of Hoberg and Phillips (2010).

There are other venues, beyond earning announcements, through which incumbents may communicate poor prospects. We explore how voluntary management earnings guidance changes during the IPO window periods, and find incumbents facing IPO threats revise earning guidance downward. We also use textual analysis to compute the disclosure tone of firms' 10Q filings. We find that the tone is significantly more pessimistic when incumbents face IPO threats.

Conceptually, whether or not an incumbent engages in strategic disclosure hinges on the trade-off between the cost of releasing unfavorable earnings news that inevitably generates negative market reaction and the benefit of mitigating rival's capital-raising effort and long run competitive threat. We find more aggressive downward earnings management if the benefits of doing-so are sufficiently rewarding, such as when the IPO peer poses a bigger threat to the incumbent, in which case, a successful IPO would have given the peer a greater competitive edge over its incumbent rivals (Darrough and Stoughton 1990; Wagenhofer 1990). Earnings management is also more pronounced when the cost of doing so is small, such as when the incumbent faces less pressure for short-term stock price performance and is thus more long-term oriented, and when industry or market conditions elevate IPO price uncertainty, making it harder for investors to detect the incumbent's earnings management.

We next explore mechanisms linking incumbent earnings management and rival IPO outcomes. Our evidence suggests that incumbents' downward earnings management leads to a lower P/E ratio. Since peer valuation multiples are commonly used by investors and underwriters to assess the future prospects for a given industry and guide the IPO offer price, a lower incumbent P/E ratio may indicate pessimistic prospects for the IPO firm. We also find that IPO firm media sentiment declines when incumbents manage earnings downward. Taken together, these findings corroborate with our interpretation that product market competition motivates a firm to obstruct its industry peer's IPO efforts through strategic reporting.

Finally, we assess the economic consequences of incumbents' strategic reporting during a peer's going-public process. When incumbents engage in more aggressive downwards earnings management, an issuing firm obtains a lower final offer price, raises a smaller amount of proceeds, and is more likely to withdraw its offerings. This potentially hampers its ability to grow after the IPO and thus limits the extent of damage its IPO can impose upon industry rivals. Possibly due to the inability to raise sufficient capital, peer firms that experience more negative discretionary accruals by their incumbents during their going-public process spend less on capital investment, have lower operating cash flows, and are less profitable post IPO. They thus hoard more cash, arguably to alleviate refinancing risk and the underinvestment problem (Harford, Klasa, and Maxwell 2014). By contrast, incumbents experience an improvement in operating performance and market share growth when their strategic reporting helps mitigate the threat from their peers' IPO activities.

One concern for our study is that the decision to go public is endogenous. Our analysis focuses on incumbents' reporting practice *after* their peer files for IPO, thus by design, taking the peer's decision to go public as given. Nevertheless, if omitted variables drive both incumbent's

earnings management and the peer's decision to file for IPO, then our results would be biased. For instance, given IPOs often cluster in time and industry (Ritter 1984; Lowry and Schwert 2002; Benveniste et al. 2003; Lowry 2003), one may observe many peers going public during the peak of an IPO wave, which might subsequently correlate with a decline in incumbents' earnings performance due to diminishing growth opportunities post industry peak. Alternatively, incumbents may release bad earnings news following peers' IPO filing in anticipation of heightened product market competition. Another possible explanation is that, to discourage a peer's going-public decision, incumbents may have managed earnings upwards prior to the peer's filing for IPO. In this case, the observed negative accruals following the IPO filing simply reflect a mechanical downward reversal rather than strategic reporting.

To mitigate these concerns, we perform a battery of robustness tests. First, the inclusion of industry × quarter fixed effects in our analyses narrows down the comparison among incumbents operating in the same industry at the same time. This helps remove confounding effects arising from time-varying industry shocks, such as increased competition and diminished growth opportunities, that may explain the negative relation between peer IPO activities and incumbents' quarterly discretionary accruals. In addition, if heightened competition causes poor earnings performance, then the poor performance will be persistent. In contrast, we find evidence that accruals reverse in the absence of peer IPO filings (following prior IPO-related downward earnings management).

Second, we exploit the passage of the Jumpstart Our Business Startups (JOBS) Act, which made it easier for firms to engage in IPOs. Dambra, Field and Gustafson (2015) find that the JOBS Act drove IPO activity mostly among small firms with high information costs, such as those in the biotech and pharmaceutical industries. Importantly, the enactment of the JOBS Act is unrelated to

industry incumbents' earnings management and should provide a setting where reverse causality is less likely a concern. In a difference-in-difference setting, we find that, after the passage of the JOBS Act, which (exogenously) increased IPO activities in the biotech and pharmaceutical industries, incumbents in these two industries manage earnings downwards more aggressively during their peers' filing period relative to other industries, and relative to the period prior to the JOBS Act. These tests provide causal inference for our findings and alleviate the concerns that downward earnings management is due to anticipated negative competitive effects of upcoming peer IPOs rather than a strategic attempt to impact the pricing of these IPOs.[4]

Our paper contributes to the literature examining the spillover effect from IPO activities. Most of the literature focuses on how going public can negatively affect industry competitors' performance and valuation. For instance, incumbent firms experience negative stock reactions to IPOs in their industry, and positive reactions to their withdrawals (Slovin, Sushka, and Bendeck 1991; Slovin, Sushka, and Ferraro 1995; Hsu, Reed, and Rocholl 2010). A firm's IPO results in a smaller market share and worsening operating performance for its industry rivals (Chod and Lyandres 2011; Chemmanur and He 2011). We extend this line of research and show that incumbents use strategic reporting to limit these adverse effects brought about by their peers' IPOs.

Our paper is also related to the literature studying strategic disclosure to deter product market competition. This line of the research is motivated by studies on information transfer (e.g., Foster 1981; Bowen, Castanias, and Daley 1983; Baginski 1987), which find that a firm's earnings announcement significantly impacts the stock prices of non-announcing industry peers. Such information transfer exists because the future expected cash flows of industry peers are, on average, positively correlated. Thus, a firm's earnings news informs investors' perception of the overall

[4] For this alternative explanation to hold, the downward earnings management should be more, instead of less, pronounced when the market conditions favor the IPOs and thus the competitive effect is stronger.

industry. Consequently, Darrough and Stoughton (1990) and Wagenhofer (1990) theorize that firms restrain the product market threat through strategic reporting. In their models of an entry game, an incumbent's private information is valuable to both the financial market and potential competitors. On the plus side, reporting favorable news increases the incumbent's market valuation. The downside, however, is that favorable news suggests a more attractive product market and induces entry, compromising the incumbent's competitive position. Partial disclosure can thus arise in which the incumbent prefers reporting bad news and withholding good news so as to deter entry and prevent the loss in profits due to heightened competition. The incentive to disclose unfavorable information is particularly strong when the entry costs are low or the threat imposed by potential entrants is high.

Our paper provides empirical evidence consistent with their theoretical predictions that product market competition motivates strategic disclosure of unfavorable news. In this respect, our paper is related to Jones (1991), who shows that firms intentionally managed earnings downward to mislead the US International Trade Commission during import relief investigations in order to thwart competition from foreign competitors; and to Godsell, Welker, and Zhang (2017), who document that EU firms engage in income-decreasing earnings management around the initiation of an antidumping investigation. Instead of influencing governmental policies, we show that firms use strategic reporting to mitigate the threat of rivals by impeding their efforts to raise capital.

We also contribute to a recent literature on strategic information disclosure targeted towards peer firms. For instance, Aobdia and Cheng (2018) find that non-unionized firms are strategic (optimistic) with voluntary disclosure when their unionized rivals are in the process of labor renegotiations. Cao, Fang, and Lei (2020) document that firms use social media to disclose negative information regarding peer firms, resulting in significantly positive abnormal returns for

the disclosing firm. Kim, Verdi, and Yost (2020) find that acquiring firms strategically release negative information about target firms during the negotiation phase and, as a result, pay lower takeover premiums. Using an IPO setting and mandatory disclosures, we document significant strategic interactions between public and private firms. We complement these studies by showing that firms disclose negative information to undermine peer firm IPOs and to mitigate negative consequences from these rivals.

The rest of the paper is organized as follows. Section 2 introduces the methodology and describes the data. Sections 3 and 4 present the empirical results. Section 5 concludes. Variable definitions are in the Appendix. Robustness tests are described in the Internet Appendix.

2. Methodology and Data

To understand how incumbents influence peer IPO success, it is important to recognize an IPO is one of the most scrutinized information events in a firm's life. Entering the public domain requires a private firm to provide a broad dissemination of information regarding its operation and prospects, and in return, it garners feedback from investors. During the roadshow, the issuing firm and its underwriter meet with investor groups to pitch the company's prospects. In turn, investors communicate demand for the IPO. The final offer price is conditioned on information acquired through the book-building process (Benveniste and Spindt 1989). Following the IPO literature, we define the pre-IPO, book-building phrase of the offering as the period between the registration date (when a firm files for an IPO and sets an indicative price and offer amount) and the offer date (when the firm sets the final offer price and proceeds to be listed in the secondary market).[5] Prior work documents that information acquired from investors during this process leads to revised IPO

[5] In what follows, we use "booking-building period", "filing period", and "pre-IPO period" interchangeably.

pricing and terms. Negative feedback, for example, often leads to withdrawal of the offering or downward revision of the offer price, whereas positive feedback leads to an increase in the final offer price relative to the indicative price in the initial prospectus filed with the SEC (see, e.g., Hanley 1993; Cornelli and Goldreich 2001).

Because little firm-specific information exists for the issuing firm, investor beliefs about its IPO prospect depend heavily on the more plentiful and reliable information available from publicly traded industry peers (Benveniste, Busaba, and Wilhelm 2002; Wang, Winton, and Yu 2010).[6] Investment bankers typically use valuation multiples from comparable companies when pricing an IPO (Kim and Ritter 1999). In this respect, the incumbents' strategic reporting effort to depress their peers' capital-raising attempt can be particularly effective.

2.1 Regression Framework

We explore incumbent firms' reporting practice in response to their peers' IPO in the context of quarterly earnings releases. One advantage of focusing on mandatory earnings disclosure is that the announcement dates are largely scheduled well in advance and information content in these releases is relatively comparable. This setting, along with the inclusion of industry × quarter fixed effects in our analyses, provides a powerful identification of strategic earnings management given that within the same quarter, those industry incumbents with dates within the rivals' IPO filing window are contrasted with those whose dates fall just outside the filing window.

Prior literature has documented that firms delay the release of negative news when possible (e.g., Givoly and Palmon 1982; Chambers and Penman 1984). In recent decades, however, the

[6] In a broader scope of research setting, Shroff, Verdi and Yost (2017) show that the information environment of industry peers affects the cost of capital of related firms in the same industry, especially when there is less publicly available firm-specific information.

extent to which a firm can strategically time its earnings announcement has become limited; Johnson and So (2018) show that firms have some ability to move their previously scheduled disclosure dates by a few days. In the context of our research setting, if incumbents intend to release bad news during their peer's IPO filing window, then firms that have the ability to alter the announcement date and to manage earnings downward (or have bad earnings news to report) may move their dates accordingly. This would lead to more strategic disclosure of bad earnings news to be within the rival's IPO filing window.

Examining a firm's strategic reporting at a quarterly frequency not only allows the comparison of incumbents' disclosure behaviors within a narrow time window, but also offers two additional advantages. First, managers can exercise greater discretion over expense recognition in interim quarters, which better captures the extent of strategic motives in earnings management. By contrast, annual reports are subject to more rigid rules and audits than interim reports, providing managers with relatively less discretion and fewer opportunities to manage earnings (Palepu 1988; Brown and Pinello 2007). Second, the duration of a pre-IPO filing period is typically far less than a year; in our sample, the median book-building period lasts 69 days. Deriving earnings management from quarterly instead of annual reporting more likely reflects incumbents' response to the recent peer IPO activities.

We construct two accrual-based proxies for earnings management and estimate the following regression model:

$$EM_{i,t} = \beta_0 + \beta_1 PeerIPO_{i,t} + \mathrm{B}_2\mathrm{X}_{i,t} + \epsilon_{i,t}$$

where $EM_{i,t}$ is incumbent firm i's earnings management in quarter t and $PeerIPO_{i,t}$ measures IPO activities by firm i's industry peers at the time of its earnings announcement in quarter t. An industry peer is classified based on the 3-digit SIC code.

Our primary dependent variable, "*EM*", is the performance-adjusted discretionary accruals following Kothari, Leone, and Wasley (2005). We focus on this measure to better isolate the extent of downward earnings management arising from strategic motives rather than being driven by poor operating performance. To further capture the downward nature of earnings management, we also employ a variation of "*EM*"; "*Downward EM*" is set to "*EM*" if it is negative and zero otherwise. Note that by construction, accrual-based earnings management proxies directly remove the impact of industry shocks. In the Internet Appendix, we show that our baseline results are robust to alternative measures of earnings management and industry classifications.

We capture the extensive and intensive margins of the impact from peer IPOs using two proxies: "*# of IPOs*", calculated as the natural logarithm of one plus the number of peer firms that have filed for, but have not completed, the IPO process as of the date of incumbent firm *i*'s quarterly earnings announcement. "*IPO Volume*" is calculated as the natural logarithm of one plus the total amount of proceeds filed by these peers attempting IPOs. These variables are set to zero if there is no peer firm filing for an IPO at the time of incumbent *i*'s quarterly earnings announcement. Put differently, we restrict the event window to the date of the quarterly earnings announcement by an incumbent firm that falls into the book-building phase of its industry peer.

To illustrate, consider the following example: Incumbent firms A, B, and C all operate in the same industry, but differ in their disclosure dates. On March 10, 2019, A announced its first-quarter earnings. At the time of the announcement, two peers had filed but not yet completed their IPO; four peers had already completed their IPO prior to March 10; and one peer filed for IPO on March 11, 2019. For incumbent A in that quarter, we set "*# of IPOs*" to be log(1 + 2), and "*IPO Volume*" to be the natural logarithm of one plus the proceeds that these two peers attempt to raise. B announced its earnings on February 5, 2019. At the time of the announcement, four peers had

filed but not yet completed their IPO and one had already completed its IPO. Three more filed for IPO after February 5. For incumbent B in that quarter, we set "*# of IPOs*" to be log(1+4). On March 31, 2019 when incumbent C announced its quarterly earnings, all peers had completed their IPO. In this case, both "*# of IPOs*" and "*IPO Volume*" are set to be zero for C in that quarter.

We include control variables that may affect an incumbent firm's discretionary accruals (e.g., Kothari, Leone, and Wasley 2005; Zang 2012; Fang, Huang, and Karpoff 2016), such as firm size ("*Size*", calculated as the natural log of total assets at the end of the year), growth opportunities (captured by the book to market ratio), financial leverage ("*Leverage*", calculated as the ratio of total labilities to total assets), growth rate of sales revenue ("*Sales Growth*"), and cash flows ("*Cash Flow*", calculated as operating cash flows scaled by average total assets). Incumbents may manage earnings downward due to an anticipated decline in performance arising from a change in industry dynamic, which may simultaneously drive a private peer's decision to file for an IPO (Pagano, Panetta, and Zingales 1998; Spiegel and Tooks 2019). We thus control for industry × quarter fixed effects, which help restrict the comparison of disclosure behaviors to industry incumbents within the same quarter.

2.2 Sample Selection and Descriptive Statistics

We begin with a sample of non-financial and non-utility publicly listed US firms from COMPUSTAT. The initial sample contains 795,057 firm-quarter observations from 1991 to 2017. We remove 139,750 observations with missing earnings announcement dates and 27,853 observations with missing quarterly cash flow data. To ensure meaningful calculation of accrual-based earnings management, we exclude firm-quarter observations with missing accruals information and require each industry-quarter to have at least 15 firm-quarter observations and

firms to have at least $10 million quarter-average total assets. This leaves us with 325,919 firm-quarter observations. Next, we exclude 28,993 observations with missing information for other financial variables, 13,156 observations with negative book to market ratios, and 95,701 observations for firms with a stock price less than $5 or a market value less than $50 million. The final sample consists of 188,069 firm-quarter observations.

We obtain a sample of IPO firms from the Thomson Financial Securities Data Corporation (SDC) new issues database from 1991 to 2017. We then exclude ADRs, unit offerings, reverse LBOs, foreign issues, REITs, financial service firms (SIC codes 4900-4950), utilities firms (SIC codes 6000-6999), and firms that went public in an industry-quarter with less than 15 incumbent-quarter observations. To ensure that the peer firm's IPO is economically relevant and to reduce the influence of microcap stocks, we remove offerings in which the offer price is either missing or less than $5 (Chemmanur and He 2011). The final sample contains 3,878 firms that went public in the US and 866 withdrawn offerings during the 1991-2017 period. Other data sources are described as we introduce them in the analysis.

Table 1 Panel A summarizes the sample characteristics of incumbent firms. For the ease of interpretation, we report the number of peer IPOs and proceeds filed by peer IPO firms with and without the log form. The mean value of earnings management indicates that quarterly discretionary accruals over total assets averages around -0.18%.[7] In an average industry-quarter, there are 1.91 private peers filing for IPO with total proceeds of $140.70 million. Among all industry-quarters, 35% have at least one IPO (and 65% have none). An average incumbent has assets of $3,980.26 million, a leverage ratio of 47%, and quarterly sales growth rate of 6%.

[7] Our descriptive statistics of quarterly discretionary accruals is comparable to prior studies. For example, using a sample of quarterly observations from 1993 to 2005, Brown and Pinello (2007) report that the average discretionary accruals estimated based on modified Jones model is -0.004.

Panel B of Table 1 describes the characteristics of IPO firms. An average IPO firm sets $12.47 per share offer price, representing 1% revision up from the initial filing price. It raises $88.73 million in proceeds, 3% more from the proceeds filed. About 56% of IPO firms are VC-backed and 64% of IPOs are underwritten by highly reputable investment banks. Roughly 20% of those that file for an IPO end up withdrawing from the offering. The median length of pre-IPO filing period (from the filing date to the final offer date) is 69 days. These numbers are in line with the existing literature (e.g., Lowry and Schwert 2002; Benveniste et al. 2003; Wang et al. 2010).

3. Empirical Results

3.1 Earnings Management during Peer Firm's Pre-IPO Period

By construction, our accrual-based "*EM*" removes the impact of time-varying industry-specific shocks; all the residuals from the accrual estimation should thus sum up to zero within an industry-quarter. As a necessary condition for the variation to come from strategic disclosure, the average "*EM*" of incumbents whose earnings reporting dates overlap with their peer firms' IPO filing window should differ from that of incumbents whose announcement dates fall outside their peers' filing window.

Table 1 Panel C provides the univariate evidence of incumbent firms' strategic reporting amid their peers' IPO activities. For this analysis, we only examine the subsample of industry-quarters where there is at least one peer IPO filing. This highlights the variation by limiting the sample to all incumbents exposed to peer IPO activities in an industry-quarter, but that differ based on whether their mandatory disclosure date for that quarter is within versus outside the IPO filing window. Incumbents within the filing window ("*# of IPOs*" > 0) have discretionary accruals that are significantly lower than those incumbents that fall outside the window ("*# of IPOs*" = 0).

In Table 2, we perform multivariate analysis to explore how incumbent firms manage their quarterly earnings in response to industry peers' IPO events. We observe a negative and significant coefficient associated with the number of peer firms attempting an IPO, as well as the amount of proceeds they intend to raise. The negative effect of upcoming peer IPOs on an incumbent firm's discretionary accruals holds for both measures of earnings management, "*EM*" and "*Downward EM*". Since this set of analyses includes industry × quarter fixed effects, the results suggest that within the same quarter, industry incumbents whose announcement dates fall into their peers' going-public stages manage their earnings downwards than those incumbents whose announcement dates do not overlap with their peer's IPO filing window.

In terms of economic magnitude, column 3 suggests that when "*# of IPOs*" increases by one standard deviation (0.83), equivalent to 2.32 peer IPOs, earnings management leads to an incumbent's ROA being reduced by 0.2822 (-0.2822 = -0.340 × 0.83), a 28% reduction relative to the sample mean quarterly ROA of 1%. Column 4 implies that if "*IPO Volume*" increases by one standard deviation (equivalent to $13 million), earnings management leads to a 20% reduction in incumbent firm's return on assets relative to the sample mean (-0.20145 = -0.079 × 2.55).

To further validate that industry incumbents manage earnings downward in response to the upcoming capital raising activity of their peers, rather than to unobserved industry- and time-specific trends or for mechanical reasons, we examine whether such behavior reverses in the absence of peer IPO activities. We augment the regression framework in Table 2 with "*Post IPO Dummy*", a dummy variable set to one if at least one industry peer has attempted an IPO in the previous quarter but no peers have filed for an IPO in the current quarter in which the incumbent firms release their quarterly earnings.

Table 3 provide additional evidence on incumbents' strategic understatement of quarterly earnings. In columns 1-2, the coefficient for the post IPO dummy is positive and significant, suggesting that discretionary accruals reverse once the threat of IPOs dissipates (i.e., in quarters when peers are no longer filing for IPOs). In columns 3 through 6, we explicitly consider the direct effect of peer IPOs and include "*# of IPOs*" and "*IPO Volume*". In these regressions, we re-define "*Post IPO Dummy*" as one if at least one peer firm has filed for IPO in the previous quarter and zero otherwise. Note that during the quarter of no peer IPO filings, both "*# of IPOs*" and "*IPO Volume*" are equal to zero. While the coefficients for "*# of IPOs*" and "*IPO Volume*" remain negative and significant, we always observe a positive effect, i.e., higher accruals, after peer IPO events. These results suggest that while the discretionary accruals become negative during the peer firms' going-public process, they reverse in the following period only after these peers complete their IPOs.

3.2 The Costs and Benefits of Strategic Reporting

Our analysis so far provides evidence that incumbent firms engage in strategic reporting to undermine their peers' capital raising effort. We postulate that how aggressively an incumbent manages its accruals hinges on the trade-off between the costs and benefits of doing so. We expect incumbents manage earnings downward to a greater extent if the benefits from deterring their competitors' capital-raising attempt are large, or the costs of doing so are small.

3.2.1 Threat of IPO Rivals

Darrough and Stoughton (1990) and Wagenhofer (1990) theorize that the incentive to disclose unfavorable information is particularly strong when the threat imposed by potential

entrants is high. In this subsection, we validate how the extent of downward earnings management varies with an IPO firm's ability to challenge the incumbents.

We measure an IPO firm's capacity to pose potential threat by the amount of its R&D spending and the innovativeness of its products prior to the IPO. R&D investments and innovation allow IPO firms to upgrade product quality and differentiate their products from industry rivals, suggesting such firms are a greater competitive threat to incumbent firms. In Table 4, we augment the regression framework in Table 2 by interacting our measures for peer IPO activities ("*# of IPOs*" and "*IPO Volume*") with (pre-determined) innovativeness of these IPO firms. Specifically, "*R&D*" is the natural logarithm of one plus the average of peer firms' R&D expenditures in the year prior to their IPOs. "*Patents*" is defined as the natural logarithm of one plus the average number of patents filed by (and eventually granted to) peer firms over the three-year period before they file for an IPO. The interaction term captures the degree which incumbents' earnings management varies with the magnitude of the threat from IPO peers. The results from Table 4 suggest that incumbents' downward earnings management becomes more aggressive when the threat from the IPO firm is large. i.e. when the upcoming IPO peer is more innovative or invests more in R&D.[8]

3.2.2 Presence of Short-term Incentives

A long-standing view in corporate governance is that the presence of short-horizon investors, who typically hold a firm's stock for short periods of time and focus on short-term returns (Bushee 2001), can lead corporations to pursue short-term objectives at the expense of long-run strategic goals (Graham, Harvey, and Rajgopal 2005). While releasing unfavorable

[8] We do not include the main effects of "*R&D*" and "*Patents*" because they measure invariant characteristics of the IPO firms. In our analysis of incumbents' disclosure behaviors, these variables are set to zero mechanically when the main effects, "*# of IPOs*" and "*IPO Volume*", turn to zero (i.e., when there are no peer IPOs).

earnings news to mitigate the competition threat from upcoming IPO rivals can benefit the incumbent firm in the long run, it often generates a short-term negative stock market reaction. This implies that the cost of downward earning management may be especially costly to managers who focus on short-term stock valuations instead of long-term profit maximization. As a result, firms that are short-term oriented would be more reluctant to engage in downward earnings management.

We classify a firm as having high short-term institutional ownership if the fraction of its shares held by transient institutional investors as defined in Bushee (1998 and 2001) is greater than the sample top tercile. A greater presence of short-horizon investors indicates more pressure on managers to avoid short-term share price underperformance. Next, we interact "*# of IPOs*" and "*IPO Volume*" variables with a dummy variable for high short-term institutional ownership ("*High Short-term Ownership*"). Table 5 reveals that firms in which transient investors have a larger stake manage their earnings downwards to a lesser extent during their peers' IPO process.

3.2.3 Uncertainty of a Successful Offering

The incumbent firms' effort to understate earnings, and the likelihood of convincingly doing so, hinge upon whether investors can easily detect such reporting strategies. Intuitively, manipulation is more difficult to identify in industries with a higher degree of information asymmetry, making it more difficult to assess the success of an offering. By contrast, incumbents forgo strategic reporting if it can be easily seen through, diminishing the benefit of doing so.

We measure the degree of information asymmetry in an industry by the magnitude of analyst forecast errors. "*High Info Asymmetry*" is a dummy variable set to one if the average of analyst forecast errors of firms in an industry-year falls above the sample median, and zero otherwise. We then interact "*# of IPOs*" and "*IPO Volume*" variables with this dummy variable.

Columns 1-4 of Table 6 confirm our conjecture. Incumbents operating in industries with a higher degree of information asymmetry manage their earnings downwards to a larger extent during their peers' IPO process.

Benveniste et al. (2003) provide a rationale for the hot and cold IPO markets and show that the decision to go public and the likelihood of completion depend on market conditions and industry prospects. When the market is less volatile, it becomes easier for investors to evaluate the likelihood of a successful offering. In the context of our analysis, this moderates the incentive for incumbents to manipulate earnings downward.

We measure market volatility based on the VIX in the month of an incumbent's earnings announcement. "*Low VIX*" is a dummy variable set to one if the monthly VIX at the time of quarterly earnings announcement falls below 15, which is generally considered low level anxiety and fear in the market (Hancock 2012), and zero otherwise. We then interact this dummy variable with the two proxies for peer IPO activities, respectively. Columns 5-8 of Table 6 show that incumbents manage earnings downwards to a lesser extent during the peer firms' going-public process when the market volatility is low, captured by a low VIX index.

Overall, the above cross-sectional tests lend further credence to our inferences of the negative effect of peer firm IPOs on incumbents' discretionary accruals. While it is possible that some omitted variables drive the documented results, it is difficult to conceive of an omitted variable that biases our results equally in IPO firms that spend more or less in R&D, in IPO firms that generate more or less patents, in incumbents that operate in industries with high or low information asymmetry, and in incumbents having a high or low level of short-horizon institutional ownership. The differential effects of peer IPO activities on incumbent firms' discretionary accruals along these dimensions, together with the results on accruals reversals in Table 3, alleviate

the identification concern to some extent, as our results are unlikely to be entirely driven by peer firms endogenously timing their IPO process in anticipation of incumbents' understated quarterly earnings.

3.3 Mechanisms

Investment bankers often use valuation multiples — such as price-to-earnings (P/E) ratios — from comparable companies as a key reference to price an IPO (Kim and Ritter 1999). By managing earnings downwards and reporting poor earnings news, incumbents may be able to undermine a peer's capital raising effort with a low P/E ratio, misleading investors to be more pessimistic about the prospects for the IPO firm. Note, we are not arguing this lower P/E effect simply as a result of naive multiplication by a lower number, but rather that a lower incumbent firm multiple may indicate lowered expectations for future prospects of the industry, and thus for the IPO firm itself.

To provide evidence on this potential mechanism, we explore how strategic reporting affects incumbents' P/E ratios during their peers' IPO process. We compute the change in an incumbent's P/E ratios over the $[t-3, t+3]$ window surrounding its quarterly earnings announcement. Specifically, P/E ratios at day $t-3$ and day $t+3$ are calculated, respectively, as the stock price at day $t-3$ divided by earnings per share of the previous quarter, and the stock price at day $t+3$, divided by earnings per share of current quarter.

Columns 1-2 of Table 7 Panel A reveal that the incumbent's P/E ratio decreases if there are industry peers that have filed but not completed IPOs at the time of its earnings announcement. We control for changes in firm-specific characteristics from previous quarter to current quarter, such as changes in firm size, leverage, sales growth, and cash flow, that may explain a decline in

valuation multiples. Since by construction, the regression absorbs industry fixed effects, we include only quarter fixed effects for this set of analyses. In columns 3-4, we include, additionally, the change in industry growth opportunities, as measured by the change in industry book to market ratio from previous quarter to current quarter.

Overall, the results suggest that incumbents' strategic disclosure leads to a depressed valuation multiple. Since P/E ratio is a common benchmark used by investors and underwriters to help set the offer price, a lower P/E ratio may lead to a more pessimistic view of the IPO firm's future. This sheds light on a mechanism through which incumbents' downwards earnings management can affect the success of their peer's IPO.

If the incumbents' strategic reporting reflects negatively on the private peer's prospects, then we would expect that to be reflected in the private peer's media sentiment. Existing literature documents that the extent of media exposure relates to IPO underpricing and post-offer performance (e.g., Cook, Kieschnick, and Van Ness, 2006; Chen et al. 2020). As such, by stimulating unfavorable news sentiment on rival IPO firms, incumbents' strategic disclosure may tamper their effort to raise capital.

To explore whether incumbent's downward earnings management leads to a decline in news sentiment on the IPO firm, we extract news reports for our sample IPOs from the "Equities" section of the RavenPack News Analytics (RPNA), a comprehensive database recording all the news reports related to a firm, including those in which the firm is only briefly mentioned.[9] For each news article, RPNA ranks the relevance of the content for a specific firm. A Relevance Score

[9] RPNA provides real-time structured sentiment, relevance and novelty data for entities and events detected in the unstructured text published by reputable sources. Publishers include the Dow Jones Newswires, the Wall Street Journal, Direct Regulatory and PR feeds and over 19,000 other traditional and social media sites. Its Global Equities section detects news and produces analytics data on over 40,000 listed stocks from the world's equity markets.

of 0 means that the entity was passively mentioned while a score of 100 means the entity was prominent in the news story. For this reason, we require news pieces with the Relevance Scores exceeding 50. Since RPNA begins its data coverage in 2000, we restrict our analysis to the period of 2000-2017 and merge the news data with our IPO sample. We are able to identify news articles relating to 454 unique IPO firms during their filing periods.

We capture firm-specific media sentiment using RPNA's Composite Sentiment Score (CSS), which combines various sentiment analysis techniques to track the sentiment of news about a firm. The CSS ranges from 0 (the least favorable) to 100 (the most favorable), with 50 being neutral. Specifically, we compute "*ACSS*" by averaging CSS scores of news reports on a private peer that has filed but not completed its IPO over the 3-day post announcement period. In cases where there are multiple peers filing for IPO at the time of an incumbent's earnings announcement, we average "*ACSS*" across these peer firms (i.e., our unit of analysis is at the incumbent-quarterly earnings announcement level). Our empirical analysis focuses on a relatively short window following the incumbent's quarterly earnings announcement to better ensure that we capture the immediate effects of incumbents' strategic disclosure on IPO firms, limiting the possible impact of other news events unrelated to their earnings management over time.

Panel B of Table 7 reports the results. In columns 1-3, we cluster standard errors at the IPO firm level, whereas in columns 4-6, standard errors are clustered at the incumbent firm level. We always observe a subsequent decrease in news sentiment score on the IPO firm when an incumbent manages its quarterly earnings downwards, even after we control for firm fixed effects and calendar quarter fixed effects. These findings suggest that incumbents' downwards earnings management spurs more negative media sentiment on the IPO firm, highlighting another mechanism through which incumbents' strategic disclosure impacts the success of their peer's IPO.

3.4 Robustness

In the Internet Appendix, we perform a battery of tests to check the robustness of our baseline findings. Importantly, we show that our results are robust to using several alternative industry classifications and alternative proxies for earnings management (see Tables A1 and A2 of the Internet Appendix). The use of different industry classifications to identify peers, including the text-based approach of Hoberg and Phillips (2010), helps ensure we are appropriately identifying incumbents and rivals. When considering alternative measures of earnings management, we employ a proxy that does not depend on accruals. As such, our findings on incumbents' strategic reporting are unlikely driven by specific accrual models.

One concern is that both a peer firm's decision to go public and the extent of earnings management by incumbent firms are endogenous. For example, market and industry conditions not only encourage or deter IPO activities, but also simultaneously affect the way incumbent firms manage their earnings. This concern is less relevant in our setting because we consider incumbents' earnings management *after* a peer files for IPO. By design, our analysis takes a peer's decision to go public as given. In addition, we control for industry × quarter fixed effects, which take into account time-varying industry-specific shocks.

To further mitigate the endogeneity concerns, we exploit the passage of the 2012 Jumpstart Our Business Startups Act (JOBS Act). While the Act intended to promote going-public activities for all small firms, Dambra, Field, and Gustafson (2015) provide robust evidence that its enactment only disproportionally increased IPO activities in the biotech and pharmaceutical industries. Importantly, the JOBS Act should be unrelated to earnings management by existing public companies. Table A3 of the Internet Appendix reveals that, responding to an (exogenous) increase in IPO activities in the biotech and pharmaceutical industries brought about by the JOBS Act,

incumbents' quarterly discretionary accruals in these two industries become more negative after the enactment in comparison to before the JOBS Act and to other industries.[10]

Lastly, our identification relies on the assumption that future earnings of incumbents and IPO firms are positively correlated for incumbents' strategic reporting to be effective. This assumption is built upon prior literature on information transfer (e.g., Foster 1981; Bowen, Castanias, and Daley 1983; Baginski 1987), which documents a significant impact of a firm's earnings announcement on the stock prices of non-announcing industry peers. Such information transfer exists because the future expected cash flows of industry peers are, on average, positively correlated. Thus, investors update their perception on the peers or the overall industry following the arrival of a firm's earnings information. We also validate this assumption in Table A4 of the Internet Appendix, considering how correlated the future earnings are between industry incumbents and their IPO peers. Table A4 shows that incumbents manage earnings downwards to a greater extent if their future earnings are more correlated with those of IPO firm than the incumbents with less correlated earnings.

Overall, while it is never possible to provide a statistical demonstration that the dynamics of industry-wide conditions do not drive the estimates, the tests we perform, along with the results on accruals reversals, corroborate with our interpretation of strategic reporting to deter product market competition.

[10] By simplifying the filing process for entrepreneurial firms, the JOBS Act speeds up the going-public process. Emerging growth companies can file confidentially, and their filing only becomes public information 15 days prior to the road show. This, however, does not affect our inference, as we show that only if an incumbent's announcement of its quarterly earnings falls during the filing period does the firm manage earnings downwards. In addition, the confidential filing may not be able to stay confidential. See also, "Confidential I.P.O Filing Work, if They Stay Confidential", July 7, 2017. The New York Times.

4. Real Consequences of Strategic Reporting

4.1 Do IPO Firms Suffer from Incumbents' Strategic Reporting?

In this section, we examine whether the incumbents' effort to hamper a peer's IPO attempt has real impact. We start with various measures for the success of an IPO event. First, if incumbents' strategic reporting indeed influences how investors and underwriters perceive the offer, then we should observe that the final offer price decreases in the magnitude of downwards earnings management by incumbents during the IPO firm's filing period. We thus compute "*Offer Price Revision*", which is the percentage change of final offer price to the mid-point of initial filing price range. Since we focus on the quarterly earnings announced after the peer files for an IPO and the initial price range of the IPO is already set as of the time of the filing, a smaller offer price revision indicates a lower final offer price relative to the mid-point of the initial filing range. [11]

Incumbent earnings management may also influence the size of the IPO offering if investor demand wanes. To capture this dimension of IPO success we compute "*Proceeds Revision*", calculated as the percentage change of the final proceeds offered from the initial proceeds filed.

The incumbents' reporting tactics may also create greater uncertainty surrounding the success of the IPO, which could cause the issuing firm to amend its initial filing more frequently or post-pone the IPO. We capture this uncertainty with "*Frequency of Amendments*", calculated as the natural logarithm of one plus the number of amendment filings during the pre-offer period. We also explore the likelihood that the peer withdraws the offering.

[11] It is possible that when a firm files for public offering, the filing price range is not included in the initial S-1 form, but shows up in the subsequent amendment filings of S-1A form. In untabulated regressions, we show that both our baseline results and the results on price and proceed revisions are robust if we replace the original filing date with the first amendment filing date.

In Table 8, we estimate the extent to which incumbents' earnings management during a firm's book-building period affects the outcome of its IPO. The unit of analysis is IPO firm. "*Pre-IPO Incumbents' EM*" is the average quarterly earnings management by industry incumbent firms during a peer's IPO filing period. We control for factors known in the IPO literature that affect IPO pricing. It is evident that when incumbents manage earnings downwards more aggressively during the peer's IPO filing window, the peer suffers a smaller offer price revision, raises a smaller amount of capital, amends its filings more frequently, and has a higher probability of withdrawal.

Bhattacharya et al. (2015) show that the first three years after IPO are crucial to a firm's long-term survival. This implies that the inability to raise the desired amount of capital limits how fast a peer can grow during this critical time, dampening the chance of its survival and the extent of the threat its IPO poses to the incumbents. We explore how peer firms exposed to different degrees of incumbents' earnings management during their pre-IPO periods perform post IPO.

Table 9 provides evidence consistent with incumbent earnings management limiting the peers' post IPO expansion. IPO firms that have experienced more aggressive downward earnings management by industry incumbents during their filing windows spend less in capital investments after going public, in comparison to those whose industry incumbents manage earnings less. They also suffer from lower cash flows and profitability. As a result, they hoard more cash, arguably to mitigate refinancing risk and the underinvestment problem (Harford, Klasa, and Maxwell 2014).[12]

4.2 Do Incumbents Benefit?

In Darrough and Stoughton (1990) and Wagenhofer (1990), reporting bad news (partial disclosure) arises in equilibrium when the incumbent trades off the benefit from deterring the

[12] Firms that had less successful IPOs are likely more concerned about the refinancing risk.

product market entry with the cost of a declining market valuation. The findings in subsection 4.1 suggest that the incumbents can potentially recoup the costs of a lower stock price reaction by destroying opponents' capital raising efforts, thus preventing the potential operating loss due to an otherwise heightened product market competition.

In this subsection, we examine whether an incumbent's future performance exhibits beneficial effects from mitigating the IPO firm's competitive threat. In Panel A of Table 10, we first estimate how an incumbent's profitability, measured by its ROA, improves after inhibiting its peers' IPO activities. For incumbent firm i in year t, we include *"# of Completed IPOs* (t-1)", calculated as the natural logarithm of one plus the number of i's peers that have completed IPO in year $t-1$, as well as its interaction with variable "*Average Pre-IPO EM*", calculated as the average quarterly earnings management during the filing periods of all of i's peers that have completed an IPO in year $t-1$. Since an IPO firm eventually will become an industry incumbent, in light of the findings in subsection 4.1 and Bhattacharya et al. (2015), for this set of analysis, we exclude firm-year observations up to three years after a firm's IPO from our sample of COMPUSTAT firms.

Columns 1-2 of Panel A report the results on incumbents' profitability. We observe that "*# of Completed IPOs* (t-1)" is always negatively and significantly related to an incumbent's profitability, confirming the findings in the existing literature that IPO events hamper industry rivals. Importantly, the interaction, *"# of Completed IPOs* (t-1)" × "*Average Pre-IPO EM*", is negative and significant, suggesting that the effect of peer IPOs on incumbents' profitability is mitigated when incumbents engage in more aggressive downward earnings management at the time of their peers' IPO filing. In terms of the economic magnitude, a one-standard-deviation

increase in "*Average Pre-IPO EM*" mitigates the effect of *"# of Completed IPOs* (*t*-1)" on an incumbent's ROA by approximately 28% (= -0.774×0.008/0.022).

One concern is that the incumbents' accrual reversal following the completion of their peers' IPO explains higher profitability, instead of incumbents benefiting from strategic reporting to depress rivals' capital raising efforts. To rule out the possibility that the findings are mechanical, we replace ROA with cash flow as the dependent variable and re-estimate the tests. Columns 3-4 of Table 10 Panel A reveal that while peer firms' IPO activities lead to lower cash flows for the industry incumbents, this effect is reduced when the incumbents exert more aggressive downward earnings management efforts during their rivals' IPO filing stage.

Finally, in Panel B of Table 10, we examine the mitigating effect on incumbent firms' market share growth. Following Fresard (2010) and Billett et al. (2017), we estimate a firm's market share growth as its sales growth minus the industry-year mean sales growth. To mitigate endogeneity problems, we control 1-year and 2-year lagged leverage, book to market, and market share growth when analyzing incumbents' industry-year adjusted sales growth (Fresard 2010; Billett et al. 2017). Again, peer IPO activities subsequently lead to a lower market share growth for the incumbent firms, consistent with the findings in the prior literature. Nevertheless, the negative and significant coefficient associated with the interaction term corroborates with our interpretation that incumbents' strategic reporting mitigates the negative externalities of IPOs.

4.3 Extensions

4.3.1 Alternative Venues of Strategic Reporting

In our main analysis, we focus on mandatory disclosure. This is because earnings announcement dates in this case are largely set well in advance and usually do not dramatically

depart from the schedule. Together with the control for industry × quarter fixed effects, it provides a suitable setting to identify the strategic incentives behind releasing poor earnings news, highlighting the variation in disclosure behaviors in the same quarter of industry incumbents whose announcement dates fall into or outside the filing window of an IPO firm. In addition, a signal is more credible if it is costly, whereas voluntary disclosure is subject to perceived credibility and thus can be deemed "cheap talk" (Jennings 1987; Stocken 2000). Nevertheless, existing literature has shown that voluntary disclosure still serves as a venue for managers to communicate information. Intuitively, we expect to observe that managers also engage in more pessimistic forecasts when their firms face IPO threats.

To consider management voluntary disclosure, we re-estimate our baseline regressions in Table 2, replacing the dependent variable with "*Management Forecast*", which is the difference between manager's forecasted quarterly earnings and analyst consensus forecasts, scaled by the share price at the beginning of the quarter. Due to data availability, we restrict the sample to 1993-2017. Consistent with our main findings, columns 1-2 of Table 11 reveal that management earnings forecast becomes more pessimistic when there are more industry peers filing for IPOs or attempting to raise a larger amount of capital.

We also explore the textual tone of management disclosure. We compare the tones in 10Q filings between incumbents in the same industry and in the same quarter whose earnings announcement date fell inside or outside a peer's IPO filing window. For each incumbent-quarter, we extract the tone data from the WRDS SEC Analytics and construct "*Tone of 10Q Filings*", which is the difference between the number of positive words and the number of negative words, scaled by the number of total words in its quarterly filing. Since SEC EDGAR started at the end of April 1994, for this set of analysis, we restrict the sample to 1995-2017.

We then re-estimate our baseline regressions in Table 2, with "*Tone of 10Q Filings*" as the dependent variable. Columns 3-4 of Table 11 show that incumbent's disclosure more pessimistic when there are more industry peers filing for IPOs or attempting to raise a larger amount of capital.

4.3.2 Cost of Strategic Reporting in an IPO Wave

The cost of downward earnings management may vary with the stages of the IPO wave. For instance, at the beginning of an IPO wave, there are relatively few public firms, and earnings news may still convey more firm-specific rather than industry-specific information. With fewer incumbents to share the cost, achieving the deterrence effect can be costly. During the middle of an IPO wave, the cost of reporting unfavorable earnings news can be shared among publicly traded companies while investors and industry rivals are more likely to interpret bad earnings news as an indication of dimming industry prospect rather than poor firm-specific performance. At the end of an IPO wave, with a sufficiently large number of publicly traded companies in an industry, the coordination cost among public firms to torpedo rivals' IPOs may be large enough to exceed the cost-sharing benefit. With very few firms remaining private (potentially going for public later), the benefit of deterring their capital-raising attempt may be small. Therefore, we postulate that downward earnings management is more substantial in the middle of an IPO wave.

To consider the possibility that the degree of an incumbent's earnings management depends on the position in an IPO wave, we employ a spline-like framework. A spline specification allows the slope coefficient to vary with different levels of industry-specific IPO activities. Note that a current industry incumbent is an IPO firm in the past. Identifying the stage of the IPO wave thus depends not only on the number of firms filing for an IPO, but also on the number of incumbents already publicly traded in an industry. Put differently, examining the number of IPOs alone does not completely describe the stage of an IPO wave: a smaller number of firms filing for

public offering may indicate the beginning of an IPO wave, in which case there exist very few incumbents. It could equally suggest the tail of an IPO wave, in which case most of the firms in an industry have already gone public, leaving very few private firms queuing for an IPO.

We capture the industry dynamics with the number of publicly traded firms in an industry-quarter and then interact "*# of IPOs*" with the tercile splines based on this variable. The first (third) tercile corresponds to the smallest (largest) number of incumbents in an industry at the time. Importantly, the relatively middle position of an IPO wave is described by the interaction term "*# of IPOs*" × "*Spline 3*". This is the case when there are many firms that have already gone public, but at the same time, more private firms are filing for IPOs.

Table 12 reports the results from the spline estimation. It is worth noting that the coefficient for "*# of IPOs*" × "*Spline 3*" is always negative and significant, and is much larger than the coefficients of the other two interaction terms. This suggests that when there are already many firms that have gone public and more firms are filing for IPOs — indicating a middle of an IPO wave, the degree of downward earnings management is the most significant.

5. Conclusion

A firm's initial public offering generates negative externalities to its industry rivals, threatening their competitive edge and depressing their operating performance. In this paper, we document evidence that incumbent firms engage in strategic reporting to mitigate heightened market competition brought about by their peers' IPO activities. In particular, incumbents manage earnings downwards when their industry peer files for an IPO. The downward discretionary accruals reverse later when there is no industry peer attempting an IPO. This effect is stronger when the costs of doing so appear small or the benefits are large. The downward earnings

management leads to a decline in incumbent's valuation multiples and to lower IPO firm media sentiment, presumably dampening investors' demand for the shares of the IPO firm.

As a result, IPO peers suffer from a lower final offer price, raise less capital, make more frequent amendments in order to gauge the offer price, and are more likely to withdraw from the offering. Post IPO, they invest less, hoard more cash, and experience lower performance when their industry incumbents have engaged in more aggressive downward earnings management during their going-public phases. By contrast, incumbents benefit from strategic reporting with improved operating performance and market share growth.

Our findings suggest that strategic disclosure serves as a viable tool to deter entry of competitors. Importantly, incumbents' strategic disclosure discourages peers' IPO activities, highlighting another cost of going-public. Different from previously documented costs of raising capital, the one we identify varies with the industry dynamics and the stage of an IPO wave. This implies that industry policies are inevitably tilted towards a few large incumbents if they can successfully prevent competitors from going public, adding another potential benefit for strategic disclosure.

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Appendix: Variable Definitions

Variable	Definition and Data Source
# of IPOs	Natural logarithm of one plus the number of industry peers that have filed but not completed an IPO when the firm announces its quarterly earnings. This variable is set to zero if there is no peer firm filing for IPO at the time of an incumbent's quarterly earnings announcement. Winsorized at the 1% and 99% levels. An industry peer firm is defined based on the 3-digit SIC code. Sources: SDC and COMPUSTAT.
ACSS	The average of RavenPack's composite sentiment scores of news articles about an IPO firm published over the $[t+1, t+3]$ window when an industry incumbent announces its quarterly earnings at day t. If multiple peers have filed but not gone public at the time of the incumbent's announcement, we average "*ACSS*" across these peer firms. Winsorized at the 1% and 99% levels. Source: RavenPack News Analytics.
Big 4 Auditor	A dummy variable equal to one if an IPO firm hires a Big 4 auditor, and zero otherwise. Source: COMPUSTAT.
Bio/Pharmaceutical	A dummy variable equal to one if a firm belongs to the biotech or pharmaceutical industry as in Dambra, Field, and Gustafson (2015), and zero otherwise. Source: Dambra, Field, and Gustafson (2015).
CAPEX	An IPO firm's annual capital expenditure scaled by average total assets. Winsorized at the 1% and 99% levels. Sources: COMPUSTAT and SDC.
Cash Flow	Operating cash flows scaled by average total assets, multiplied by 100. Source: COMPUSTAT.
Cash Holding	Cash and cash equivalent scaled by average total assets. Source: COMPUSTAT.
Dividend	A dummy variable equal to one if an IPO firm pays dividend after going public, and zero otherwise. Source: COMPUSTAT.
Downward EM	A variable set to EM if EM is negative, and zero if EM is zero or positive. Source: IBES.
EM	Kothari, Leone, and Wasley's (2005) performance-adjusted modified Jones model measure of discretionary accruals, constructed as the residual of the regression model $\frac{TACC_{it}}{TA_{it}} = \varphi_0 + \varphi_1 \frac{1}{TA_{it}} + \varphi_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it}} + \varphi_3 \frac{PPE_{it}}{TA_{it}} + \varphi_4 \frac{IB_{it}}{TA_{it}} + e_{it}$ estimated for each industry and quarter, multiplied by 100. For incumbent firm i in quarter t, $TACC_{it}$ is the total accruals defined as the difference between net income and cash flows from operations; ΔREV_{it} is the change in revenue; ΔREC_{it} is the change in receivables from quarter $t-1$ to quarter t; PPE_{it} is the gross property, plant and equipment; $IB_{it}$is income before extra-ordinary items; TA_{it} is the average total assets. We require each industry-quarter to have at least 15 firm-quarter observations, and exclude firms with quarter-average total assets less than $10 million. Industry classification is based on 2-digit SIC codes. Source: COMPUSTAT.

Filing Period Duration	Natural logarithm of one plus the number of days between initial filing date and final offer date. Winsorized at the 1% and 99% levels. Source: SDC.
Frequency of Amendments	Natural logarithm of one plus the number of amendment filings during the pre-offer filing period. Winsorized at the 1% and 99% levels. Source: SDC.
High Info Asymmetry	A dummy variable equal to one if the average of analyst forecast errors of an industry-year falls above the sample median, and zero otherwise. Source: IBES.
High Short-term Ownership	A dummy variable equal to one if the fraction of a firm's shares held by transient institutional investors is greater than sample top tercile, and zero otherwise. Transient investors are identified following Bushee's (1998 and 2001) classification of 13F investors. Source: 13F and Bushee's Website.
High Underwriter Reputation	A dummy variable equal to one if an IPO firm's underwriter ranking exceeds 8. Source: Jay Ritter's website.
Industry Book to Market	The average of book to market ratios of public firms in an industry. Source: COMPUSTAT.
IPO Volume	Natural logarithm of one plus the sum of proceeds filed by industry peers at the time when an incumbent firm announces its quarterly earnings. This variable is set to zero if there is no peer firm filing for IPO at the time of quarterly earnings announcement. Winsorized at the 1% and 99% levels. An industry peer firm is defined based on the 3-digit SIC code. Sources: SDC and COMPUSTAT.
Leverage	Total liabilities divided by total assets. Winsorized at the 1% and 99% levels. Source: COMPUSTAT.
Low VIX	A dummy variable set to one if the monthly VIX at the time of an incumbent's quarterly earnings announcement falls below 15 and zero otherwise. Source: Chicago Board Options Exchange.
Managerial Forecast	The difference between manager's forecasted quarterly earnings and analyst consensus forecasts, scaled by the share price at the beginning of the quarter. Winsorized at the 1% and 99% levels. Source: IBES.
MJEM	The Dechow, Sloan, and Sweeney's (1996) modified Jones model measure of discretionary accruals, constructed as the residual of the regression model $\frac{TACC_{it}}{TA_{it}} = \varphi_0 + \varphi_1 \frac{1}{TA_{it}} + \varphi_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it}} + \varphi_3 \frac{PPE_{it}}{TA_{it}} + e_{it}$ estimated for each industry and quarter, multiplied by 100. For incumbent firm i in quarter t, $TACC_{it}$ is the total accruals defined as the difference between net income and cash flows from operations; ΔREV_{it} is the change in revenue; ΔREC_{it} is the change in receivables from quarter $t-1$ to quarter t; PPE_{it} is the gross property, plant and equipment; TA_{it} is the average total assets. We require each industry-quarter to have at least 15 firm-quarter observations, and exclude firms with quarter-average total assets less than $10 million. Industry classification is based on 2-digit SIC code. Source: COMPUSTAT.

Market Share Growth	Sales growth minus the industry-year mean sales growth where industry classification is based on the 3-digit SIC code. Source: COMPUSTAT.
Offer Price Revision	The final offer price divided by the mid-point of the price range at the initial filing date, minus one. Winsorized at the 1% and 99% levels. Source: SDC.
Patents	The natural logarithm of one plus the average number of patents filed by peer firms over the three-year period before they file for IPO. Winsorized at the 1% and 99% levels. Sources: SDC and Kogan, Papanikolaou, and Soffman (2017).
Pre-IPO Incumbents' EM	The average quarterly earnings management by incumbent firms in the same 3-digit SIC industry during the filing period of a peer's IPO. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Industry Book to Market	The average of book to market ratio of firms operating in the same 3-digit SIC industry as the IPO firm during its filing period. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Industry Cash Flow	The average of operating cash flows (scaled by average total assets) of firms operating in the same 3-digit SIC industry as the IPO firm during its filing period. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Industry Leverage	The average of operating cash flows (scaled by average total assets) of firms operating in the same 3-digit SIC industry as the IPO firm during its filing period. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Industry Size	The average of total assets of firms operating in the same 3-digit SIC industry as the IPO firm during its filing period. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Industry Sales Growth	The average of sales growth of firms operating in the same 3-digit SIC industry as the IPO firm during its filing period. Winsorized at the 1% and 99% levels. Source: COMPUSTAT and SDC.
Pre-IPO Market Return	The cumulative CRSP value-weighted return during the IPO firm's filing period. Winsorized at the 1% and 99% levels. Sources: CRSP and SDC.
Proceeds	Natural logarithm of total proceeds filed by the IPO firm. Winsorized at the 1% and 99% levels. Source: SDC.
Proceeds Revision	The final proceeds offered divided by the proceeds filed, minus one. Winsorized at the 1% and 99% levels. Source: SDC.
Post JOBS Act	A dummy variable equal to one if the firm's quarterly earnings announcement occurs after April 5th, 2012, the enactment of the Jumpstart Our Business Startups Act (JOBS Act), and zero otherwise.
Post IPO Dummy	A dummy variable equal to one if at least one industry peer firm has attempted for an IPO in the previous quarter but no peer firms file for IPO in the contemporaneous quarter when the incumbent firm announces its quarterly earnings, and zero otherwise. Sources: SDC and IBES.
R&D	The natural logarithm of one plus the average of peer firms' R&D expenditures in the year prior to their IPOs. Winsorized at the 1% and 99% levels. Source: SDC and COMPUSTAT.

Report Earnings Loss	A dummy variable equal to one if the firm's quarterly income before extra-ordinary items is negative, and zero otherwise. Source: COMPUSTAT.
Report Income-Decreasing Discretionary Accruals	A dummy variable equal to one if there exist income-decreasing discretionary accruals, and zero otherwise. Source: COMPUSTAT.
ROA	Income before extra-ordinary items scaled by average total assets. Source: COMPUSTAT.
Sales Growth	Percentage change in sales revenue. Winsorized at the 1% and 99% levels. Source: COMPUSTAT.
Size	Natural logarithm of total assets. Winsorized at the 1% and 99% levels. Source: COMPUSTAT.
Tone of 10Q Filings	The difference between the number of positive words and the number of negative words, scaled by total number of words in the 10Q filings. Winsorized at the 1% and 99% levels. Source: WRDS SEC Analytics.
VC Back	A dummy variable equal to one if the IPO firm receives VC backing. Source: SDC.

Table 1: Descriptive Statistics

Panel A: Incumbent Firm Characteristics

The sample period is 1991-2017. The unit of analysis is incumbent firm-quarter observations. Variable description and data sources are in the Appendix.

Variable	# of obs.	Mean	Median	Std. Dev.
EM	188,069	-0.18	-0.16	3.63
Downward EM	188,069	-1.44	-0.16	2.94
# of IPOs (in log form)	188,069	0.5	0	0.83
# of IPOs	188,069	1.91	0	5.69
IPO Volume (in log form)	188,069	1.7	0	2.55
IPO Volume ($MM)	188,069	140.7	0	466.2
Size	188,069	6.41	6.27	1.76
Total Assets ($MM)	188,069	3,980.26	526.07	20,286.18
Book to Market	188,069	0.5	0.42	0.35
Leverage	188,069	0.47	0.48	0.21
Sales Growth	188,069	0.06	0.03	0.25
Cash Flow	188,069	2.27	2.48	4.62
ROA	188,069	0.01	0.01	0.04
Industry Book to Market	188,069	0.5	0.47	0.18

Panel B: IPO Characteristics

The sample period is 1991-2017. The unit of analysis is IPO firm observations. Variable description and data sources are in the Appendix.

Variable	# of obs.	Mean	Median	Std. Dev.
Offer Price	3,878	12.47	12	5.27
Proceeds ($MM)	3,878	88.73	40.5	454.37
Offer Price Revision	3,878	0.01	0	0.18
Proceeds Revision	3,878	0.03	0	0.39
# of Amendments	3,878	3.01	3	2.2
IPO Withdraw	4,744	0.2	0	0.4
Filing Period Duration (# of days)	3,878	91.34	69	74.66
High Underwriter Reputation	3,878	0.64	1	0.48
VC Back	3,878	0.56	1	0.5
Pre-IPO Market Return	3,878	0.04	0.03	0.06

Table 1 continued.

Panel C: Univariate Comparison

The sample period is 1991-2017. The unit of analysis is incumbent firm-quarter observations. We restrict the sample to industry-quarters that have at least one peer IPO. We then compute the means and medians of "*EM*" of incumbents in quarters when their announcement dates do not overlap with the peer IPO filing period (i.e., "*# of IPOs*" = 0) and in quarters when their announcement dates overlap with their peers' IPO filing window (i.e., "*# of IPOs*" > 0). The *p*-values of T-statistics testing the difference in mean (one-tail) and Mann-Whitney test for the difference in median are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

	# of obs.	Mean	Median	Std. Dev.
# of IPOs = 0	32,822	-0.14	-0.13	3.53
# of IPOs > 0	64,963	-0.18	-0.23	4
Difference		0.04*	0.1***	
p-value		(0.062)	(0.001)	

Table 2: Earnings Management during Peer Firms' IPO

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1-4, and "*Downward EM*" in columns 5-8. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Detailed definition of variables is in the Appendix. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM				Downward EM			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# of IPOs	-0.147***		-0.340***		-0.161***		-0.250***	
	(0.015)		(0.033)		(0.017)		(0.033)	
IPO Volume		-0.024***		-0.079***		-0.026***		-0.059***
		(0.004)		(0.009)		(0.004)		(0.009)
Size	0.201***	0.201***	0.221***	0.221***	0.336***	0.336***	0.344***	0.344***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)
Book to Market	-0.008	-0.007	-0.046	-0.033	0.249***	0.250***	0.226***	0.235***
	(0.029)	(0.029)	(0.028)	(0.028)	(0.031)	(0.031)	(0.032)	(0.032)
Leverage	-0.262***	-0.257***	-0.332***	-0.309***	-0.616***	-0.610***	-0.652***	-0.635***
	(0.054)	(0.054)	(0.055)	(0.056)	(0.065)	(0.065)	(0.068)	(0.069)
Sales Growth	1.874***	1.871***	1.819***	1.816***	0.634***	0.631***	0.579***	0.577***
	(0.067)	(0.067)	(0.065)	(0.065)	(0.056)	(0.056)	(0.059)	(0.059)
Cash Flow	-0.653***	-0.653***	-0.687***	-0.687***	-0.363***	-0.362***	-0.381***	-0.380***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Industry Book to Market	-0.587***	-0.551***			-0.435***	-0.394***		
	(0.064)	(0.064)			(0.069)	(0.069)		
Quarter FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry × Quarter FE	No	No	Yes	Yes	No	No	Yes	Yes
# of obs.	188,069	188,069	188,069	188,069	188,069	188,069	188,069	188,069
R-squared	0.635	0.635	0.696	0.696	0.33	0.33	0.454	0.453

Table 3: Accrual Reversal

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1, 3 and 4, and "*Downward EM*" in columns 2, 5 and 6. For columns 1-2, "*Post IPO Dummy*" is a dummy variable equal to one if at least one peer firm has attempted for IPO in the previous quarter but no peer firms have filed for IPO in the current quarter, and zero otherwise. For the rest of columns, this variable is set to one if at least one peer firm has filed for IPO in the previous quarter and zero otherwise. "*# of IPOs*" ("*IPO Volume*") is the natural logarithm of one plus the number of companies (one plus the sum of proceeds filed by companies) operating in the same industry that have filed for, but not completed, IPO during a firm's quarterly earnings announcement date. This variable is set to zero if during the quarter of earnings announcement there is no peer firm filing for IPO. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM	Downward EM	EM		Downward EM	
	(1)	(2)	(3)	(4)	(5)	(6)
Post IPO Dummy	0.055**	0.075***	0.153***	0.125***	0.189***	0.170***
	(0.028)	(0.029)	(0.024)	(0.024)	(0.026)	(0.026)
# of IPOs			-0.373***		-0.290***	
			(0.032)		(0.032)	
IPO Volume				-0.086***		-0.069***
				(0.009)		(0.009)
Size	0.221***	0.344***	0.219***	0.219***	0.341***	0.341***
	(0.008)	(0.010)	(0.008)	(0.008)	(0.010)	(0.010)
Book to Market	-0.006	0.255***	-0.043	-0.030	0.229***	0.239***
	(0.029)	(0.033)	(0.028)	(0.028)	(0.032)	(0.032)
Leverage	-0.257***	-0.596***	-0.322***	-0.300***	-0.639***	-0.623***
	(0.059)	(0.070)	(0.055)	(0.056)	(0.068)	(0.068)
Sales Growth	1.809***	0.572***	1.823***	1.820***	0.584***	0.581***
	(0.065)	(0.059)	(0.066)	(0.065)	(0.059)	(0.059)
Cash Flow	-0.686***	-0.380***	-0.687***	-0.687***	-0.381***	-0.381***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
# of obs.	188,069	188,069	188,069	188,069	188,069	188,069
R-squared	0.695	0.453	0.696	0.696	0.454	0.454

Table 4: Threat of IPO Rivals

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1-4 and "*Downward EM*" in columns 5-8. "*R&D*" is the natural logarithm of one plus the average of peer firms' R&D expenditures in the year prior to their IPOs. "*Patents*" is the natural logarithm of one plus the average number of patents filed by peer firms over the three-year period before they file for IPO. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM				Downward EM			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# of IPOs × R&D	-0.026***				-0.025**			
	(0.009)				(0.011)			
IPO Volume × R&D		-0.014***				-0.012***		
		(0.003)				(0.003)		
# of IPOs × Patents			-0.010				-0.024**	
			(0.010)				(0.011)	
IPO Volume × Patents				-0.009***				-0.010***
				(0.003)				(0.003)
# of IPOs	-0.280***		-0.324***		-0.191***		-0.201***	
	(0.032)		(0.032)		(0.034)		(0.034)	
IPO Volume		-0.051***		-0.070***		-0.036***		-0.045***
		(0.008)		(0.008)		(0.008)		(0.008)
Size	0.221***	0.221***	0.234***	0.234***	0.344***	0.344***	0.356***	0.356***
	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
Book to Market	-0.047*	-0.037	-0.046	-0.034	0.225***	0.232***	0.287***	0.294***
	(0.028)	(0.028)	(0.032)	(0.033)	(0.032)	(0.032)	(0.036)	(0.036)
Leverage	-0.335***	-0.317***	-0.337***	-0.317***	-0.654***	-0.642***	-0.679***	-0.667***
	(0.055)	(0.056)	(0.064)	(0.065)	(0.068)	(0.068)	(0.076)	(0.076)
Sales Growth	1.819***	1.817***	1.891***	1.889***	0.579***	0.577***	0.648***	0.647***
	(0.065)	(0.065)	(0.070)	(0.070)	(0.059)	(0.059)	(0.062)	(0.062)
Cash Flow	-0.687***	-0.687***	-0.689***	-0.688***	-0.381***	-0.381***	-0.373***	-0.373***

	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of obs.	188,069	188,069	139,262	139,262	188,069	188,069	139,262	139,262
R-squared	0.696	0.696	0.695	0.695	0.454	0.453	0.454	0.454

Table 5: Presence of Short-term Incentive

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1-2 and "*Downward EM*" in columns 3-4. "*High Short-term Ownership*" is a dummy variable set to one if the fraction of a firm's shares held by transient investors falls to the top sample tercile, and zero otherwise. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM		Downward EM	
	(1)	(2)	(3)	(4)
# of IPOs	-0.394***		-0.293***	
	(0.033)		(0.034)	
# of IPOs × High Short-term Ownership	0.149***		0.120***	
	(0.021)		(0.023)	
IPO Volume		-0.094***		-0.071***
		(0.009)		(0.009)
IPO Volume × High Short-term Ownership		0.044***		0.032***
		(0.007)		(0.007)
High Short-term Ownership	0.012	0.011	0.024	0.029
	(0.019)	(0.020)	(0.022)	(0.023)
Size	0.212***	0.212***	0.335***	0.335***
	(0.008)	(0.008)	(0.010)	(0.010)
Book to Market	-0.034	-0.020	0.238***	0.248***
	(0.028)	(0.028)	(0.032)	(0.032)
Leverage	-0.310***	-0.286***	-0.631***	-0.614***
	(0.056)	(0.056)	(0.069)	(0.069)
Sales Growth	1.819***	1.816***	0.579***	0.577***
	(0.065)	(0.065)	(0.059)	(0.059)
Cash Flow	-0.688***	-0.688***	-0.382***	-0.381***
	(0.004)	(0.004)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes
# of obs.	188,069	188,069	188,069	188,069
R-squared	0.697	0.696	0.454	0.454

Table 6: Uncertainty Surrounding the Success of an IPO

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1-2 and 5-6, and is "*Downward EM*" in columns 3-4 and 7-8. An industry is classified as a high-information asymmetry ("*High Info Asymmetry*") industry if the average of analyst forecast errors of all the firms in the industry falls above the sample median. "*Low VIX*" is a dummy variable set to one if the monthly VIX at the time of quarterly earnings announcement is less than 15 and zero otherwise. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM		Downward EM		EM		Downward EM	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# of IPOs × High Info Asymmetry	-0.197***		-0.092***					
	(0.034)		(0.033)					
IPO Volume × High Info Asymmetry		-0.305***		-0.174***				
		(0.033)		(0.034)				
# of IPOs × Low VIX					0.077***		0.063**	
					(0.026)		(0.029)	
IPO Volume × Low VIX						0.018**		0.019**
						(0.008)		(0.008)
# of IPOs	-0.206***		-0.167***		-0.362***		-0.267***	
	(0.029)		(0.030)		(0.034)		(0.034)	
IPO Volume		-0.035***		-0.030***		-0.084***		-0.065***
		(0.007)		(0.007)		(0.009)		(0.009)
High Info Asymmetry	-0.131***	-0.111***	-0.221***	-0.206***	-0.010	-0.002	-0.022	-0.023
	(0.035)	(0.035)	(0.039)	(0.039)	(0.027)	(0.027)	(0.025)	(0.025)
High VIX					0.221***	0.221***	0.344***	0.344***
					(0.008)	(0.008)	(0.010)	(0.010)
Size	0.223***	0.223***	0.345***	0.345***	-0.046	-0.033	0.226***	0.235***
	(0.008)	(0.008)	(0.010)	(0.010)	(0.028)	(0.028)	(0.032)	(0.032)
Book to Market	-0.048*	-0.044	0.223***	0.226***	-0.333***	-0.310***	-0.652***	-0.636***
	(0.028)	(0.028)	(0.032)	(0.032)	(0.055)	(0.056)	(0.068)	(0.069)

Leverage	-0.331***	-0.325***	-0.655***	-0.651***	1.819***	1.816***	0.579***	0.577***
	(0.056)	(0.056)	(0.069)	(0.069)	(0.065)	(0.065)	(0.059)	(0.059)
Sales Growth	1.805***	1.804***	0.573***	0.572***	-0.687***	-0.687***	-0.381***	-0.380***
	(0.066)	(0.066)	(0.060)	(0.060)	(0.004)	(0.004)	(0.004)	(0.004)
Cash Flow	-0.687***	-0.687***	-0.381***	-0.381***	-0.687***	-0.687***	-0.381***	-0.380***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of obs.	183,248	183,248	183,248	183,248	188,069	188,069	188,069	188,069
R-squared	0.697	0.697	0.452	0.452	0.696	0.696	0.454	0.453

Table 7: Mechanisms

Panel A: Incumbent's Valuation Multiple

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "Δ *P/E*", calculated as the difference between P/E ratios over the $[t-3, t+3]$ window surrounding a quarterly earnings announcement. P/E ratio at day $t-3$ $(t+3)$ is calculated as the stock price at day $t-3$ $(t+3)$, divided by earnings per share of previous (current) quarter. "Δ *Size*", "Δ *Leverage*", "Δ *Sales Growth*", "Δ *Cash Flow*" and "Δ *Industry Book to Market*" are the difference between "*Size*", "*Leverage*", "*Sales Growth*", "*Cash Flow*", and "*Industry Book to Market*" in the current quarter and previous quarter, respectively. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	Δ P/E			
	(1)	(2)	(3)	(4)
# of IPOs	-4.432***		-4.473***	
	(0.676)		(0.678)	
IPO Volume		-1.203***		-1.215***
		(0.208)		(0.209)
ΔSize	-120.734***	-121.460***	-120.011***	-120.760***
	(8.320)	(8.314)	(8.421)	(8.416)
ΔLeverage	324.726***	325.454***	316.822***	317.567***
	(18.838)	(18.842)	(19.066)	(19.070)
ΔSales Growth	-265.389***	-265.391***	-258.004***	-258.001***
	(15.903)	(15.900)	(16.052)	(16.049)
ΔCash Flow	-130.395***	-130.353***	-130.326***	-130.280***
	(4.224)	(4.223)	(4.307)	(4.306)
ΔIndustry Book to Market			-0.535	-0.283
			(7.900)	(7.898)
Quarter FE	Yes	Yes	Yes	Yes
# of obs.	125,303	125,303	121,661	121,661
R-squared	0.050	0.049	0.049	0.048

Table 7 continued.

Panel B: Media Sentiment on IPO Firms

The sample period is 2000-2017. The unit of analysis is incumbent earnings announcement-IPO firm observations. The dependent variable is "*ACSS*", calculated as the average of RavenPack's CSS scores of news articles about an IPO firm published over the $[t+1, t+3]$ window when an industry incumbent announces its quarterly earnings at day t. If multiple peers have filed but not gone public at the time of the incumbent's announcement, we average "*ACSS*" across these peer firms. Detailed definition of variables is in the Appendix. All models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Robust standard errors reported in the parenthesis are clustered at IPO firm level in columns 1-3 and at incumbent firm level in columns 4-6. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	ACSS					
	(1)	(2)	(3)	(4)	(5)	(6)
EM	4.931***	1.815**	1.575*	4.931***	1.815**	1.575**
	(1.599)	(0.880)	(0.823)	(0.869)	(0.721)	(0.730)
Size	0.037*	0.013	0.016	0.037***	0.013	0.016
	(0.019)	(0.018)	(0.016)	(0.012)	(0.010)	(0.010)
Book to Market	0.074	-0.028	-0.064	0.074	-0.028	-0.064
	(0.102)	(0.067)	(0.066)	(0.067)	(0.061)	(0.061)
Leverage	-0.099	-0.082	-0.108	-0.099	-0.082	-0.108
	(0.134)	(0.096)	(0.090)	(0.101)	(0.080)	(0.082)
Sales Growth	-0.041	-0.006	-0.011	-0.041	-0.006	-0.011
	(0.076)	(0.056)	(0.054)	(0.066)	(0.048)	(0.048)
Cash Flow	4.289***	1.145	0.934	4.289***	1.145**	0.934
	(1.598)	(0.826)	(0.764)	(0.644)	(0.573)	(0.591)
Quarter FE	No	No	Yes	No	No	Yes
IPO Firm FE	No	Yes	Yes	No	Yes	Yes
# of obs.	12,625	12,625	12,625	12,625	12,625	12,625
R-squared	0.007	0.335	0.352	0.007	0.335	0.352

Table 8: Offer Price Revision and IPO Withdrawal

The sample contains firms that went public during the 1991-2017 period. The unit of analysis is IPO firm observations. The dependent variable is "*Offer Price Revision*" in column 1, computed as the final offer price divided by the mid-point of the price range at the filing date, minus one; is "*Proceeds Revision*" in column 2, calculated as the final proceeds offered divided by proceeds filed minus one; is "*Frequency of Amendments*" in column 3, calculated as the natural logarithm of one plus the number of amendment filings during the pre-offer period; and is a dummy variable set to one if a firm withdraws from the IPO and zero otherwise in column 4. "*Pre-IPO Incumbents' EM*" is the average quarterly earnings management by industry incumbent firms during the filing period of a peer's IPO. Columns 1-3 report the OLS regression coefficient estimates whereas column 4 reports the coefficient estimates from a logit regression. Detailed definition of variables is in the Appendix. All the models include a constant but the coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	Offer Price Revision	Proceeds Revision	Frequency of Amendments	Probability of Withdrawal
	(1)	(2)	(3)	(4)
Pre-IPO Incumbents' EM	0.933***	1.517**	-0.028***	-0.250***
	(0.284)	(0.602)	(0.009)	(0.059)
Proceeds	-0.712		0.171***	-0.956***
	(0.439)		(0.016)	(0.143)
VC Back	2.070***	0.789	0.070***	-0.227
	(0.739)	(1.487)	(0.019)	(0.143)
High Underwriter Reputation	4.872***	7.828***	-0.007	-5.839***
	(0.865)	(1.705)	(0.025)	(0.802)
Pre-IPO Market Return	49.068***	96.658***	0.337	0.730***
	(8.466)	(20.525)	(0.358)	(0.070)
Filing Period Duration	-4.802***	-12.975***	0.382***	2.234***
	(0.890)	(1.893)	(0.029)	(0.121)
Pre-IPO Industry Size	-0.525	1.165	0.095***	-0.324***
	(0.507)	(1.120)	(0.017)	(0.101)
Pre-IPO Industry Leverage	2.429	6.334	-0.670***	-0.325
	(3.719)	(7.624)	(0.121)	(0.555)
Pre-IPO Industry Sales Growth	-3.169	-6.582	0.234**	1.003*
	(3.979)	(7.824)	(0.097)	(0.591)
Pre-IPO Industry Cash Flow	1.289***	1.983***	-0.028***	-0.204***
	(0.205)	(0.366)	(0.006)	(0.034)
Pre-IPO Industry Book to Market	-11.947***	-8.034	-0.484***	2.345***
	(2.799)	(5.973)	(0.080)	(0.413)
# of obs.	3,878	3,878	3,878	4,744
R-squared/Pseudo R-squared	0.078	0.059	0.415	0.416

Table 9: Post IPO Investment and Performance

The sample contains firms that went public during the 1991-2017 period. The unit of analysis IPO firm-year observations. The dependent variable is an IPO firm's annual capital spending scaled by lagged total assets (column 1), cash flow (column 2), ROA (column 3) and cash holdings (column 4), during three years after IPO. "*Pre-IPO Incumbents' EM*" is the average quarterly earnings management by industry incumbent firms during the filing period of a peer's IPO. "*Big 4 Auditor*" is a dummy variable set to one if a firm hires a Big 4 auditor. "*Dividend*" is a dummy variable set to one if a firm pays dividend. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	CAPEX	Cash Flow	ROA	Cash Holding
	(1)	(2)	(3)	(4)
Pre-IPO Incumbents' EM	0.003**	0.016***	0.012**	-0.008*
	(0.002)	(0.005)	(0.006)	(0.005)
Size	0.003***	0.076***	0.084***	-0.036***
	(0.001)	(0.004)	(0.005)	(0.004)
Leverage	-0.005	-0.162***	-0.352***	-0.470***
	(0.006)	(0.019)	(0.024)	(0.019)
Big 4 Auditor	-0.003	-0.004	0.001	0.025***
	(0.003)	(0.010)	(0.012)	(0.010)
Book to Market	-0.016***	-0.025***	-0.055***	-0.106***
	(0.003)	(0.008)	(0.010)	(0.009)
Dividend	-0.001	0.051***	0.067***	-0.026**
	(0.005)	(0.010)	(0.012)	(0.010)
Pre-IPO Industry Size	-0.002	-0.006	-0.024	0.035
	(0.017)	(0.046)	(0.054)	(0.045)
Pre-IPO Industry Leverage	0.023	0.05	0.034	-0.154**
	(0.023)	(0.069)	(0.080)	(0.063)
Pre-IPO Industry Sales Growth	0.000	-0.018**	-0.016	0.028***
	(0.003)	(0.009)	(0.010)	(0.008)
Pre-IPO Industry Cash Flow	0.001	0.011***	0.009**	-0.009***
	(0.001)	(0.003)	(0.004)	(0.003)
Pre-IPO Industry Book to Market	-0.009	0.077*	0.141***	-0.131***
	(0.014)	(0.041)	(0.048)	(0.041)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
# of obs.	5,238	5,221	5,238	5,237
R-squared	0.386	0.403	0.427	0.586

Table 10: Strategic Reporting and Incumbents' Performance

The sample period is 1991-2017. The unit of analysis is firm-year observations. We exclude firm-year observations for IPO firms up to three years after their IPO. In Panel A, the dependent variables are the incumbent firm's ROA in columns 1-2 and cash flow in columns 3-4. In Panel B, the dependent variable is the incumbent firm's market share growth, calculated as its sales growth minus the industry-year mean sales growth. "*# of Completed IPOs* (*t*-1)" is the natural logarithm of one plus the number of peer IPOs completed in the previous year. "*Average Pre-IPO EM*" is the average quarterly earnings management during the filing periods of all of the incumbent firm's industry peers that have completed an IPO in the previous year. "*CAPEX*" is the annual capital spending scaled by lagged total assets. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Panel A: Profitability and Cash Flows

Dependent Variable	ROA		Cash Flow	
	(1)	(2)	(3)	(4)
# of Completed IPOs (t-1)	-0.022***	-0.010***	-0.019***	-0.011***
	(0.004)	(0.004)	(0.003)	(0.003)
# of Completed IPOs (t-1) × Average Pre-IPO EM	-0.774***	-0.856***	-0.400***	-0.487***
	(0.178)	(0.164)	(0.126)	(0.115)
Size	0.079***	0.082***	0.058***	0.067***
	(0.002)	(0.005)	(0.001)	(0.004)
Leverage	-0.337***	-0.240***	-0.162***	-0.099***
	(0.007)	(0.009)	(0.005)	(0.006)
Book to Market	-0.030***	-0.034***	-0.023***	-0.029***
	(0.004)	(0.005)	(0.003)	(0.003)
Dividend	0.003	0.002	0.007	-0.003
	(0.006)	(0.006)	(0.005)	(0.005)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	No	Yes	No
Firm FE	No	Yes	No	Yes
Observations	70,243	70,243	68,765	68,765
R-squared	0.523	0.773	0.434	0.744

Table 10 continued.

Panel B: Market Share Growth

Dependent Variable	Market Share Growth	
	(1)	(2)
# of Completed IPOs (t-1)	-0.054***	-0.053***
	(0.005)	(0.010)
# of Completed IPOs (t-1) × Average Pre-IPO EM	-2.531***	-2.141***
	(0.472)	(0.705)
Size	-0.004	0.064***
	(0.002)	(0.014)
Leverage	-0.170***	-0.126***
	(0.022)	(0.029)
Book to Market	-0.012*	-0.016
	(0.007)	(0.010)
Leverage (t-1)	0.093***	0.074**
	(0.031)	(0.036)
Leverage (t-2)	0.019	-0.000
	(0.024)	(0.030)
Book to Market (t-1)	-0.023**	-0.008
	(0.010)	(0.013)
Book to Market (t-2)	-0.012	-0.014
	(0.009)	(0.012)
CAPEX	0.753***	1.934***
	(0.096)	(0.193)
Industry-Year Adjusted ROA	-0.123***	0.036
	(0.022)	(0.041)
Market Share Growth (t-1)	0.057***	-0.103***
	(0.009)	(0.014)
Market Share Growth (t-2)	0.022***	-0.069***
	(0.008)	(0.011)
Industry FE	Yes	No
Firm FE	No	Yes
Observations	36,245	36,245
R-squared	0.022	0.250

Table 11: Management Voluntary Disclosure and Tone of 10Q Filings

In columns 1-2, the sample period is 1993-2017. The unit of analysis is quarterly management forecast observations. The dependent variable is "*Management Forecast*", calculated as the difference between manager's forecasted quarterly earnings and analyst consensus forecasts, scaled by the share price at the beginning of the quarter. Control variables are lagged for one quarter. In columns 3-4, the sample period is 1995-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*Tone of 10Q Filings*", calculated as the difference between the number of positive words and the number of negative words, scaled by total number of words in the 10Q filings. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	Managerial Forecast		Tone of 10Q Filings	
	(1)	(2)	(3)	(4)
# of IPOs	-0.062***		-0.091***	
	(0.017)		(0.024)	
IPO Volume		-0.014***		-0.028***
		(0.005)		(0.007)
Size	0.067***	0.067***	-0.064***	-0.064***
	(0.010)	(0.010)	(0.007)	(0.007)
Book to Market	-0.654***	-0.652***	-0.074***	-0.073***
	(0.061)	(0.061)	(0.024)	(0.024)
Leverage	-0.274***	-0.270***	-0.078	-0.078
	(0.060)	(0.060)	(0.051)	(0.051)
Sales Growth	0.231***	0.229***	-0.013	-0.013
	(0.059)	(0.059)	(0.024)	(0.024)
Cash Flow	1.845***	1.852***	0.013***	0.013***
	(0.378)	(0.379)	(0.002)	(0.002)
Industry × Quarter FE	Yes	Yes	Yes	Yes
# of obs.	21,211	21,211	126,416	126,416
R-squared	0.405	0.405	0.276	0.276

Table 12: IPO Waves and Strategic Reporting

This table reports the results from a spline regression. The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is the incumbent's "*EM*" in column 1 and "*Downward EM*" in column 2. Spline is based on the number of public firms in an industry-quarter. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM	Downward EM
	(1)	(2)
# of IPOs × Spline 1 (Smallest # of public firms in an industry)	0.003	0.015
	(0.072)	(0.060)
# of IPOs × Spline 2	-0.100**	-0.013
	(0.040)	(0.038)
# of IPOs × Spline 3 (Largest # of public firms in an industry)	-0.384***	-0.290***
	(0.034)	(0.036)
Size	0.222***	0.344***
	(0.008)	(0.010)
Book to Market	-0.050*	0.222***
	(0.028)	(0.032)
Leverage	-0.344***	-0.662***
	(0.055)	(0.068)
Sales Growth	1.820***	0.580***
	(0.065)	(0.059)
Cash Flow	-0.687***	-0.381***
	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes
Observations	188,069	188,069
R-squared	0.696	0.454

Internet Appendix for

"Torpedo Your Competition: Strategic Reporting and Peer Firm IPO"

We perform a number of robustness checks for our baseline results. In this Internet Appendix, we describe these tests and the findings.

A.1 Alternative Definitions of Industry Peers

In the main analysis, we define an industry peer based on the firm's 3-digit SIC code. We now check the robustness of our baseline results using several alternative industry classifications.

In columns 1-4 of Table A1, a peer firm is defined according to Hoberg and Phillips' (2010) industry classifications, which are based on firm pairwise similarity scores from text analysis of firm 10K product descriptions. In columns 5-8, we consider Fama-French 48 industries. In columns 9-12, we classify a peer firm using its 4-digit SIC code. From Table A1, we find no evidence that our findings depend on the way that we classify an industry peer.

A.2 Alternative Measures for Strategic Reporting

Our primary measure for earnings management is based on the Kothari-Leone-Wasley (2005) performance-adjusted discretionary accruals. We do so in order to explicitly account for the extent of earnings management arising from firm's performance, which is especially crucial since we focus on downward earnings management. In Table A2 Panel A, we re-estimate the baseline regressions using alternative proxies for earnings management. In columns 1-2 of Panel A, we calculate the Dechow-Sloan-Sweeney (1996) version of discretionary accrual-based earnings management in a modified Jones (1991) model. To better reflect the nature of earnings

understatement, we also estimate the likelihood that a firm would report income-decreasing discretionary accruals (columns 3-4). In columns 5-6, instead of accrual-based proxies, we consider the likelihood that a firm would report earnings loss (Burgstahler and Dichev 1997). As Panel A reveals, our baseline findings remain invariant.

Chen, Hribar, and Melessa (2018) find that using two-step regression procedures to estimate accrual-based earnings management can lead to biased coefficient estimates and standard errors when explanatory variables are correlated, resulting Type 1 and Type 2 errors. They suggest single-step procedures as the most basic solution to this problem. Following Chen et al. (2018) and Godsell et al. (2017), we replace discretionary accruals with total accruals as the dependent variable, and directly control in our regressions the variables used to estimate the discretionary accruals. As before, total accruals are defined as the difference between net income and cash flows from operations. Panel B of Table A2 shows that our findings are robust.

Alternatively, to mitigate the biases arising from the potential correlations between explanatory variables, we follow Chen et al. (2018) and for each industry-quarter, regress each independent variable in our baseline model on the same set of regressors used in the first stage to estimate our discretionary accruals. We then replace our independent variables with the residuals of these variables and repeat our baseline regressions for "*EM*". Panel C of Table A2 reports the findings. We continue to find that incumbent firms manage earnings downwards to a greater extent when there are more industry peers that have filed but not yet completed IPOs at the time of their earnings announcement.

Our main proxies of earnings management follow Kothari et al. (2005) and estimate the discretionary accruals based on 2-digit SIC codes. Ecker et al. (2013) compare the effectiveness of various industry and size groups in detecting discretionary accruals in terms of both scores and

rankings, and show that defining industry peers using 2-digit SIC codes is more effective than industry peer groups based on 3-digit or 4-digit SIC codes. They also find that 2-digit SIC industry peer definition performs mostly better in detecting earnings manipulation by negative-event US firms (such as restatements and AAERs). Using finer industry definitions does not significantly improve the measure but leads to a smaller sample size.

Nevertheless, we re-estimate our earnings management proxies using 3-digit SIC codes, so that the industry classification used to construct the dependent variables matches the one used for industry × quarter fixed effects that we control in the regression models. Panel D of Table A2 shows that our baseline findings are invariant to this alternative way to compute performance-based discretionary accruals.

Overall, Table A2 indicates that our findings are robust to different proxies for earnings management, including one that does not depend on accruals. Our baseline findings also remain when we consider potential correlations among explanatory variables, and when we estimate our accrual-based earnings management using finer industry classifications.

A.3 Endogeneity of Going-Public Activity

One concern is that both a peer firm's decision to go public and the extent of earnings management by incumbent firms can be endogenous. For example, market and industry conditions not only encourage or deter IPO activities, but also simultaneously affect the way incumbent firms manage their earnings. This concern is less relevant in our setting because we consider incumbents' earnings management *after* a peer files for IPO. By design, our analysis takes a peer's decision to go public as given. In addition, the inclusion of industry × quarter fixed effects throughout our

main analyses enables us to compare reporting behaviors of incumbents in the same industry within the same quarter, removing potential confounding effects.

To mitigate any remaining doubt for endogeneity, we also perform a test exploiting the passage of the Jumpstart Our Business Startups Act (JOBS Act) on April 12, 2012. The JOBS Act is a law intended to encourage funding of all small businesses in the United States by easing many of the country's securities regulations. Nevertheless, Dambra, Field, and Gustafson (2015) show that the enactment of the JOBS Act disproportionally increased IPO activities in biotech and pharmaceutical industries relative to other industries and in comparison to IPO activities in these two industries prior to the JOBS Act. In the context of our analysis, the JOBS Act particularly spurs IPO activities in biotech and pharmaceutical industries relative to other industries. However, it is not designed to cater to earnings management by companies that are already publicly traded.

In a difference-in-difference setting, we estimate whether incumbents manage earnings downward more aggressively post JOBS Act in the biotech and pharmaceutical industries as compared to other industries and to IPO activities prior to the JOBS Act. The dummy variable for post JOBS Act is set to one if a quarterly earnings announcement occurs after April 12, 2012. Biotech and pharmaceutical industries are defined as in Dambra, Field, and Gustafson (2015).[1] For this set of analyses, we restrict to the event window of 2009-2015, which is 3 years before and 3 years after the passage of the JOBS Act. Our findings remain invariant if we estimate this test using the full sample period.

[1] Specifically, the dummy for biotech/pharmaceutical industries is set to one if a firm's Global Industry Classification Standard (GICS) code is 352010 or belongs to #13 of the Fama-French 49 Industries (Pharmaceutical Products). The #13 Fama-French 49 Industry consists of the following 4-digit SIC industries: 2830-2830 Drugs; 2831-2831 Biological products; 2833-2833 Medicinal chemicals; 2834-2834 Pharmaceutical preparations; 2835-2835 In vitro, in vivo diagnostics; and 2836-2836 Biological products (except diagnostics).

Table A3 reports the results. Since we are unable to include industry × quarter fixed effects in this set of analyses, we control for, additionally, industry level book to market in columns 3 and 4. We observe that the coefficient for the interaction between the dummy variable for biotech and pharmaceutical industries and the post JOBS Act dummy is always negative and significant. Responding to an exogenous increase in IPO activities in the biotech and pharmaceutical industries brought about by the JOBS Act, incumbents' quarterly discretionary accruals in these two industries become more negative after the enactment in comparison to before the JOBS Act and to other industries.[2]

A.4 Information Transfer, Earnings Correlation and Earnings Management

A key assumption for effective strategic reporting is that future earnings of incumbents and IPO firms are positively correlated. This assumption is motivated by prior literature on information transfer (e.g., Foster 1981; Bowen, Castanias, and Daley 1983; Baginski 1987), which documents a significant impact of a firm's earnings announcement on the stock prices of non-announcing industry peers. Such information transfer exists because the future expected cash flows of industry peers are, on average, positively correlated. Thus, investors update their perception on the peers or the overall industry following the arrival of a firm's earnings information.

In the context of our analysis, incumbents whose future earnings are more closely related to those of IPO peers would manage earnings downwards to a greater extent than those with less corelated earnings. We calculate "*Earnings Correlation*", which is the correlation of earnings between the incumbent and its IPO peer during the three-year post-IPO window. To ensure that

[2] The main effect of the dummy for biotech/pharmaceutical industries remains when including industry fixed effects. This is because our industry classification is based on 3-digit SIC codes, whereas Dambra et al. (2015) uses a different approach to classify these industries.

the correlation is meaningful and comparable, we scale post-IPO annual earnings by total assets. If there are more than one peer having filed for an IPO at the time the incumbent announces its quarterly earnings, we take the average of the correlations.

We then re-estimate the baseline regression, including the interactions of "*Earnings Correlation*" with the variables of interest, "*# of IPOs*" and "*IPO Volume*", respectively. Table A4 shows that incumbents manage earnings downwards more aggressively if their future earnings are more correlated with those of their IPO peers, compared to incumbents with less correlated earnings.[3]

Overall, while it is never possible to provide a statistical demonstration that the dynamics of industry-wide conditions do not drive the estimates, the tests we perform, along with the results on accruals reversals, corroborate with our interpretation of strategic reporting to deter product market competition.

[3] We do not include the main effect of "*Earnings Correlation*" in the estimation. This is because we cannot calculate the correlation if there is no IPO (i.e., if "*# of IPOs*" = 0 or "*IPO Volume*" = 0).

Table A1: Alternative Definitions of Industry Peers

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. Industry classification is based on Hoberg and Phillips (2010) industry classification based on textual analysis on 10K filing in columns 1-4, based on Fama-French 48 industries in columns 5-8, and on 4-digit SIC codes in columns 9-12. The dependent variable is earnings management for columns 1-2, 5-6 and 9-10, and is downward earnings management for columns 3-4, 7-8, and 11-12. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

	10-K Filing				Fama-French 48				4-digit SIC code			
Dependent Variable	EM		Downward EM		EM		Downward EM		EM		Downward EM	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
# of IPOs	-0.367***		-0.275***		-0.246***		-0.245***		-0.066**		-0.056*	
	(0.027)		(0.021)		(0.014)		(0.015)		(0.029)		(0.032)	
IPO Volume		-0.091***		-0.067***		-0.065***		-0.060***		-0.019***		-0.017**
		(0.007)		(0.005)		(0.004)		(0.005)		(0.007)		(0.008)
Size	0.205***	0.205***	0.272***	0.273***	0.171***	0.176***	0.314***	0.319***	0.221***	0.221***	0.342***	0.342***
	(0.010)	(0.010)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.010)	(0.008)	(0.008)	(0.009)	(0.009)
Book to Market	0.007	0.021	0.255***	0.266***	0.120***	0.150***	0.321***	0.354***	-0.060**	-0.060**	0.227***	0.227***
	(0.039)	(0.039)	(0.033)	(0.033)	(0.031)	(0.030)	(0.031)	(0.031)	(0.028)	(0.028)	(0.032)	(0.032)
Leverage	-0.223***	-0.204***	-0.316***	-0.300***	0.135**	0.164***	-0.298***	-0.266***	-0.340***	-0.339***	-0.642***	-0.642***
	(0.068)	(0.068)	(0.058)	(0.058)	(0.058)	(0.058)	(0.067)	(0.067)	(0.056)	(0.056)	(0.070)	(0.070)
Sales Growth	1.776***	1.774***	0.553***	0.551***	1.779***	1.775***	0.534***	0.528***	1.804***	1.804***	0.584***	0.584***
	(0.061)	(0.061)	(0.039)	(0.039)	(0.067)	(0.067)	(0.057)	(0.057)	(0.064)	(0.064)	(0.059)	(0.059)
Cash Flow	-0.650***	-0.649***	-0.320***	-0.319***	-0.631***	-0.630***	-0.346***	-0.345***	-0.689***	-0.689***	-0.382***	-0.382***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of obs.	140,687	140,687	140,687	140,687	188,069	188,069	188,069	188,069	188,069	188,069	188,069	188,069
R-squared	0.651	0.650	0.459	0.458	0.612	0.611	0.302	0.300	0.706	0.706	0.465	0.465

Table A2: Alternative Measures for Strategic Reporting

Panel A: Alternative Proxies for Earnings Management

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*MJEM*" in columns 1-2, calculated as discretionary accrual-based earnings management following modified Jones (1991) model, is a dummy variable set to one if the firm reports income-decreasing discretionary accruals in columns 3-4, and a dummy variable set to one if the firm reports earnings loss. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	MJEM		Report Income-Decreasing Discretionary Accruals		Report Earnings Loss	
	(1)	(2)	(3)	(4)	(5)	(6)
# of IPOs	-0.218***		0.105***		0.071***	
	(0.029)		(0.017)		(0.005)	
IPO Volume		-0.030***		0.015***		0.016***
		(0.007)		(0.004)		(0.002)
Size	0.187***	0.188***	-0.122***	-0.123***	-0.039***	-0.039***
	(0.013)	(0.013)	(0.008)	(0.008)	(0.002)	(0.002)
Book to Market	-0.861***	-0.860***	-0.048	-0.049*	0.125***	0.122***
	(0.046)	(0.046)	(0.029)	(0.029)	(0.006)	(0.007)
Leverage	-2.044***	-2.036***	0.059	0.055	0.206***	0.200***
	(0.090)	(0.090)	(0.054)	(0.054)	(0.012)	(0.012)
Sales Growth	1.963***	1.958***	-1.793***	-1.790***	-0.069***	-0.068***
	(0.088)	(0.088)	(0.059)	(0.059)	(0.007)	(0.007)
Cash Flow	-0.479***	-0.479***	0.591***	0.591***	-0.030***	-0.030***
	(0.007)	(0.007)	(0.008)	(0.008)	(0.000)	(0.000)
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
# of obs.	188,069	188,069	188,062	188,062	188,069	188,069
R-squared	0.282	0.281	0.345	0.345	0.289	0.287

Table A2 continued.

Panel B: Godsell et al. (2017) One-stage Regression Estimates

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is total accruals. For incumbent firm i in quarter t, "*PPE/TA*" is the gross property, plant, and equipment, scaled by the average total assets. "(Δ*REV*-Δ*REC*)/*TA*" is the difference between the change in revenue and the change in receivables from quarter $t-1$ to quarter t, scaled by total assets. "1/*TA*" is one divided by the average total assets. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	Total Accruals	
	(1)	(2)
# of IPOs	-0.499***	
	(0.047)	
IPO Volume		-0.111***
		(0.013)
Size	0.160***	0.159***
	(0.016)	(0.016)
Book to Market	-1.091***	-1.073***
	(0.047)	(0.047)
Leverage	-2.468***	-2.435***
	(0.095)	(0.095)
Sales Growth	1.209***	1.205***
	(0.096)	(0.096)
Cash Flow	-0.558***	-0.558***
	(0.008)	(0.008)
PPE/TA	-0.197***	-0.180***
	(0.054)	(0.054)
(ΔREV-ΔREC)/TA	-3.653***	-3.642***
	(0.389)	(0.391)
1/TA	-39.273***	-39.591***
	(3.917)	(3.924)
Industry × Quarter FE	Yes	Yes
# of obs.	188,069	188,069
R-squared	0.465	0.464

Table A2 continued.

Panel C: Chen et al. (2018) Two-stage Regression Estimates

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*". For incumbent firm i in quarter t, we regress each of the independent variables on "*PPE/TA*" (calculated as the gross property, plant and equipment, scaled by the average total assets), "(Δ*REV*-Δ*REC*)/*TA*" (calculated as the difference between the change in revenue and the change in receivables from quarter $t-1$ to quarter t, scaled by total assets), and "1/*TA*" (calculated as one divided by the average total assets), and obtain the corresponding residuals. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM	
	(1)	(2)
Residual # of IPOs	-0.085***	
	(0.022)	
Residual IPO Volume		-0.020***
		(0.006)
Residual Size	0.037***	0.037***
	(0.009)	(0.009)
Residual Book to Market	0.038*	0.041*
	(0.023)	(0.023)
Residual Leverage	-0.094**	-0.088**
	(0.044)	(0.044)
Residual Sales Growth	0.181***	0.180***
	(0.042)	(0.042)
Residual Cash Flow	-0.963***	-0.963***
	(0.003)	(0.003)
Industry × Quarter FE	Yes	Yes
# of obs.	188,068	188,068
R-squared	0.758	0.758

Table A2 continued.

Panel D: Estimating Earnings Management Using 3-digit SIC Codes

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1 and 2, and "*Downward EM*" in columns 3 and 4, which we estimate following Kothari et al. (2005) but use 3-digit SIC codes for industry classification. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM		Downward EM	
	(1)	(2)	(3)	(4)
# of IPOs	-0.295***		-0.266***	
	(0.047)		(0.037)	
IPO Volume		-0.075***		-0.069***
		(0.014)		(0.011)
Size	0.248***	0.248***	0.305***	0.304***
	(0.011)	(0.011)	(0.009)	(0.009)
Book to Market	-0.071*	-0.061	0.220***	0.229***
	(0.037)	(0.037)	(0.031)	(0.031)
Leverage	-0.536***	-0.520***	-0.645***	-0.631***
	(0.079)	(0.079)	(0.067)	(0.067)
Sales Growth	1.598***	1.596***	0.466***	0.464***
	(0.085)	(0.085)	(0.059)	(0.059)
Cash Flow	-0.674***	-0.673***	-0.336***	-0.336***
	(0.006)	(0.006)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes
# of obs.	152,612	152,612	152,612	152,612
R-squared	0.520	0.520	0.369	0.369

Table A3: Going-Public Activity and JOBS Act

The sample period is 2009-2015. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1 and 3, and "*Downward EM*" in columns 2 and 4. "*Bio/Pharmaceutical*" industry classification is based on Dambra, Field, and Gustafson (2015). "*Post JOBS Act*" is a dummy variable set for one if earnings announcement is made after April, 2012, the enactment of the JOBS Act, and zero otherwise. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM	Downward EM	EM	Downward EM
	(1)	(2)	(3)	(4)
Bio/Pharmaceutical	-1.553***	-2.589***	-1.523**	-2.570***
	(0.588)	(0.702)	(0.592)	(0.703)
Bio/Pharmaceutical × Post JOBS Act	-1.163***	-0.458**	-1.149***	-0.451**
	(0.150)	(0.199)	(0.149)	(0.199)
Size	0.163***	0.307***	0.162***	0.306***
	(0.011)	(0.016)	(0.011)	(0.016)
Book to Market	-0.044	0.099**	-0.024	0.113**
	(0.040)	(0.046)	(0.042)	(0.047)
Leverage	-0.271***	-0.627***	-0.256***	-0.619***
	(0.087)	(0.126)	(0.087)	(0.126)
Sales Growth	1.658***	0.444***	1.682***	0.460***
	(0.099)	(0.107)	(0.099)	(0.106)
Cash Flow	-0.675***	-0.408***	-0.673***	-0.407***
	(0.007)	(0.011)	(0.007)	(0.011)
Industry Book to Market			-0.056	-0.046
			(0.108)	(0.107)
Quarter Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
# of obs.	42,449	42,449	42,449	42,449
R-squared	0.666	0.412	0.664	0.411

Table A4: Earnings Correlation and Strategic Reporting

The sample period is 1991-2017. The unit of analysis is firm-quarter observations. The dependent variable is "*EM*" in columns 1 and 2, and "*Downward EM*" in columns 3 and 4. "*Earnings Correlation*" is the correlation in annual earnings (scaled by total assets) between the incumbent and IPO firm during the post-IPO three-year window. If there are more than one peer filing for IPO at the time of the incumbent's earnings announcement, we take the average of the correlations. Detailed definition of variables is in the Appendix. All the models include a constant and fixed effects as described in the table whose coefficients are not tabulated. Industry is a firm's 3-digit SIC code. Robust standard errors clustered at firm level are in the parenthesis. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Dependent Variable	EM		Downward EM	
	(1)	(2)	(3)	(4)
# of IPOs	-0.323***		-0.193***	
	(0.032)		(0.034)	
# of IPOs × Earnings Correlation	-0.034*		-0.113***	
	(0.020)		(0.022)	
IPO Volume		-0.073***		-0.042***
		(0.009)		(0.009)
IPO Volume × Earnings Correlation		-0.013**		-0.038***
		(0.006)		(0.007)
Size	0.222***	0.222***	0.346***	0.346***
	(0.008)	(0.008)	(0.010)	(0.010)
Book to Market	-0.049*	-0.037	0.215***	0.222***
	(0.028)	(0.028)	(0.032)	(0.032)
Leverage	-0.338***	-0.317***	-0.671***	-0.658***
	(0.055)	(0.056)	(0.068)	(0.069)
Sales Growth	1.820***	1.817***	0.580***	0.578***
	(0.065)	(0.065)	(0.059)	(0.059)
Cash Flow	-0.687***	-0.687***	-0.381***	-0.380***
	(0.004)	(0.004)	(0.004)	(0.004)
Industry × Quarter FE	Yes	Yes	Yes	Yes
# of obs.	188,069	188,069	188,069	188,069
R-squared	0.696	0.696	0.454	0.454

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