Opportunism and the Related Consequences in the IPO Setting

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Abstract

Ball and Shivakumar (2008) find that firms report more conservatively just prior to and following an IPO. If this finding results from higher than usual risk/scrutiny, then one expects to find evidence of a link between opportunistic behavior by IPO managers and those instances where firms actually encounter post-IPO consequences. Yet, despite the presence of a number of studies that examine financial reporting at the IPO, a link between opportunism and post-IPO penalties remains undocumented – perhaps because one fails to exist or perhaps because methodological issues challenge researchers' ability to detect it. Employing a research design that recognizes that the extent to which measures of abnormal reporting and trading at the IPO reflect opportunism likely varies with managers' incentives to exploit inside information, we document associations between measures of IPO opportunism and penalties for IPO firms and their managers. Taken collectively, the evidence presented contributes to our understanding of the situations that lead to opportunism at the IPO and, at the same time, establishes an important link not documented in prior work that examines earnings quality at the IPO.

Keywords: initial public offering; earnings management; securities litigation; insider trading; restatement; earnings quality; reporting incentives
JEL Classification: M41; K22; G14

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1. Introduction

This paper investigates the occurrence of opportunism at the initial public offering ("IPO") and examines its connection to negative, subsequent events. Recent work by Ball and Shivakumar (2008) argues that higher than usual litigation risk and regulatory risk, as well as increased scrutiny by market mechanisms (e.g., auditors, underwriters, etc.), combine to limit opportunistic earnings management around the time of IPOs. Consistent with this theory, they find that, on average, U.K. firms report more conservatively just prior to the IPO, relative to their own reporting as private firms. Although these findings indicate that incentives to avoid negative, post-IPO repercussions cause some managers of IPO firms to limit their opportunistic behavior, research has yet to connect instances of opportunistic behavior by IPO managers with litigation risk or other negative post-IPO outcomes (Bohn and Choi, 1996; Lowry and Shu, 2002; DuCharme et al., 2004; Demers and Joos, 2007).[1] Nonetheless, evidence of this link is important, as it suggests the presence of *ex ante* incentives to report conservatively at the IPO (Hughes, 1986). Consequently, this paper investigates whether opportunism (in the form of aggressive reporting or trading choices) results in penalties for IPO firms (via increased incidence of shareholder litigation, higher lawsuit settlement amounts, and increased risk of delisting), or for managers (via SEC involvement/action or increased employment turnover).

In highly cited work examining the role of earnings management in the IPO process, Teoh et al. (1998) suggest that in excess of 50 percent of managers inflate offer prices by using discretionary accruals to artificially increase reported earnings. Recent findings, however,

[1] As discussed further in Section 2, DuCharme et al. (2004) investigate the relation between abnormal accruals and subsequent litigation in both the seasoned equity offering ("SEO") and the IPO setting. Although they detect a relation in the SEO setting, they detect no association between IPO abnormal accruals and subsequent litigation – even for lawsuits that involve allegations of earnings management (Tables 8 and 9, p. 42-43). Similarly, Armstrong et al. (2008) include a measure of discretionary accruals in their IPO litigation model, but either 1) find no relation between firms' discretionary accrual choices and litigation risk when examining the full population; or 2) find an increase in litigation risk associated with *any* increase in accruals (i.e., the effect of discretionary accruals does not differ from that of non-discretionary accruals) for a subset of the population. Other studies examining IPO litigation exclude opportunistic reporting considerations from their analyses (e.g., Lowry and Shu, 2002), as their studies focus attention on other aspects relevant to litigation in the IPO setting (e.g., underpricing).

contradict this opportunistic view (Fan, 2007; Ball and Shivakumar, 2008; Lewis, 2008). In fact, Ball and Shivakumar (2008) provide evidence that weaknesses in research design bias the previous findings and, instead, offer an alternative view: the change in the firm's market and regulatory environment that accompanies an IPO causes managers to report more conservatively in fear of negative repercussions. Ball and Shivakumar (2008)'s evidence focuses on documenting the conservative (rather than aggressive) reporting of IPO firms and, therefore, the absence of adverse post-IPO consequences corroborates their theory. Accordingly, their study suggests that opportunism at the IPO rarely occurs, but when it does, the firms (and their managers) should face consequences. Yet, despite the presence of a number of studies that examine financial reporting at the IPO, a link between opportunism and post-IPO consequences remains undocumented – perhaps because one fails to exist (e.g., other factors may drive lawsuit filings) or perhaps because methodological issues challenge researchers' ability to detect it.

In this paper, we design our research methodology to address the concerns of Ball and Shivakumar (2008). In addition, although researchers typically use unconditional measures of abnormal reporting and secondary shares sold by all insiders as measures of opportunism at the IPO, we recognize that the extent to which these measures reflect opportunism likely varies with managers' incentives to exploit inside information. Hence, we rely on related research to help us identify situations where IPO managers face increased incentives to behave opportunistically.[2] In these settings, we expect that earnings inflation more likely maps into mispricing and, as a result, evidence of abnormal reporting and selling more likely reflects opportunism. At the same time, we also hand-collect data that allows us to confirm the validity of our abnormal accruals

[2] In Section 3 we discuss the settings in which we expect IPO managers to face increased/decreased incentives to behave opportunistically.

measures and to perform analyses that include less noisy proxies of opportunism at the IPO.[3] Furthermore, because we use hand-collected insider filing data that allows us to isolate the exact number of shares sold in the offering by individual top executives, we expand the scope of opportunism at the IPO to include an examination of both aggressive reporting and trading by those particularly well-positioned to benefit from inflated earnings. In summary, our research design increases our ability to more accurately identify opportunistic IPO behavior. As a result, our study aims both to better understand the situations leading to opportunism at the IPO and to establish the link between this behavior and consequences for firms and their managers.

To investigate our research questions, we examine the reporting and trading behavior of managers of a sample of 1,668 IPOs that occurred following the passage of the Private Securities Litigation Reform Act ("PSLRA") in December of 1995. Inconsistent with the notion of pervasive opportunism at the IPO, we find that only 4.3 percent (72) of these IPO firms face subsequent litigation related to their offerings and a mere 2.0 percent (34) of them subsequently reduce income reported at the IPO via an earnings restatement.[4] Although these findings contradict the notion of widespread opportunism by IPO managers, they do suggest the presence of opportunistic behavior in the IPO setting and a role for subsequent penalties. Accordingly, the questions remain: when do IPO managers have incentives to behave opportunistically, and does this opportunistic behavior result in post-IPO consequences?

To test the relation between opportunism and consequences in the IPO setting, we perform a number of analyses that focus on the incidence of litigation, the corresponding lawsuit outcomes, the firm's risk of delisting, and the extent to which IPO managers face SEC action or

[3] For example, we observe significantly positive correlations between our measures of reporting opportunism (i.e., size- and industry-adjusted abnormal accruals) and *ex post* measures of IPO earnings inflation (i.e., the restatement of IPO financial information and the percentage of the overstatement of earnings associated with the restatement of IPO earnings).
[4] Studies that examine IPOs that took place prior to the PSLRA find similar rates of litigation (e.g., Bohn and Choi, (1996) and Ducharme et al., (2004)).

lose their jobs following behavior that appears opportunistic. We find that when IPO managers succumb to the temptation to report or trade in a manner that appears opportunistic, the firm suffers increased consequences. After controlling for other factors thought to influence IPO firms' litigation risk, we observe that the incidence of litigation increases when firms report or trade aggressively (as measured by a number of opportunism proxies). Additional analysis indicates that in the presence of increased incentives to manipulate, secondary share sales by CFOs correlate strongly with subsequent litigation. At the same time, we find that in the presence of decreased incentives to manipulate, abnormal reporting (i.e., higher than expected accruals) does not impact litigation risk, suggesting that discretion reflecting private information does not increase litigation risk. We also detect a positive relation between proxies for reporting opportunism and settlements paid by the firm, particularly for increased-incentive settings. Yet, we find that abnormal reporting that more likely reflects managers' private information does not increase settlements. Furthermore, our results indicate that measures of opportunism at the IPO are associated with increased incidence of delisting in the five years following the offering. Given evidence of increased consequences for the firm, we then examine whether IPO managers suffer repercussions. Our findings suggest a positive association between aggressive reporting and the likelihood of SEC involvement. At the same time, we find evidence of a relation between opportunistic behavior by IPO managers and subsequent employment turnover, although this relation predictably weakens in the presence of informational incentives.

Taken collectively, our results indicate that there is a connection between opportunism at the IPO and post-IPO consequences – especially when managers face increased temptation to misbehave. In particular, we observe a strong connection between post-IPO negative events and abnormal behavior at the IPO in those situations where managers stand to benefit from earnings

manipulation directly (via their ability to dump overvalued shares). These findings suggest that *ex post* settling-up mechanisms create *ex ante* incentives to report conservatively in the IPO setting. Consequently, our paper contributes to the accounting literature in at least three important ways.

First, our study advances the stream of literature examining earnings quality at the IPO. We believe that our careful attention to research design lends confidence to our ability to identify the situations that more likely lead to opportunistic behavior in the IPO setting. As a result, our paper both identifies the situations where abnormal reporting and trading more likely reflect opportunism and documents an important link not supported in prior literature: a connection between IPO opportunism and subsequent penalties. As such, our findings contribute to our understanding of IPO managers' reporting incentives and the consequences of misreporting.

Second, our paper also contributes to the ongoing debate about the effectiveness of current securities laws. A considerable body of legal literature questions whether both the incidence and associated outcomes of securities lawsuits reflect the merits of the case (Alexander, 1991; Grundfest, 1994; Seligman, 1994; Grundfest, 1995; Johnson et al., 2007). Our study informs this debate by identifying factors that both do (e.g., reporting choices that appear to stem from incentives to manipulate) and do not (e.g., reporting choices that are consistent with informational motivations) affect firms' litigation risk and lawsuit outcomes.

Finally, this paper adds to the literature that examines employment consequences for managers. As with prior work, we document increased turnover following earnings restatements and lawsuit filings (Strahan, 1998; Niehaus and Roth, 1999; Desai et al., 2006; Billings, 2008). Yet, we also find that the relation between abnormal reporting and CEO turnover is attenuated for founder CEOs. This is, perhaps, not surprising because our results suggest that the abnormal

accruals reported by CEO founders more likely reflect private information (as opposed to opportunism). Indeed, many founding CEOs posses firm-specific knowledge that plays an integral role in the continued success of the firm (Willard et al., 1992; Forbes et al., 2004) and that may impact the information content of the firm's abnormal accruals. Accordingly, our study identifies an important factor not considered in prior studies that examine turnover.

The remainder of this paper progresses as follows. Section 2 provides background and discusses related literature. Section 3 supplies the main hypotheses and research design. Section 4 describes the sample selection criteria and data collection, while Section 5 presents the analyses and results of the study. Finally, Section 6 concludes with a summary and discussion.

2. Background and related literature

The absence of both reporting histories and analyst followings, along with the presence of SEC quiet period rules limiting firms' voluntary disclosures create an environment of increased information asymmetry surrounding most IPOs. As a result, accounting information, the mechanisms that certify its quality, and the incentives that influence financial reporting choices all play particularly valuable roles in the IPO setting. Accordingly, a large body of research focuses on IPO managers' financial reporting decisions.

Research examining managers' financial reporting decisions in the context of IPOs focuses on distinguishing between theories of opportunism and theories of earnings quality signaling. In highly cited work, Teoh et al. (1998) suggest that managers increase offer prices by making aggressive accrual adjustments that artificially inflate reported earnings relative to actual cash flows (Teoh et al. 1998, p. 1936). A number of related and subsequent studies lend support to this notion of opportunism (Friedlan, 1994; DuCharme et al., 2001; DuCharme et al., 2004; Darrough and Rangan, 2005; and Li et al., 2006; Chan et al., 2008).

Recent findings, however, challenge this opportunistic view (Fan, 2007; Armstrong et al., 2008; Ball and Shivakumar, 2008; Lewis, 2008; Venkataraman et al., 2008). In fact, Ball and Shivakumar (2008) argue that higher than usual litigation risk and increased scrutiny by several other market mechanisms combine to limit aggressive reporting by managers of IPO firms.[5] As a result, they hypothesize that the negative consequences associated with opportunistic behavior actually cause firms' financial reporting quality to improve just prior to and following the IPO. Consistent with this notion of enhanced public-firm reporting quality, Ball and Shivakumar (2008) find that IPO firms in the U.K. report more conservatively, relative to their reporting as private firms, in anticipation of the offering. If these findings do indeed stem from managers' fear of the negative repercussions, one expects to observe increased consequences when managers actually do appear to behave opportunistically at the IPO.

Perhaps surprising given the findings of Ball and Shivakumar (2008), extant research has not yet found a link between measures of managers' opportunism at the IPO and increased litigation risk or other negative post-IPO events (Bohn and Choi, 1996; Lowry and Shu, 2002; and DuCharme et al., 2004; Armstrong et al., 2008). In contrast to Bohn and Choi (1996) and Lowry and Shu (2002) who do not formally consider the role of earnings management in IPO litigation risk, both DuCharme et al.'s (2004) and Armstrong et al.'s (2008) litigation models include IPO earnings management proxies. Although DuCharme et al. (2004) detect a positive relation between a measure of earnings manipulation and the incidence of litigation following SEOs, they find no significant relation in the IPO setting – even when shareholders (via their attorneys) allege earnings manipulation in the lawsuit filing. Similarly, Armstrong et al. (2008)

[5] As highlighted by Ball and Shivakumar (2008), a number of factors potentially limit opportunism at the IPO. For example, large price drops (likely associated with low realizations of earnings) may trigger lawsuit filings (Bohn and Choi, 1996; Skinner 1997; Billings, 2008). In addition, IPO firms that inflate earnings may bear increased market costs in the form of increased cost of capital and/or loss of reputation. At the same time, firms face increased scrutiny by market mechanisms (e.g., auditors, underwriters, and other third-party certifiers) throughout the IPO process. In fact, the SEC conducts full reviews of nearly all first-time registrants (Beneish, 1999).

do not detect a relation between their measure of opportunistic reporting (i.e., discretionary accruals) and the incidence of IPO-related litigation for the full Compustat population. Yet, they do observe increased litigation risk for firms with high non-discretionary accruals. Armstrong et al. (2008) do detect a relation between discretionary accruals and litigation risk for a subset of the IPO firms. They, however, detect the same relation for non-discretionary accruals and note that the coefficient estimates for these two accrual variables do not differ (pps. 37-38). Taken collectively, the empirical findings of Armstrong et al. (2008) suggest that *any* increase in accruals increases an IPO firm's litigation risk, which contradicts the notion that a firm's opportunistic reporting choices cause them to face added litigation risk.

In fact, the findings of Armstrong et al. (2008) perhaps offer one explanation as to why empirical research has yet to observe the seemingly necessary link between "bad behavior" (i.e., opportunism) and litigation: the "deep pockets" of large firms (that often report high total accruals) drive lawsuit filings. Consistent with this claim, research in the legal literature debates whether the merits (as perhaps reflected by the presence of high discretionary accruals) matter in securities litigation cases (Alexander, 1991; Grundfest, 1994, 1995; Seligman, 1994).

At the same time, weaknesses in research design might offer a second explanation for the surprising lack of evidence. Consistent with this concern, Ball and Shivakumar (2008) identify several methodological weaknesses that affect prior work in this area. Consequently, the lack of results in DuCharme et al. (2004) may stem from the use of a noisy measure of opportunism. For example, like Teoh et al. (1998), DuCharme et al. (2004) measure IPO abnormal accruals using post-IPO financial statements, which means that their measure incorporates reporting behavior that could not influence the offer price. Indeed, the use of post-IPO financials actually allows IPO firms' use of the proceeds from the offering to influence the measure of opportunism

at the IPO.[6] Although the research design of Armstrong et al. (2008) addresses some of the design issues noted in prior work (e.g., they use pre-IPO financials), their litigation model excludes a number of factors that prior work has shown both influence the likelihood of IPO-related litigation and correlate with IPO reporting quality (Bohn and Choi, 1996; Lowry and Shu, 2002; DuCharme et al., 2004).[7] In addition, research investigating the relation between IPO financial reporting quality and subsequent firm failures either does not consider the role of earnings management (Demers and Joos, 2007) or measures earnings management using post-IPO financial information (Li et al., 2006).[8] Thus, despite the presence of a number of studies that examine financial reporting at the IPO, a link between opportunism at the IPO and post-IPO consequences remains undocumented – perhaps because one fails to exist (i.e., the merits don't matter) or perhaps because methodological issues challenge researchers' ability to detect it.

Research also has yet to link apparent opportunism at the IPO to consequences (in the form of SEC involvement/action or increased turnover) for the managers themselves. Although recent work by Desai et al. (2006) finds evidence of increased turnover following the incidence of earnings restatements, other studies examining management turnover as a consequence of corporate fraud and shareholder litigation offer mixed results. While Beneish (1999) and Agrawal et al. (1999) find no evidence of increased turnover following SEC enforcement actions and fraud revelations, respectively, both Strahan (1998) and Niehaus and Roth (1999) detect a dramatic increase in turnover following lawsuit filings. Yet, the unique and particularly valuable role played by chief executives (and founders) of IPO firms may limit their employment

[6] Please refer to Ball and Shivakumar (2008) for a detailed discussion of several methodological concerns associated with prior work examining IPO earnings management. As detailed in Sections 3 and 5, our research design addresses these concerns.
[7] For example, Armstrong et al.'s (2008) litigation model ignores the role of the underwriter. Yet, prior work finds that third-party certification plays an important role in both the incidence of IPO litigation (Bohn and Choi, 1996; Lowry and Shu, 2002; DuCharme et al., 2004) and also correlates with financial reporting quality at the IPO (Morsfield and Tan, 2006; Lewis, 2008; Venkataraman et al., 2008).
[8] At the same time, related work studies litigation during sample periods that predate litigation reform introduced by the PSLRA (Lowry and Shu, 2002; Ducharme et al., 2004).

consequences. Consequently, the evidence observed in other studies investigating the determinants of management turnover may not generalize to this setting.

3. Hypotheses and research design

Recent work focusing on the financial reporting quality of firms in the IPO setting indicates that opportunism occurs relatively infrequently, and instead, conservative reporting pervades (Ball and Shivakumar, 2008). If this finding results from higher than usual litigation, regulatory, and capital market risks (i.e., the increased likelihood of negative consequences following the IPO), then one expects to find evidence of a connection between seemingly opportunistic behavior by IPO managers and those instances where IPO firms actually encounter post-IPO consequences.[9] This reasoning provides the basis for our first hypothesis:

H1: Opportunism at the IPO is positively associated with post-IPO penalties.

Our tests of H1 focus on two aspects of opportunism in the IPO setting: managers' aggressive reporting decisions and managers' aggressive trading behavior. Evidence of abnormal accruals (as compared to firms of similar size in the same industry) or the restatement of IPO earnings offers support for the notion that managers made aggressive financial reporting decisions surrounding the IPO. At the same time, insiders who sell their own shares in the offering also may appear opportunistic, as they benefit directly from increased offer prices. Consequently, evidence of unusually high amounts of insider sales at the IPO might increase firms' post-IPO consequences, as one might argue that managers traded opportunistically in an effort to exploit knowledge of the firm's "true" (as opposed to "managed") earnings. Specifically, we measure reporting and trading opportunism using the following proxies:

[9] It is likely that the firms for which the post-IPO repercussions to aggressive reporting are the highest are the firms that refrain from aggressive reporting. Accordingly, the firms for which we observe aggressive reporting are likely the firms with lower costs to aggressive reporting. This biases against our ability to detect results.

- **Abnormal Accruals:** We measure unexpected accruals as the IPO firm's total accruals less the mean ($UNEXACC1$) or median ($UNEXACC2$) total accruals for similar size- and performance-matched firms within the same industry year (based on sales/assets quartiles and Fama and French (1997) industry classifications). The firm's total accruals are from the financial statements issued just prior to the IPO, as are the matched firm's accruals (i.e., both sets of information are available prior to the offer date). These two mean- and median-adjusted measures indicate the extent to which firms' accruals exceed those of similar firms within their same industry and, as a result, reflect the firms' unexpected accruals. Following Defond and Jiambalvo (1994), we also measure unexpected accruals ($DA1$) using an industry-specific, cross-sectional version of the Jones model (Jones, 1991).[10] Finally, we obtain our fourth measure of reporting discretion based on abnormal unexpected accruals ($DA2$), which we define as $DA1$ less a matched firm's $DA1$.[11] Because unexpected accruals may contain measurement error, the cross-sectional regressions use the decile rank of each firm's unexpected accruals measure (We use "RK" to denote variables for which we use ranks.).[12]

- **Restatements:** We measure restatements in two ways. First, we set an indicator variable ($RESTATE$) equal to one if the firm restated financial information reported in the prospectus at some point in the four years following the IPO and in doing so revised earnings downward. Second, we determine the percentage of the overstatement of pre-IPO earnings ($RESTATE\_PCT$) by deflating the amount of the restatement by pre-IPO earnings.

- **Insider Trading:** We measure insider sales at the IPO in two ways. We base the first measure on secondary share sales at the IPO (SEC_PCT), which we define as the proportion of secondary shares sold in the offering relative to the total shares offered. We base the second measure on insider sales by executives (i.e., CEO and CFO) and directors at the IPO. We use hand-collected insider filing data from the firm's S-1 to calculate the percentage change in the CEO's ownership ($CEO\_OWN\Delta$), the CFO's ownership ($CFO\_OWN\Delta$), and all directors' and executives' ownership ($D\&O\_OWN\Delta$) as a result of secondary share sales at the IPO. For example, $CEO\_OWN\Delta$ equals the proportion of the firm owned by the CEO prior to the IPO less the proportion of the firm owned by the CEO after the IPO. Accordingly, positive values of $CEO\_OWN\Delta$ reflect the decreases in the percentage of the firm's shares owned by the CEO.

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[10] Specifically, we measure unexpected accruals ($DA1$) as the firm's total accruals (deflated by total assets) less the expected level of deflated total accruals. To accomplish this, we estimate the following parameter model in the year prior to the IPO for all same-industry, non-IPO firms: $\frac{TACC_i}{ASSETS_i} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_i} + \alpha_2 \frac{\Delta SALES_i}{ASSETS_i} + \alpha_3 \frac{PPE_i}{ASSETS_i} + \varepsilon_i$, where $ASSETS$ are the firm's assets (Data #6), $SALES$ are the firm's sales (Data #12), and PPE is the firm's property, plant and equipment (Data #8). We obtain expected accruals by applying the parameter estimates obtained from this regression to the IPO firm's characteristics.

[11] We match firms to a same-industry, non-IPO firm with similar performance. We define similar performance as the firm with the closest return-on-assets (ROA) measured in the year prior to the IPO. We require a matched-firm's ROA to be within five percent of the IPO-firm's ROA.

[12] Johnston (1984) discusses the instrumental variable procedure using ranks of observations, and Bowen et al. (1989) apply a comparable procedure.

To test the relation between opportunism and consequences in the IPO setting, we perform a number of analyses that focus on the incidence of litigation, the corresponding lawsuit outcomes, the firm's risk of delisting, and the extent to which IPO managers face SEC action/involvement or lose their jobs following behavior that appears opportunistic. In all of our analyses (which we describe in detail in Section 5), we expect to observe a positive relation between the above opportunism proxies and post-IPO consequences.

One challenge that accompanies an examination of managers' reporting and trading behavior at the IPO stems from the difficulty associated with identifying opportunism (as opposed to informative reporting and liquidity trading). Typically, researchers use unconditional measures of abnormal reporting and secondary shares sold by all insiders as measures of opportunism at the IPO (Teoh et al., 1998; DuCharme et al., 2001; DuCharme et al., 2004; Li et al., 2006; Chan et al., 2008). Yet, the extent to which these measures reflect opportunism likely varies with managers' incentives to exploit inside information.[13] Given this observation, we rely on related research to help us identify two situations where IPO managers face relatively high incentives to behave opportunistically. In these settings, we expect that earnings inflation more likely maps into mispricing and, as a result, evidence of abnormal reporting and selling more likely reflects opportunism.

The first setting characterized by increased incentive for opportunism occurs when managers wish to dump their own overvalued shares, while the second "increased-incentive-for-opportunism" setting arises when managers must raise additional capital in order to avoid the failure of the firm. Although neither of these situations relies on the presence of irrational

[13] For example, the sale of secondary shares at the IPO by insiders of mature firms in non-technology-based industries is less likely to reflect opportunism, as the value of these shares involves less uncertainty because these firms' investors: 1) are more likely to base estimates of firm value on assets-in-place (which tend to be easier to value) than on the firms' future growth prospects; and 2) have the benefit of observing the firms' relatively longer reporting histories. As a result, managers of mature firms in old economy industries face fewer incentives to behave opportunistically because the likelihood that earnings inflation results in mispricing is relatively low.

investor behavior (i.e., market inefficiencies), both do rely on the occurrence of short-term overvaluation in equilibrium – either because the mispricing of longer-term projects takes more time to correct (Stein, 1989; Shleifer and Vishney, 1990; Cadman and Sunder, 2008) or because information cascades (Welch, 1992). As a result, both of these settings assume the presence of long-term projects, which allow for the occurrence of short-term mispricing.

Following research in the SEO setting that finds that managers take advantage of "windows of opportunity" by both issuing equity and selling shares when the firm's stock is overvalued (Mikkelson and Partch, 1988; Clarke et al., 2001), we expect that IPO managers face increased incentive to behave opportunistically when they view: (1) the firm's prospects as poor relative to the market's current assessment; and (2) when the market is particularly optimistic in its pricing of earnings growth (thereby increasing the benefits of earnings inflation). This suggests the presence of stronger opportunism incentives for managers of firms that are more difficult to value (e.g., a larger portion of value stems from expected future growth rather than assets in place) and that occur during times of market-wide optimism (Ritter, 1991). Thus, we expect that abnormal reporting and trading by these firms more likely reflects opportunism.

At the same time, managers of cash-constrained firms with few alternative sources of financing may also face increased incentive to behave opportunistically if, in doing so, they decrease the likelihood that the IPO will be withdrawn. Dunbar and Forester (2008) argue that entrepreneurs undertake an IPO either to allow the company to survive or to fund growth opportunities. If focused on survival, Dunbar and Forester (2008) conclude that the IPO represents a last-chance effort to achieve success and, as a result, these managers will go to great lengths to make the IPO happen. Because the likelihood of a successful IPO increases with the level of pre-IPO reported revenues (Busaba et al., 2001), we expect that managers of cash-

constrained firms will be tempted to inflate revenues if they expect the inflation will remain undetected until after the offering. Yet, in this case, we do not expect managers to sell shares, as this might increase the likelihood of withdrawal (Busaba et al., 2001).

In summary, we anticipate that the extent to which our measures of aggressive reporting and trading reflect opportunism increases when managers have both the opportunity and incentive to exploit their informational advantages. The opportunity for successful earnings management arises when increased uncertainty surrounds the outcome of firms' future projects, making valuation more difficult. The incentive for opportunism enters the picture when managers benefit from earnings inflation either directly (via their ability to dump overvalued shares) or indirectly (via the avoidance or postponement of firm failure). This reasoning provides the basis for our second hypothesis:

> ***H2: Abnormal reporting and trading by managers who face increased incentive to behave opportunistically at the IPO is associated with an increased likelihood of post-IPO penalties.***

Our tests of H2 continue to focus on our measures of aggressive reporting and trading behavior and their relation to negative, post-IPO events. Yet, for these tests, we aim to reduce some of the measurement error in our opportunism proxies by identifying a subset of firms that face stronger incentives to behave opportunistically. To accomplish this, we code two indicator variables, $INC1$ and $INC2$, that correspond to our two "increased-opportunism" settings. Specifically, we set $INC1$ equal to one for firms that meet the following criteria:

1. the firm is difficult to value because its value is more likely based on future growth prospects than assets in place. We assume that a firm's value is based more on growth than assets in place if: (a) the firm's operating cycle is longer than six months or the firm operates in either the high-technology or the pharmaceutical industry, and (b) the firm is relatively high-growth when compared to others in its industry (i.e., the firm's sales growth exceeds the median sales growth in its industry); and

2. the offering occurs during a time of market-wide optimism[14].

Similarly, we set *INC*2 equal to one for firms that meet the first criterion (1a) described above and that also appear to be cash-constrained, with few alternative financing options.[15]

Finally, just as we expect evidence of abnormal reporting and trading to more likely reflect opportunistic behavior in the presence of incentives to manipulate, we also anticipate that not all instances of abnormal reporting stem from managers' desire to exploit their informational advantages. Indeed, in some cases we expect that IPO managers use their reporting discretion to communicate their private information about future firm performance (Holthausen and Leftwich, 1983; Holthausen, 1990; Guay et al., 1996; Subramanyam, 1996). In particular, we anticipate that managers with unusual amounts of unique, firm-specific knowledge may make reporting choices that signal their private information about future events. In this case, we would expect that evidence of abnormal reporting is less likely to reflect opportunism and, instead, more likely to indicate specialized knowledge of the firm and the industry in which it operates. As a result, we anticipate that abnormal reporting behavior (e.g., the presence of abnormally high accruals) is less likely to lead to post-IPO consequences in this case. This reasoning provides the basis for our third and final hypothesis:

> ***H3: Abnormal reporting by managers who possess unusual amounts of private information about future firm performance at the IPO is not associated with an increased likelihood of post-IPO penalties.***

Our tests of H3 yet again focus on measures of aggressive behavior and their relation to negative, post-IPO events. For these tests, however, we code an indicator variable, *INC*3, that

[14] We identify optimistic market periods (i.e., times when the market is aggressive in its price of earnings and earnings growth) by ranking the quarterly price-to-earnings ("P/E") ratios of all firms in the S&P 500 over the sample period. We code the IPO period as "optimistic" if the S&P 500 P/E ratio exceeds the average S&P 500 P/E ratio over the sample period.

[15] We identify firms as "cash-constrained" if their free cash flow is less than or equal to zero or their current ratio is less than one. We identify firms as lacking other financing options by observing (via the proxy filing) the firm's intention to use the funds for "general corporate purposes" (as opposed to capital projects) and a debt-to-asset ratio of less than 0.01 (which indicates that debt financing is not an alternative).

corresponds to this "increased-private-information" setting. Because we expect founding CEOs to possess unusual amounts of private information both about the firm and the industry in which it operates, we set $INC3$ equal to one if the founder of the firm serves as its CEO.

4. Sample selection and data collection

To conduct our tests, we assemble a sample of IPO firms and a subsample of IPO firms that faced subsequent securities litigation following the passage of the PSLRA in December of 1995. We identify our initial sample of IPO firms (n=3,666) using data obtained from Securities Data Corporation (SDC), augmenting and correcting the SDC data using information supplied on Professor Jay Ritter's website (http://bear.cba.ufl.edu/ritter/ipodata.htm). As detailed in Panel A of Table 1, data availability and related concerns reduce the initial IPO sample by 790 firms. Consequently, our final IPO sample includes 1,668 IPOs that took place during January 1996 through December 2004.

The litigation database maintained by the Securities Class Action Clearinghouse of Stanford University's Law School supplies the information we use to identify the IPO lawsuit firms (http://securities.stanford.edu). The exclusion of IPOs occurring after 2004 ensures that we accurately identify those IPO firms that face subsequent lawsuits and SEC actions. We classify lawsuits with class periods beginning on or before the offering date as IPO lawsuits. At the same time, we exclude allocation-based lawsuits, as they generally focus on the behavior of the underwriter and do not involve allegations of fraud in the IPO firms' financial statements. Similarly, we exclude lawsuits that involve allegations of fraud after (rather than during) the IPO process. To achieve this, we eliminate lawsuits with class periods that begin after the offer date of the IPO. As detailed in Panel B of Table 1, these data restrictions result in a final IPO lawsuit sample of 72 firms.

For the final IPO lawsuit sample (n=72), we obtain relevant lawsuit information (and confirm its accuracy) by hand-collecting data from the following sources:

- **Stanford Securities Litigation Database:** We obtain class period and filing dates from Stanford's database.

- **First Identified Complaint:** We examine the first identified complaint for each lawsuit in order to categorize the nature of the lawsuit (e.g., fraud, IPO-allocation), as well as identify whether plaintiffs' attorneys allege earnings management as evidence of managers' wrongdoing.

- **SEC Filings:** We obtain settlement information, including the amount covered by the company's director and officer liability insurance (net of any deductibles) by reading the firms' quarterly and annual SEC filings following the filing of the lawsuit through the year following the date of settlement (http://sec.gov).

- **Lexis-Nexis, Dow Jones News Service:** Performing a full-text search of news articles via Lexis-Nexis and Dow Jones News Service (using the company name and keywords of "lawsuit" and "class action"), we confirm the nature of the lawsuit allegations, class period dates, settlement amount, insurance coverage, and settlement form.

- **CEO Consequences Data**: To examine SEC actions against CEOs, we perform a full-text search (based on company name and/or CEO named on the first identified complaint) of the SEC litigation database to identify enforcement actions that relate to defendant firms and executives (http://sec.gov). In addition, we perform a full-text search of news articles via Lexis-Nexis and Dow Jones News Service (using the company name and keywords of "SEC" and "investigate," "investigation," or "action").

In addition to the lawsuit information, we collect data for the full IPO sample (n=1,668) from the following sources:

- **Accruals Data:** Compustat supplies the necessary financial statement information for the calculation of total accruals. We obtain all financial accounting variables/data from the financial statements issued just prior to the IPO.

- **Restatement Data:** We identify restatements using information supplied by the U.S. Government Accountability Office (GAO) on its website (http://www.gao.gov). In addition to searching SEC filings, we perform a full-text search of news articles via Dow Jones News Service (using the company name and keywords of "restate" and "restatement") to confirm that the identified restatements relate to the financial statements included in the firm's prospectus as part of the IPO.

- **Insider Trading Data:** We obtain information on the trades of insiders of the IPO firms from Securities Data Corporation. Information on the secondary shares sold by insiders

during the offering serves as one of our proxies for managerial opportunism in the IPO setting. In addition, we hand-collect our measures of executive-specific ownership changes from firms' S1 filings (http://sec.gov).

- **CEO Consequences Data**: To examine the employment consequences for the CEOs of the IPO firms, we obtain management turnover data from the firms' SEC filings. We hand-collect data items from firms' registration and proxy statements leading up to and following the offering (http://sec.gov).

Our analyses also include other control variables (e.g., firm performance, firm size). We obtain return, price and other financial statement information from the Center for Research in Security Prices (CRSP) and Compustat. The Appendix supplies a list of the variables used in our analyses, their associated sources, and the ways in which we confirm their accuracy.

5. Analyses and results

Descriptive statistics

Panel A of Table 2 presents descriptive statistics for the sample of IPO firms, partitioned based on the incidence of a securities lawsuit. Comparing the two groups, we find that the sued firms are larger, older, achieve higher offer prices, more likely to restrict executives' post-IPO selling via a lockup agreement, exhibit less mean underpricing (i.e., lower initial returns), report higher levels of unexpected accruals ($UNEXACC1$ and $UNEXACC2$), sell more secondary shares in the offering (SEC_PCT), and are more likely to restate IPO earnings. As discussed in Section 3, one of our measures of opportunism focuses on the restatement of financial information reported in the IPO prospectus. Accordingly, Panel B of Table 2 provides descriptive statistics for the subsample of IPO firms that subsequently restate IPO financial information. We find that 34 IPO firms (2 percent of the full sample) subsequently reduce income reported at the IPO via an earnings restatement.[16] Perhaps not surprisingly, the majority

[16] We identify the subsample of IPO restatement firms by flagging all restatements associated with the full sample of IPO firms (n=1,668) using information supplied by the U.S. GAO on its website (http://www.gao.gov). This process uncovers an initial IPO restatement subsample of 42 firms. Because our hypothesis focuses on the overstatement of IPO income, we remove five

of these restatements (i.e., 56 percent) reduce the previously reported revenue. At the same time, we note that the mean amount of the restatement of $234 million represents a significant percentage (on average, 45 percent) of the previously reported income.[17] This suggests that although the restatement of IPO financial information occurs infrequently, the incidence of a restatement does indeed represent an important reporting event for the restating firms.

Although prior work often measures insider sales at the IPO based on secondary share sales, we acknowledge the noise associated with this proxy, as secondary sales need not involve executives of the firm. Consequently, we identify executive-specific measures of IPO sales by investigating whether the firm's CEO, CFO or other directors sold shares at the IPO. Panel C of Table 2 shows the percentage of secondary offerings in which executives were among the insiders selling at the IPO and the average decrease in the executive's percentage ownership of the firm. Contrary to the heuristic that executives do not sell shares at the IPO because of the negative signal executive-sales send to the market (Leland and Pyle, 1977), we find that executives do indeed sell shares at the IPO. Of the subsample of firms with secondary share sales at the IPO, 36 percent of CEOs, and 11 percent of CFOs sold shares at the IPO. Further, at least one director or executive sold shares in 64 percent of the IPOs. In addition, on average, selling CEOs reduced their ownership percentage in the firm by 6 percent, while selling CFOs reduced their ownership percentage in the firm by 0.004 percent.

The presence of opportunism

Although publicly traded firms face litigation under Section 10b-5 of the Securities Exchange Act of 1934, IPO firms also face litigation under Section 11 of The Securities Act of

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restatements that involve the understatement of IPO income and three observations that do not restate IPO income based on information from the financial press and/or the firm's SEC filings.

[17] This relatively large mean is driven by one firm, Reliant Resources Inc, whose restatement exceeded $7 billion dollars. When Reliant is excluded from the analysis, the mean restatement amount is equal to 8.06 million, but the average restatement amount relative to net income remains at 45%.

1933. Because the legal requirements associated with Section 11 lawsuits impose fewer burdens on plaintiff shareholders (and their attorneys), IPO firms likely experience increased legal scrutiny surrounding the offering. Accordingly, the incidence of litigation likely represents the upper bound of opportunism, as the relatively low burden of proof arguably encourages the filing of less meritorious suits in the IPO setting. Table 3 investigates the presence of litigation, restatements and other reporting characteristics that might indicate opportunistic reporting for both IPO firms (Panel A) and the remaining population of public firms (Panel B).

We find that 4.3 percent of IPO firms face IPO-related litigation and that 3.2 percent of firms pay a settlement related to their IPO suit. We also find that 2 percent of IPOs (4 percent of post-2000 IPOs) reduce earnings reported at the IPO via an earnings restatement. In addition, we find that approximately 25 percent of IPOs report income-increasing total accruals in their pre-IPO financial statements and only 7 percent of firms use income-increasing accruals to beat the zero-earnings threshold. These findings suggest that between 2 to 7 percent of IPO firms engage in aggressive reporting (and, arguably the rate is less than 4 percent). Panel B of Table 3 presents similar statistics for the population of non-IPO firms over the sample period.[18] In contrast to the 4.3 percent litigation rate for IPO firms, which represents the total number of IPO firms that were sued based on one set of financial statements, we find that 1.7 percent of firms listed on the NASDAQ, NYSE and AMEX face lawsuits each year. We report this annual statistic despite its imperfect correspondence to the statistic reported for the IPO sample. If most suits are filed within two years of the alleged wrongdoing, then a more appropriate benchmark

[18] Using data obtained from the litigation database maintained by the Securities Class Action Clearinghouse of Stanford University's Law School (http://securities.stanford.edu) and as described in detail in Billings (2008), we identify the percentage of NASDAQ, NYSE, and AMEX firms (excluding IPO firms) listed on the CRSP database that face securities litigation per year during 1996 through 2004. In addition, we calculate the average positive total accruals, negative cash flow from operations, and positive net income for the available Compustat population during this time frame. We calculate the percentage of the population of firms (excluding IPO firms) associated with restatements during 2002 through 2005 using restatement information obtained from the U.S. Government Accountability Office (GAO) via its website (http://www.gao.gov). Unfortunately, data availability precludes a calculation that focuses on 1996 through 2004.

for the population litigation rate might be 3.4 percent (i.e., twice the annual rate). Yet, the differing circumstances – particularly the differing legal standards – unavoidably complicate a direct comparison between the litigation rates of these distinct groups of firms. Although IPO firms experience a higher rate of litigation, this higher rate perhaps stems from the lower burden of proof required by Section 11. In addition, the rates of restatements and the percentage of firms using income-increasing accruals to meet the positive-earnings threshold are not higher for IPO firms. Overall, the findings from Table 3 indicate that opportunism does occur in the IPO setting, but it is far from pervasive and does not appear to differ substantially from the opportunism rates of established firms.

The likelihood of litigation

The first test of H1 focuses on the relation between IPO opportunism and subsequent litigation. To accomplish this, we estimate the following logistic regression model:

$$SUED_i = \begin{array}{l} \beta_o + \beta_1 OPPORTUNISM_i + \beta_2 AUDITOR_i + \beta_3 UWRANK_i + \beta_4 VC_i \\ +\beta_5 PROCEEDS_i + \beta_6 TECHFIRM_i + \beta_7 NYSE\_AMEX_i + \beta_8 REVISION_i \\ +\beta_9 INITIAL\_RET_i + \beta_{10} LOCKUP_i + \beta_{11} AGE_i + \beta_{12} CEO\_OWN\_TYPE_i + \varepsilon_i \end{array} . \quad (1)$$

As discussed in Section 3, in the above equation we measure opportunism using proxies that focus on abnormal accruals, restatements, and insider trading. In addition, we test H2 (Panel B) and H3 (Panel C) by interacting aggressive reporting and/or trading with indicator variables for firms with increased incentives to behave opportunistically ($INC1$ and $INC2$) or increased private information ($INC3$). We expect to observe positive coefficients on the interaction terms including $INC1$ and $INC2$, and a negative coefficient for the interaction term including $INC3$.

In addition to our measures of opportunism, we include a number of variables to control for other factors thought to influence attorneys' decisions to file an IPO lawsuit. With respect to auditor ($AUDITOR$) and underwriter quality ($UWRANK$), theory offers conflicting predictions

for the coefficients. The presence of a high quality certifier could perhaps suggest decreased likelihood of litigation because reputable certifiers likely associate with higher quality firms. Yet, the presence of reputable certifiers perhaps offers additional "deep pockets" in the event of a lawsuit. Morsfield and Tan (2006) suggest that VCs constrain opportunism in the IPO setting. To control for the presence of VCs, we set an indicator variable, VC, equal to one if a VC backs the IPO firm. Consistent with the plaintiffs' need to recover the fixed costs of litigation, both Bohn and Choi (1996) and DuCharme et al. (2004) find a positive relation between the size of the offering and the incidence of subsequent litigation. Accordingly, we control for size using either the size of the offering ($PROCEEDS$) or the logarithm of total assets in the year of the offering ($ASSETS$). Our analyses also control for additional factors that Lowry and Shu (2002) indicate play an important role in IPO-related litigation. First, we include an indicator variable, $TECHFIRM$ (set equal to one if the firm operates in the technology industry) and an indicator variable, $NYSE\_AMEX$ (set equal to one if the firm trades on the NYSE/AMEX as opposed to the NASDAQ), to control for the risk associated with increased uncertainty surrounding technology firms and decreased uncertainty associated with non-NASDAQ-exchange-traded firms, respectively. Second, to control for aggressiveness in setting the final offer price, we include $REVISION$ (defined as the percentage change from the mid-point of the initial filing range to the final offer price) and expect aggressiveness to be associated with more risk.

We also include a measure of initial returns following the offering ($INITIAL\_RET$), as Lowry and Shu (2002) find that higher initial returns reduce firms' litigation risk. In addition, we control for firms with lockup agreements ($LOCKUP$) and expect to observe a positive coefficient for this indicator variable. These commitment agreements are common (e.g., present in 75 percent of the sample), and research indicates that firms without lockup agreements are

unique in that they are likely firms with lower moral hazard concerns (Brav and Gompers, 2003), or firms with less uncertainty and less of a need to signal their type via a lockup agreement (Brau et al., 2005). Finally, we control for the age of the firm and the level of executive ownership but make no prediction regarding the sign for these coefficients.[19]

We present the findings of these estimation procedures in Table 4. In this table, and all subsequent tables, reported *P* values are based on two-tailed tests. Consistent with the notion that managerial opportunism at the IPO results in post-IPO consequences, we observe positive and significant coefficients for $UNEXACC1\_RK$ (i.e., the decile rank of the firm's $UNEXACC1$), $RESTATE$, and $RESTATE\_PCT$ (Panel A). In contrast to the findings of Ducharme et al. (2004), these results suggest that firms with high levels of abnormal accruals (as compared to firms of similar size in the same industry) and firms that subsequently restate IPO financial information suffer increased litigation risk.[20] We do not, however, observe a positive coefficient for SEC_PCT. Finally, we find positive and significant coefficients for our size proxy, $PROCEEDS$ (or $ASSETS$ in results not tabulated), as well as predicted significance for many of our control variables. Yet, as shown in Panel A, we do not observe significant coefficients for abnormal accruals measured using the Jones (1991) model ($DA1\_RK$ and $DA2\_RK$). This likely relates to reduced sample size, the noise created from deflating by assets (i.e., a small

[19] In Panel A, we measure executive ownership as CEO_OWN_TYPE, a categorical variable reflecting the level of post-IPO CEO ownership of their firm's outstanding shares. We set this variable equal to 1 for firms whose CEO's own 5 percent or less of the firm, 2 for CEO's who own more than 5% but less than or equal to 20%, and 3 for CEO's who own more than 20%. Because CEO ownership information is missing for about 180 observations and we wish to avoid dropping firms from the base model analysis, we make the following assumptions for this variable only. First, if CEO ownership is missing and the CEO is founder of the firm, then we set CEO_OWN= 2 (because the median ownership percentage for founder CEOS in our sample is 0.13). Second, if CEO ownership is missing and the CEO is not founder of the firm, then we set CEO_OWN = 1 (because the median ownership percentage for non-founder CEO in our sample is 0.029). Third, CEO Founder and ownership information is missing for 28 observations; we set CEO_OWN = 0 for these firms. In Panels B and C, executive ownership is either the percentage of outstanding shares owned by the CEO or CFO.

[20] Although these results indicate that the restatement of IPO earnings plays a key role in triggering subsequent lawsuit filings, the relation is not tautological, as 18 of the 34 restatements do not lead to litigation.

denominator problem), and the noise created from performance matching based on ROA.[21] For these reasons, and because we never observe significant coefficients for $DA1\_RK$ and $DA2\_RK$, we do not tabulate further the results from specifications including these variables.

In Panel B of Table 4 we replace SEC_PCT with executive-specific measures of trading, and we interact the opportunism proxies with $INC1$ and $INC2$. We do not, however, observe significant coefficients for the aggressive reporting variable ($UNEXACC1\_RK$), or the aggressive reporting variable interacted with $INC1$ and $INC2$. These findings illustrate the difficulty in separating opportunistic reporting from informative reporting. In contrast, we observe a significantly negative coefficient for $CFO\_OWN\Delta$ and a significantly positive coefficient for $CFO\_OWN\Delta * INC1$ in the third and fourth specifications. Untabulated tests indicate that the coefficient on CFO sales for "strong-opportunistic-incentive" firms ($CFO\_OWN\Delta + CFO\_OWN\Delta * INC1$) is greater than zero, while the coefficient on CFO sales for firms without such incentives is less than zero. These findings suggest that CFO sales strongly predict litigation for firms with relatively strong incentives to behave opportunistically, while the CFO sales made by other firms negatively relate to litigation. Further, because we find this relation for the CFO, but not for the CEO or for directors and officers as a group, these findings suggest that the CFO may be the executive more likely to trade opportunistically. In contrast, the trades by other executives more likely stem from liquidity or risk-adjustment needs. Consistent with this notion, the average CEO in our sample owns 18 percent of pre-IPO outstanding shares as compared to the 1.3 percent owned by the average CFO. These findings

[21] ROA is not a particularly good measure of performance for young growth firms (often IPO firms) with few assets in place. This is consistent with Kothari et al. (2005) who note that the usefulness of performance-based discretionary accruals measures depends on the research question and assumptions underlying the tests, and the setting (p. 195).

are also consistent with the notion that CFOs' equity-based incentives create incremental incentive to engage in earnings management relative to those of the CEO (Jiang et al., 2008).

In Panel C we test H3 by interacting aggressive reporting with $INC3$. We expect to observe a positive coefficient on the aggressive reporting variable and a negative coefficient on this interaction variable if high levels of accruals are more likely informative when reported by insiders with unique firm-specific knowledge (i.e., founding CEOs).[22] We retain the same insider trading variables as in Panel B and observe similar results (i.e., sales by CFOs classified as having stronger incentive to behave opportunistically strongly predict litigation). We observe a significantly positive coefficient for aggressive reporting ($UNEXPACC1\_RK$ or $UNEXPACC2\_RK$) and a significantly negative coefficient for $UNEXPACC1\_RK * INC1$, supporting H3. These findings are consistent with abnormal accruals reflecting information when reported by particularly knowledgeable CEOs, and with informative reporting not increasing litigation risk.

We perform two additional, untabulated tests to confirm the validity of our findings. First, we add post-IPO returns to the model.[23] As expected, we observe a significant and negative relation between post-IPO returns and $SUED$. Yet, our previously reported results continue to hold with only a slight attenuation of the significance levels. Finally, because Lowry and Shu (2002) indicate that litigation risk is simultaneously determined with initial (first day) returns (i.e., underpricing), we implement a similar simultaneous equations framework. In untabulated tests, both the Wald test of exogeneity and the lack of significance on the initial returns instrument indicate that initial returns and litigation risk are not simultaneously

[22] In addition, we include the main effect ($CEO\_FOUNDER$) as an additional control in this specification. Also, specifications (2) and (5) exclude $EXEC\_OWN$ to avoid the reduced sample size that accompanies the use of this variable.

[23] We measure returns as the firm's raw returns beginning the month of the IPO and ending 12 months later ($1YEAR\_RET$) or as the firm's abnormal buy-and-hold return over the 1, 2 or 3 years following the IPO.

determined over our sample period.[24] Nonetheless, the inferences with respect to our variables of interest remain unchanged. Given evidence of a link between opportunism and litigation risk, we next assess the extent to which our proxies of opportunism are associated with the ultimate resolution of the lawsuit.

Lawsuit settlements

Our second test focuses on the settlement amounts (if any) paid by the IPO firms that faced litigation. Because the strength of the plaintiffs' (i.e., shareholders') case largely depends on the assertion that managers' reporting decisions artificially inflated the company's stock price, defendants (i.e., managers) may hurt the company's bargaining position in settlement negotiations by engaging in both reporting and trading behavior that appears opportunistic to investors. To examine the relation between opportunism (in the form of reporting and trading behavior) and settlement amounts we estimate the following regression model:

$$SETTLEMENT_i = \gamma_o + \gamma_1 OPPORTUNISM_i + \gamma_2 AUDITOR + \gamma_3 UWRANK_i + \gamma_4 DAMAGES_i + \gamma_5 DEEP\_POCKETS_i + \varepsilon_i. \quad (2)$$

In the above equation, the log of the total dollar amount paid by the company (and its insurance carrier) serves as the dependent variable. Following prior research, we treat dismissed or voluntarily withdrawn lawsuits as zero settlements (Skinner, 1997; DuCharme et al., 2004; Billings, 2008). In addition, we test H2 and H3 by interacting aggressive reporting with indicators variables for firms with increased incentive to behave opportunistically (*INC*1 and

[24] Lowry and Shu (2002) also find an insignificant coefficient on the initial returns instrument in their litigation model (Table 5, 229). Our results, however, depart from theirs in that we find no evidence that initial returns and litigation risk our simultaneously determined. This difference is likely explained by differing sample periods. In particular, we focus on more recent lawsuits that take place in a different legal, regulatory and economic environment. We study IPOs and resulting lawsuits that take place in an environment shaped by, among other things, litigation reform (Painter et al., 2002) and increased underpricing (Loughran and Ritter, 2004).

$INC2$) or increased private information ($INC3$).[25] Again, we expect to observe positive coefficients on the interaction terms including $INC1$ and $INC2$, and a negative coefficient for the interaction term including $INC3$.

We include control variables for factors thought to influence settlement negotiations. We include $AUDITOR$ and $UWRANK$ as controls for third-party certification, but make no prediction for the coefficients. Because the inclusion of $DAMAGES$ controls for the severity of the news that triggered the lawsuit filing, we expect a positive coefficient.[26] Although the parties negotiate the settlement, a hot debate in the legal literature centers on whether the settlement amount reflects the merits of the plaintiffs' case. Indeed, a considerable body of research argues that defendants feel coerced to settle and that shareholders' attorneys target firms with "deep pockets." Relying on the "deep pockets" argument advanced in the legal literature, we include measures ($ASSETS$) indicative of the firm's ability to pay larger settlements.

Table 5 presents the results of estimating Equation 2. To reduce the potential impact of heteroscedasticity and scale differences, the reported *P* values are based on robust standard errors. As expected, in the first three specifications we detect a significantly positive relation between aggressive reporting ($UNEXACC1\_RK$, $UNEXACC2\_RK$, or $RESTATE$) and the lawsuit settlement. We do not, however, find a significant relation between the broad measures of aggressive trading (SEC_PCT) and $SETTLEMENT$. Finally, we observe a positive relation for many of our control variables.

The final three specifications test H2 and H3. Consistent with Ducharme et al. (2004) and Armstrong et al. (2008) we observe a significantly positive coefficient for aggressive

[25] The reduced sample size for this analysis limits our ability to include executive-specific measures of insider trading conditioned upon INC1. For example, when we attempt to estimate the model including $CFO\_OWN\Delta$ and $CFO\_OWN\Delta * INC1$ quasi-complete separation occurs.

[26] We measure $DAMAGES$ as the decline in market capitalization from the trading day when it reached its maximum during the class period to the minimum market capitalization in the five trading days immediately following the end of the class period.

reporting in both the fourth and fifth specifications. Importantly, however, we also observe a significant and positive coefficient on aggressive reporting interacted with $INC1$. This suggests that opportunistic reporting has an incremental impact on the settlement payment over and above the impact of abnormal accruals that are less likely opportunistic. For post-IPO repercussions to deter opportunistic behavior it is important that the consequences correlate with opportunistic behavior; our results suggest that they do. In the sixth specification we observe a significantly positive coefficient for $UNEXACC1\_RK$ and a negative coefficient for $UNEXACC1\_RK * INC3$.[27] These findings suggest that abnormal accruals that are more likely to reflect managers' private information do not increase settlement payments, where as abnormal accruals that are more likely opportunistic are associated with larger settlement payments. Taken collectively, the evidence presented thus far indicates that opportunistic behavior plays a role in increasing litigation related consequences, but abnormal accruals that more likely reflect information are not associated with increased penalties.

Delistings

The third test of H1 investigates the relation between measures of IPO opportunism and the likelihood that an IPO firm will fail (i.e., delist for negative reasons) soon after the offering. Ball and Shivakumar (2008) argue that increases in cost of capital likely accompany poor reporting quality at the IPO. This suggests that firms with unusually poor financial reporting quality may not be able to raise capital in the future, causing increased likelihood of failure. Consistent with this conjecture, (untabulated) results indicate that only 8 percent of non-restatement IPO firms delist in the three years following the initial offering. This small percentage differs significantly (at the 0.05 percent level) from the 26 percent failure rate for the

[27] In untabulated tests we cannot reject the hypothesis that coefficient on abnormal reporting for firms with managers more likely to possess private information is equal to zero.

restatement firms. To more rigorously test the link between opportunism and delistings, we estimate the following regression equation:

$$DELIST_i = \begin{array}{l} \delta_o + \delta_1 OPPORTUNISM_i + \delta_2 THIRD\_PARTY\_CERT_i \\ +\delta_3 FIRM\_CHARACTERISTICS_i \\ +\delta_5 DEAL\_MKT\_EXEC\_CHARACTERISTICS_i + \varepsilon_i \end{array} . \quad (3)$$

We set an indicator variable, $DELIST$, equal to one if the IPO firm delists (for negative reasons within the five years of the IPO); this variable serves as the dependent variable in Equation 3.

In this regression, we also include an indicator variable for sued firms ($SUED$). In addition, we include control variables suggested by recent work examining delistings (Demers and Joos, 2007). We include $AUDITOR$, $UWRANK$ and VC to control for the decreased likelihood of failure associated with firms backed by reputable third parties. We also include firm characteristics that have been shown to be associated with delisting risk. Specifically, we include measures to control for uncertainty/risk (AGE and $INTERNET\_FIRM$), leverage (DE_RATIO), stage of development and size ($R\&D$ and $SALES$) and productive efficiencies ($GROSS\_MARGIN$). Also, following Demers and Joos (2007), we include controls for deal characteristics ($OFFER\_PRICE$ and $INITIAL\_RETURNS$) and market characteristics ($AVGUP\_3MPRIOR$). Finally, we include controls for executive ownership characteristics (CEO_OWN, and CFO_OWN).

Table 6 lists the predicted relations and provides the results of estimating Equation 3. Following Demers and Joos (2007), we estimate our model separately for non-technology (Panel A) and technology firms (Panel B).[28] We find that litigation ($SUED$) significantly increases the risk of failure, indicating that opportunism indirectly increases delisting risk via increasing litigation risk. In addition, we find evidence of a direct link between aggressive reporting

[28] Per Demer and Joos (2007) we define technology firms as firms with R&D/Assets or R&D/Sales of greater than 0.05.

($RESTATE\_PCT$) and the likelihood of failure for both non-technology and technology firms, and between aggressive trading ($CEO\_OWN\Delta$) and failure risk for non-technology firms.[29]

SEC involvement

Overall, the evidence presented thus far suggests that IPO managers' reporting and trading behavior influence the penalties borne by the firm. Given these findings, our next tests focus on the post-IPO repercussions to managers. Accordingly, we investigate whether opportunistic behavior at the IPO increases SEC enforcement actions or CEO turnover. Consequently, our fourth test of the relation between opportunism and post-IPO consequences focuses on the extent to which top executives face an SEC enforcement action in relation to the offering. To accomplish this, we estimate the following logistic regression:

$$SEC_i = \theta_o + \theta_1 OPPORTUNISM_i + \theta_2 DAMAGES_i + \theta_3 SIZE_i + \theta_4 EXEC\_OWN_i + \varepsilon_i. \quad (4)$$

An indicator variable (SEC) set equal to one if the firm or its CEO faced an SEC enforcement action in addition to the class action lawsuit serves as the dependent variable in the regression. Again, we expect to observe positive coefficients for our opportunism measures. In addition, we include controls for estimated shareholder damages ($DAMAGES$), firm size ($PROCEEDS$), and executive ownership (CEO_OWN and CFO_OWN). As with the settlement analysis, the reduced sample size limits out ability to include the interaction variables testing H2 and H3. Table 7 presents the results of estimating Equation 4. We observe significant and positive coefficient for all aggressive trading variables, indicating that aggressive reporting increases the likelihood of an SEC enforcement action. We do not, however, find a significant relation between measures of insider sales and the incidence of SEC involvement.

[29] Following Demer and Joos (2005) we use five-year delisting rates as the dependent variable. Unfortunately, this introduces some measurement error, as we cannot yet flag the IPOs occurring in 2004 that delist in 2009. To address this issue, we rerun the analyses excluding the IPOs occurring in 2004 and replacing the dependent variable with a three-year delisting rate. When we do this, all inferences remain unchanged.

CEO turnover

Our fifth test of the relation between opportunism and post-IPO consequences focuses on the extent to which CEO turnover increases with opportunistic behavior at the IPO. To accomplish this, we estimate the following logistic regression:

$$CEO\_TURNOVER_i = \begin{array}{l} \lambda_o + \lambda_1 OPPORTUNISM_i + \lambda_2 SUED_i \\ +\lambda_3 CEO\_CHAIRMAN_i + \lambda_4 CEO\_AGE_i \\ +\lambda_5 CEO\_FOUNDER_i + \lambda_6 ABRET_i + \lambda_7 ROA \\ +\lambda_8 ASSETS_i + \lambda_9 CEO\_OWN_i + \lambda_{10} CFO\_OWN_i + \varepsilon_i \end{array} . \quad (5)$$

In the above equation, we set an indicator variable ($CEO\_TURNOVER$) equal to one if the CEO of the firm at the time of the offering no longer serves as the CEO in the third year following the IPO.[30] As in the prior analyses, we include our measures of opportunism and expect to observe positive coefficients. In addition to the variables of interest, we include a number of controls that reflect factors thought to influence the likelihood of CEO turnover. Prior work documents a dramatic increase in executive turnover following lawsuit filings (Strahan, 1998; Niehaus and Roth, 1999); consequently, we include our indicator variable for the incidence of a subsequent shareholder lawsuit as a control in this regression. Following Niehaus and Roth (1999) and Desai et al. (2006), we include two measures of CEO power ($CEO\_CHAIRMAN$ and CEO_OWN).[31] As an additional control for CEO power we also include $CFO\_FOUNDER$. Because we also examine insider trading by the CFO, we include a measure of CFO power (CFO_OWN). One drawback to including the ownership variables is that they reduce the sample size. Accordingly, we estimate specifications that both exclude and include these. In addition, we include a control for the age of the CEO (CEO_AGE). Prior research suggests that firm performance influences executive turnover (Desai et al., 2006). Consequently, we

[30] Data availability reduces the full IPO sample from 1,668 firms to 1,404 firms for this analysis.
[31] Specifically, we set $CEO\_CHAIRMAN$ equal to 1 if the CEO also serves as the Chairman of the Board at the IPO.

include measures of firm performance, predicting negative coefficients for $ABRET$ and ROA.[32] Finally, we control for the size of the firm ($ASSETS$), but make no prediction for its coefficient.

Table 8 presents the results of estimating Equation 5. We find that the likelihood of turnover increases for CEOs reporting high levels of accruals ($UNEXACC2\_RK$). Also, consistent with Desai et al., (2006), we find that CEOs of IPO firms that subsequently restate financial information reported in the prospectus experience increased rates of turnover. We do not, however, find an incremental increase in CEO turnover for CEOs reporting higher levels of accruals that also have stronger incentive to behave opportunistically ($INC1$ or $INC2$). Yet, we find that abnormal accruals that more likely reflect private information negatively relate to CEO turnover ($UNEXACC1\_RK * INC3$), supporting H3. Consistent with the evidence for non-IPO lawsuit managers in Billings (2008), we detect no relation between our broad measure of insider sales (SEC_PCT) and the likelihood of CEO turnover. As expected, we observe a significant and positive coefficient for $SUED$, suggesting that CEO turnover increases for managers of sued firms. Finding significantly positive coefficients for some of the aggressive reporting and trading variables, and for $SUED$ suggests that opportunistic behavior impacts CEO turnover both directly and indirectly via increasing the likelihood of litigation.

The last three specifications in Table 8 add the executive-specific measures of insider trading, and the ownership variables to the model. We observe a significant and positive coefficient for $CEO\_OWN\Delta$, but a coefficient that is not significantly different from zero for the interaction term ($CEO\_OWN\Delta * INC1$). Further, we find no evidence that CFO sales impact turnover. We do, however, find that CEO ownership levels are associated with a decrease in

[32] We include a measure of accounting performance (ROA), but acknowledge that this may serve as a particularly noisy measure of firm performance in the IPO setting. Accordingly, the predicted relation may not manifest (Engel et al., 2003).

CEO turnover. Accordingly, our findings suggests that, controlling for the level of CEO ownership, CEOs who sell more shares at the IPO are more likely to be fired.

Additional robustness tests

Overall, we find that opportunistic reporting and trading are associated with a higher incidence of litigation and accompanying resolution costs, higher rates of failure, increased incidence of SEC action, and increased CEO turnover. Importantly, we also find that the risk of litigation, resolution costs, and incidence of CEO turnover are incrementally greater for firms with stronger incentives to report opportunistically ($INC1$ firms), and that these same costs are lower for firms whose abnormal accruals are more likely to reflect private information ($INC3$ firms). Together these findings support our hypotheses. We perform a number of additional analyses to add support to our interpretations. First, as with most studies of earnings management, our paper must overcome the criticism that correlated omitted variables influence our opportunism proxies and, consequently, drive our results. An alternative explanation for our findings might be that firm growth influences our measures of aggressive reporting and post-IPO consequences. This explanation is less likely to apply to restatements, and our results continue to hold when we measure opportunism with $RESTATE$. Further, in untabulated results we observe a correlations that are not significantly different from zero or negative correlations between our accruals measures ($UNEXACC1\_RK$, $UNEXACC2\_RK$, and $RESTATE$) and measures of firm- and industry-level sales growth (based on Fama and French (1997) classifications). This suggests that although high-growth firms tend to have high accruals, firm- or industry-level sales growth does not appear to drive the unusually high levels of positive accruals we observe. In addition, we re-run our analyses including the firm's own sales growth from year -1 to year 0 as an

additional independent variable. We find that our results continue to hold with only a slight attenuation of significance levels, and that the coefficient for growth is not significantly different from zero. These findings lend added credibility to our interpretations.

Second, we re-estimate our models including both incentive variables as main effects ($INC1$ or $INC2$).[33] Recall, that the main effect for $INC3$ is $CEO\_FOUNDER$ and we have already included this variable in the specifications testing H3. We find that neither incentive variable differs significantly from zero, and all of our results remain unchanged. Finally, we re-estimate our litigation and settlement models with the addition of an expected accruals variable. We calculate expected accruals as total accruals (i.e., $TACC$) less abnormal accruals (i.e., $UNEXACC1$ or $UNEXACC2$). In this analysis, we expect to observe an incremental effect associated with unexpected accruals if H1 continues to hold. That is, we expect the association between our opportunism proxies and litigation consequences (in the form of both lawsuit incidence and settlement amounts paid) to remain even when we control for the level of firm's expected accruals. Consistent with an incremental effect associated with opportunism and in contrast to the findings of Armstrong et al. (2008, pps. 37-38), we continue to observe a significantly positive relation between litigation consequences and discretionary accruals (i.e., unexpected accruals). Yet, at the same time, we observe no relation between non-discretionary (i.e., expected accruals) and litigation risk. Moreover, we actually find a negative relation between expected accruals and firms' settlements. These findings lend additional support to our previous interpretations: opportunism appears to lead to penalties.

[33] For the settlement regression, we are only able to estimate a model including INC1 and for the SEC enforcement action model we are unable to estimate a specification including INC1 and INC2.

6. Summary and conclusion

This paper examines the link between opportunism at the IPO and subsequent events. Prior research finds that firms report more conservatively surrounding an IPO. If this finding results from heightened scrutiny, then one expects to find evidence of a link between this "bad" behavior and those instances where firms actually encounter post-IPO penalties. Although a number of studies examine IPO reporting quality, prior work does not observe a link between opportunism and penalties. In contrast, using improved opportunism proxies, we find evidence that aggressive behavior increases post-IPO consequences. In addition, our research design recognizes that the extent to which measures of abnormal reporting and trading at the IPO reflect opportunism likely varies with managers' incentives. In focusing on "increased-incentive-for-opportunism" settings, we find evidence to suggest that *ex post* settling-up mechanisms create *ex ante* incentives to report conservatively at the IPO. In particular, we observe a strong connection between post-IPO negative events and abnormal IPO behavior in those situations where managers stand to benefit from earnings manipulation directly (via their ability to dump overvalued shares). Yet, we observe no connection when managers stand to benefit from manipulation indirectly (via the avoidance/postponement of firm failure associated with cash constraints) or when managers' abnormal accruals more likely reflect private information.

Overall, the evidence we present contributes to our understanding of the situations that lead to opportunism at the IPO and, at the same time, establishes a important link not documented in prior work that examines IPO earnings quality. In so doing, this study also advances research examining the factors that influence firms' litigation consequences and adds to the management turnover literature by highlighting the important role founding CEOs play in their companies.

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Appendix
Variable definitions and data sources

IPO Data		
OFFER_PRICE	= the final selling price of the IPO shares.	We identify our initial sample of IPO firms using data obtained from **Securities Data Corporation**. We augment and/or correct the SDC data using information supplied on **Professor Jay Ritter's website** (http://bear.cba.ufl.edu/ritter/ipodata.htm). In addition, we obtain relevant information from the **Center for Research in Security Prices** (**CRSP**) and **Compustat**. We limit analysis to IPOs that occurred following the passage of the Private Securities Litigation Reform Act in December of 1995. Consequently, we focus on IPOs that took place during the period of January 1996 through December 2004.
MIDPOINT	= the mid-point of the initial price range given in the prospectus.	
DAY1_PRICE	= the price on the close of the first trading day.	
PROCEEDS	= the proceeds from the issue (i.e., shares offered multiplied by the offer price). We use the log (**LPROCEEDS**) in regressions.	
INITIAL RETURNS	= the percentage change in the price from the final-offer price to the first day closing price; i.e., underpricing (**DAY1_PRICE** *less* **OFFER_PRC**) divided by **OFFER_PRICE**.	
VC	= 1 if venture capitalists back the firm; 0 otherwise.	
UWRANK	= the Carter-Manaster rank (Carter and Manaster, 1990) of the firm's underwriter (high values correspond to increased reputation).	
AGE	= the firm's age (in years) at the time of the IPO.	
AUDITOR	= 1 if a national ("Big 4/6/8") firm audits the IPO firm; 0 otherwise.	
LOCKUP	= 1 if the firm's IPO prospectus indicates that insiders are subject to a lockup agreement that prevents them from selling their shares until a specified date following the offering; 0 otherwise.	
Reporting and Trading Data		
TACC	= **IBEI** *less* **CFO** in the year of the IPO, where **CFO** equals cash flow from operations (Compustat Data Item #308 less Compustat Data Item #124) and **IBEI** equals income before extraordinary items (Compustat Data Item #123).	**Compustat** supplies the necessary financial statement information for the calculation of total accruals. This information on managers' financial reporting choices serves as one of our proxies of managerial opportunism in the IPO setting. **We obtain all financial accounting variables/data from the financial statements issued *just prior* to the IPO. In other words, we use pre-IPO financial statement data in our analyses.**
UNEXACC1	= the IPO firm's total accruals less the **mean** total accruals for similar-sized (i.e., same sales/assets quartile) firms within the same Fama and French (1997) industry classification. We code **UNEXACC1_RK** based on the firm's decile rank when compared to the full sample of IPO firms.	

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UNEXACC2	= the IPO firm's total accruals less the **median** total accruals for similar-sized (i.e., same sales/assets quartile) firms within the same Fama and French (1997) industry classification. We code **UNEXACC2_RK** based on the firm's decile rank when compared to the full sample of IPO firms.	We measure unexpected accruals ($DA1$) as the firm's total accruals (deflated by total assets) less the expected level of deflated total accruals. To accomplish this, we estimate the following parameter model in the year prior to the IPO for all same-industry, non-IPO firms: $\frac{TACC_i}{ASSETS_i} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_i} + \alpha_2 \frac{\Delta SALES_i}{ASSETS_i} + \alpha_3 \frac{PPE_i}{ASSETS_i} + \varepsilon_i$, where $ASSETS$ are the firm's assets (Data #6), $SALES$ are the firm's sales (Data #12), and PPE is the firm's property, plant and equipment (Data #8). We obtain expected accruals by applying the parameter estimates obtained from this regression to the IPO firm's characteristics.
DA1	= discretionary accruals calculated from an industry-specific, cross-sectional version of the Jones (1991) model (Defond and Jiambalvo, 1994). Specifically, **DA1** = the firm's **TACC** deflated by assets less the expected level of deflated **TACC** (from the model shown in the next column). We code **DA1_RK** based the firm's decile rank when compared to the full sample of IPO firms.	
DA2	= abnormal discretionary accruals, defined as the firm's **DA1** less a matched firm's DA1 (Kothari et al., 2005). The matched firm is a same-industry, non-IPO firm with the closest return-on-assets (ROA), but not more than five percent above or below the IPO firm's ROA. We code **DA2_RK** based the firm's decile rank when compared to the full sample of IPO firms.	
RESTATE	= 1 if the firm restates earnings included in the financial statements provided in the firm's prospectus and in doing so revises earnings downward; 0 otherwise.	We identify restatements using information supplied by the **U.S. Government Accountability Office (GAO)** on its website (http://www.gao.gov). In addition to searching **SEC filings**, we perform a full-text search of news articles via **Dow Jones News Service** (using the company name and keywords of "restate" and "restatement") to confirm that the identified restatements relate to the financial statements included in the firm's prospectus as part of the IPO.
RESTATE_AMT	= the dollar amount of the restatement (reported in millions).	
RESTATE_PCT	= the percentage overstatement of pre-IPO income defined as **RESTATE_AMT** divided by reported (at the IPO) earnings.	
SEC_PCT	= the percentage of secondary shares sold in the offering (i.e., secondary shares sold divided by total shares sold in the IPO).	We obtain information on the trades of insiders of the IPO firms from **Securities Data Corporation**. Information on the shares sold by insiders during the offering serves as one of our proxies for managerial opportunism in the IPO setting. To allow for sales motivated by liquidity concerns, we code indicator variables that focus on unusually high amounts of sales. In addition, we **hand-collect** the number of shares sold and the change in ownership percentage of the CEO, CFO, and all directors an officers as a group **from the firm's' S-1 filings**.
CEO_OWN_TYPE	= a categorical variable reflecting the level of post-IPO CEO ownership of the firm's outstanding shares. We set the variable equal to 1 for firms whose CEO's retain less than or equal to 5% of the firm; 2 for ownership between 5% and 20%; and 3 for ownership above 20%. Footnote 22 supplies additional details.	

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CEO_OWNΔ	= the reduction in the CEO's ownership percentage as a result of secondary shares sold in the offering.
CFO_OWNΔ	= the reduction in the CFO's ownership percentage as a result of secondary shares sold in the offering. Specifically, we define this variable as pre-IPO ownership percentage less post-IPO ownership percentage. Thus, positive values correspond to the percentage reduction in the CEO's ownership of the firm.
D&O_OWNΔ	= the reduction in directors' and officers' ownership percentage as a result of secondary shares sold in the offering.
CEO_OWN	= the percentage of outstanding shares owned by the CEO immediately following the IPO. (We obtain this information from the beneficial ownership section of the firm's registration statement.)
CFO_OWN	= the percentage of outstanding shares owned by the CFO immediately following the IPO. If a CFO is not listed, then we code this variable for the controller. If a CFO and controller is not listed, then we code this information for the second highest paid executive after the CEO. (We obtain this information from the beneficial ownership section of the firm's registration statement.)
D&O_OWN	= the percentage of outstanding shares owned by the directors and officers immediately following the IPO. (We obtain this information from the beneficial ownership section of the firm's registration statement.)
EXEC_OWN	= the percentage of the firms' post-IPO outstanding shares owned by named executives (CEOs, CFOs or D&Os). For specifications including CEO_OWNΔ this variable is equal to the CEO's post-IPO ownership percentage. For specifications including CFO_OWNΔ this variable is equal to the CFO's post-IPO ownership percentage. For specifications including D&O_OWNΔ this variable is equal to the D&O's post-IPO ownership percentage.
INC1	= 1 for firms classified as having strong incentives to behave opportunistically at the IPO; 0 otherwise.
INC2	= 1 for firms classified as having strong incentives to behave opportunistically at the IPO; 0 otherwise.
INC3	= 1 for firms classified as having strong incentives to supply private information at the IPO; 0 otherwise.

Incentive Variables

We code two indicator variables, $INC1$ and $INC2$, that correspond to our two "increased-opportunism" settings. Specifically, we set $INC1$ equal to one for firms that meet the following criteria:

1. the firm is difficult to value because its value is more likely based on future growth prospects than assets in place. We assume that a firm's value is based more on growth than assets in place if: (a) the firm's operating cycle is longer than six months or the firm operates in either the high-technology or the pharmaceutical industry), and (b) the firm is relatively high-growth when compared to others in its industry (i.e., the firm's sales growth exceeds the median sales growth in its industry).
2. the offering occurs during a time of market-wide optimism;

We identify optimistic market periods (i.e., times when the market is aggressive in its price of earnings and earnings growth) by ranking the quarterly price-to-earnings ("P/E") ratios of all firms in the S&P 500 over the sample period. We code the IPO period as "optimistic" if the S&P 500 P/E ratio exceeds the average S&P 500 P/E ratio over the sample period.

Similarly, we set $INC2$ equal to one for firms that meet the first criterion (1a) described above and that also appear to be cash-constrained, with few alternative financing options. We identify firms as "cash-constrained" if their free cash flow is less than or equal to zero or their current ratio is less than one. We identify firms as lacking other financing options by observing (via the proxy filing) the firm's intention to use the funds for "general corporate purposes" (as opposed to capital projects) and a debt-to-asset ratio of less than 0.01 (which indicates that debt financing is not an alternative).

Finally, we code an indicator variable, $INC3$, that corresponds to this "increased-private-information" setting. Because we expect founding CEOs to possess unusual amounts of private information both about the firm and the industry in which it operates, we set $INC3$ equal to one if the founder of the firm serves as its CEO.

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Post-IPO Consequences Data

SUED	= 1 if the firm faces a class action lawsuit subsequent to the initial public offering and in relation information contained in the prospectus; 0 otherwise.
SETTLEMENT	= the dollar amount for which the lawsuit settles (in millions).
DELIST	= 1 if the firm delists for negative reasons during the three years following the IPO. We define negative delisting as any delisting occurring for a reason other than a merger or move to a new exchange.
SEC	= 1 if the firm/CEO faced an SEC enforcement involvement or action in addition to the class action lawsuit; 0 otherwise.
CEO_TURNOVER	= 1 if the CEO of the firm at time of the offering is no longer with the firm the year after the firm settles the lawsuit; 0 otherwise.
CLASS_PERIOD	= the number of days between the **CB_DATE** and the **CE_DATE** (i.e., the period of time used to calculate plaintiffs' alleged damages).
CB_DATE	= the date plaintiffs allege managers of the company supplied the first false or misleading statement(s) and/or failed to disclose material information.
CE_DATE	= the date the market learns of the negative news that triggers the lawsuit filing.
INSURANCE	= 1 if the firm's insurance company covered any portion of the settlement; 0 otherwise.

Note:

We exclude IPOs occurring after 2004 to ensure that we accurately identify those IPO firms that face subsequent lawsuits. We classify lawsuits with class periods beginning *on or before* the offering date as IPO lawsuits. We exclude allocation-based lawsuits, as they generally focus on the behavior of the underwriter and do not involve allegations of fraud in the IPO firms' financial statements. Similarly, we exclude lawsuits that involve allegations of fraud *after* (rather than during) the IPO process. To achieve this, we eliminate lawsuits with class periods that begin after the offer date of the IPO.

The litigation database maintained by the **Securities Class Action Clearinghouse of Stanford University's Law School** supplies the information we use to identify the lawsuit firms (http://securities.stanford.edu). We then obtain relevant lawsuit information by hand-collecting data from a number of sources.

- **Stanford Securities Litigation Database:** We obtain class period and filing dates by checking the IPO firms to Stanford's database.
- **First Identified Complaint:** We examine the first identified complaint for each lawsuit in order to categorize the nature of the lawsuit (e.g., fraud, IPO-allocation), as well as identify whether plaintiffs' attorneys allege insider trading or earnings management as evidence of managers' wrongdoing.
- **SEC Filings:** We obtain settlement information, including the amount covered by the company's director and officer liability insurance (net of any deductibles) by reading the firms' quarterly and annual SEC filings following the filing of the lawsuit through the year following the date of settlement (http://sec.gov).
- **Lexis-Nexis, Dow Jones News Service:** Performing a full-text search of news articles via Lexis-Nexis and Dow Jones News Service (using the company name and keywords of "lawsuit" and "class action"), we confirm the nature of the lawsuit allegations, class dates, settlement, insurance coverage, and settlement form.

We perform a full-text search (based on company name and/or CEO name as of the date of the offering) of the **SEC database** to identify enforcement actions that relate to defendant firms (http://sec.gov). To examine the employment consequences for the CEOs of the IPO firms, we obtain executive compensation data, including management turnover, from the firms' **SEC filings**. We hand-collect data items from firms' registration and proxy statements leading up to and following the offering, as well as through the date of settlement (http://sec.gov).

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Additional Control Variables		
ASSETS	= assets in the year of the IPO (Compustat Data Item #6).	
SALES	= sales in the year of the IPO (Compustat Data Item #12).	
ROA	= return on assets for the first complete annual period occurring after the IPO where return on assets is defined as IBEI/ASSETS.	
HILIT_IND	= 1 if the firm operates in biotechnology (SIC codes 2833-2836), computers (3570-3577 and 7370-7379), electronics (3600-3674), or retailing (5200-5961, 8731-8734); 0 otherwise.	We obtain firms' SIC codes from **CRSP**. Soffer et al. (2000) and Francis et al. (1994) define "high-litigation" industries as: biotechnology (SIC codes 2833-2836), computers (3570-3577 and 7370-7374), electronics (3600-3674), and retailing (5200-5961). Kasznik and Lev (1995) define "high-litigation" using industries with SIC codes 2833-2836, 8731-8734, 7371-7379, 3570-3577, and 3600-3674. We code a high-litigation variable (**HILIT_IND**) to indicate firms in any of the above SIC codes. We include this variable as a control in a number of our regressions.
1-YEAR RET	= firm's unadjusted return beginning the month following the IPO and ending one year later.	
TECHFIRM	= 1 if the firm is a technology firm, and zero otherwise.	
NYSE_AMEX	= 1 if the firm is initially listed on the New York or American stock exchange; 0 otherwise.	
REVISION	= the percentage price change from the midpoint of the initial range to the final offer price.	Jay Ritter's web site (http://bear.cba.ufl.edu/ritter/ipoData.htm.) supplies the following list of SIC codes for technology stocks: 3571–3572, 3575, 3577–3578, 3661, 3663, 3669, 3671–3672, 3674–3675, 3677–3679, 3812, 3823, 3825–3827, 3829, 3841, 3845, 4812–4812, 4899, 7371–7375, and 7378–7379.
TURNOVER	= the average share turnover for an industry- and size-matched sample of firms over the year prior to the IPO.	
IR_INST	= the initial returns instrument where initial returns is defined as the first trading day's return (i.e., DAY1_PRICE less OFFER_PRICE divided by OFFER_PRICE).	
DAMAGES	= the decline in market capitalization from the trading day when it reached its maximum during the class period to the minimum market capitalization in the five trading days immediately following the end of the class period (in millions).	We calculate a measure of shareholder damages (**DAMAGES**) based on the way in which attorneys calculate damages. Under the PSLRA, damages cannot exceed the difference between the price paid for the securities and the mean paid for the securities and the mean trading price for the 90-day period day period following the corrective disclosure. Thus, damages may be mitigated if the market price rebounds during the 90-day period following the alleged corrective disclosure. We adjust damage estimates to accommodate the "bounceback" provision of the PSLRA.
INTERNET FIRM	= a 1 if the firm is an Internet firm' and zero otherwise. Internet firms are defined as per Loughran and Ritter (2004).	
DE RATIO	= the firm's debt –to-equity ratio as reported in the financial statements issued just prior to the IPO (Data Item #9/Data Item #216).	
R&D	= the log of research-and-development expense reported in the financial statement issues just prior to the IPO (log Data Item #46).	

Appendix ***Variable definitions and data sources***		
GROSS MARGIN	= the firm's gross margin reported in the financial statements issued just prior to the IPO ((Data Item #23 – Data Item #41)/Data Item # 12).	We CEO data (e.g., age, founder, etc.) from the firms' **SEC filings**. We hand-collect data items from firms' registration and proxy statements leading up to and following the offering, as well as through the date of settlement (http://sec.gov).
AVGUP_ 3MPRIOR	= the mean underpricing for all IPOs occurring during the three months prior to the firm's IPO.	
ABRET	= the size-adjusted, buy-and-hold return during the 36 months following the **OFFER_DATE**.	
CEO_ CHAIRMAN	= 1 if the CEO also serves as Chairman of the Board at the time of the IPO; 0 otherwise.	
CEO_ FOUNDER	= 1 if the founder of the firm serves as its CEO; 0 otherwise.	
CEO_AGE	= the CEO's age (in years) at the time of the IPO.	
INSIDE_ OWNERSHIP	= the percentage of the shares outstanding owned by insiders.	

Table 1
Sample selection

Panel A – IPO sample

		Number of observations
Initial IPO Sample		2,458
Less:		
Observations with an offer price of less than $5.00	41	
American Depository Receipt firms	130	
Observations missing underwriter rank data	26	
Observations missing Compustat data	593	(790)
Final IPO Sample		**1,668**

Panel B – IPO Lawsuit sample

		Number of observations
Final IPO Sample		1,668
Less:		
Observations for IPOs that did not face litigation	1,276	
Observations for IPOs that faced allocation-based lawsuits	217	
Observations for IPOs that faced lawsuits with class periods that begin after the offer date	103	(1,596)
Final IPO Lawsuit Sample		**72**

Notes: We focus on IPOs that took place during the period of January 1996 through December 2004. We identify our initial sample of IPO firms using data obtained from Securities Data Corporation (SDC). We augment/correct the SDC data using information supplied on Professor Jay Ritter's website (http://bear.cba.ufl.edu/ritter/ipodata.htm). The litigation database maintained by the Securities Class Action Clearinghouse of Stanford University's Law School supplies the information we use to identify the IPO lawsuit firms (http://securities.stanford.edu). We exclude IPOs occurring after 2004 to ensure that we accurately identify those IPO firms that face subsequent lawsuits, as Stanford's database includes lawsuits filed through June of 2007. We classify lawsuits with class periods beginning *on or before* the offering date as IPO lawsuits. We exclude allocation-based lawsuits, as they generally focus on the behavior of the underwriter and do not involve allegations of fraud in the IPO firms' financial statements. Similarly, we exclude lawsuits that involve allegations of fraud *after* (rather than during) the IPO process. To achieve this, we eliminate lawsuits with class periods that begin *after* the offer date of the IPO.

Table 2
Descriptive statistics
Panel A – Descriptive statistics by the incidence of litigation

	Non-sued IPO firms (n=1,596)			*Sued IPO firms (n=72)*			*Tests of Differences*	
	Mean	**Med.**	**Std. Dev.**	**Mean**	**Med.**	**Std. Dev.**	**Mean**	**Med.**
Firm Characteristics								
ASSETS	241.81	23.02	1690.40	427.73	33.80	1686.81		**
SALES	239.74	23.16	1457.67	468.83	32.08	2341.34		
CFO	16.52	-0.11	162.66	15.67	0.59	63.22		
IBEI	1.57	-1.21	105.28	2.51	-0.19	43.78		
TACC	-15.55	103.16	-1.55	-13.32	31.70	-2.73		
PROCEEDS	98.55	53.00	287.61	140.86	64.63	248.23		*
CFO / ASSETS	-0.20	0.00	0.66	-0.07	0.00	0.31	***	
IBEI / ASSETS	-0.34	-0.03	0.96	-0.18	-0.01	0.39	***	
TACC / ASSETS	-0.13	-0.07	0.34	-0.11	-0.05	0.23		
CEO_FOUNDER^	0.44	0.00	0.49	0.40	0.00	0.49		
LOCKUP	0.68	1.00	0.47	0.77	1.00	0.41	*	*
Share Prices and Underpricing								
MIDPOINT	13.09	13.00	3.79	13.77	14.00	4.13		**
OFFER_PRICE	13.65	13.00	5.20	14.84	14.38	4.77	**	**
DAY1_PRICE	19.95	15.38	18.40	18.59	17.00	9.57		*
INITIAL RETURN	0.37	0.13	0.67	0.24	0.13	0.47	**	
Signals of Quality								
AGE	13.13	7.00	18.54	15.22	8.50	20.00		**
AUDITOR	0.96	1.00	0.20	0.93	1.00	0.26		
VC	0.50	0.50	0.50	0.51	1.00	0.50		
UWRANK	7.87	8.10	1.73	8.23	9.00	1.34	**	*
CEO_OWN^	0.13	0.05	0.18	0.16	0.06	0.20		
CFO_OWN^	0.01	0.00	0.05	0.01	0.00	0.04		
D&O_OWN^	0.42	0.45	0.24	0.44	0.51	0.24		
Opportunism Variables								
UNEXACC1 (MIL $)	11.79	1.49	122.77	36.26	3.90	80.51	**	
UNEXACC2 (MIL $)	-7.26	-0.07	96.69	1.71	0.28	25.42	***	
DA1÷ASSETS^	-0.05	-0.01	0.23	-0.04	0.02	0.22		
DA2÷ASSETS^	0.10	0.04	0.34	0.07	0.05	0.24		
RESTATE	0.01	0.00	0.10	0.22	0.00	0.41	***	***
RESTATE_AMT	0.07	0.00	1.17	111.10	0.00	923.70		***
RESTATE_PCT	0.00	0.00	0.06	0.13	0.00	0.45	**	***
% OF IPOs w/ Ins. Sales	0.29	0.00	0.45	0.38	0.00	0.49		*
SEC_PCT	0.08	0.00	0.19	0.12	0.00	0.22		**
HIGHLIT_IND	0.51	1.00	0.50	0.53	1.00	0.50		

Notes: The sample consists of 1,668 IPOs occurring from 1996-2004. ***, **, * denote instances where the characteristic of the non-sued IPO sample differs significantly from that of the sued IPO sample at the 1%, 5%, and 10% level for a two-tailed test. ^ indicates that the sample size is reduced for the variable due to data limitations. Please refer to the Appendix for variable definitions and sources.

Table 2 (concluded)
Descriptive statistics

Panel B – Restatements of IPO financial information

	Restatement subsample		
Restatement Reason	***N***	***Pct***	
Overstated revenue	19	56%	
Understated expenses	8	24%	
Other	7	21%	
Total	34	100%	
Restatement	***Mean***	***Median***	***Std. Dev.***
Amount (in millions of $)	234.40	3.30	1,343.20
Percentage of income	0.45	0.23	0.69

Notes: We identify the subsample of IPO restatement firms by flagging all restatements associated with the full sample of IPO firms. This process identifies an initial IPO restatement subsample of 42 firms. Because our hypotheses focus on the overstatement of IPO income, we remove 5 restatements that involve the understatement of IPO income and 3 observations that do not restate IPO income. The relatively large mean is driven by one firm, Reliant Resources Inc, whose restatement exceeded $7 billion dollars. If we exclude Reliant Resources, Inc., the mean restatement amount drops from $234.40 to $8.06 million and the standard deviation drops from $1,343.20 to $38.30 million. The mean and standard deviation associated with the percentage of income do not change and the median restatement as a percentage of income moves from 23% to 24%.

Panel C – Shares sold in secondary offerings by individual executives

	Secondary sales subsample		
Firms with executives selling shares	***# of secondary offerings with available data***	***# of executives selling shares in the offering***	***Pct***
CEO	426	152	36%
CFO	425	46	11%
D&O	421	269	64%
Decrease in ownership	***Mean***	***Median***	***Std. Dev.***
CEO_OWNΔ	6%	2%	9%
CFO_OWNΔ	0.004%	0%	2%
D&O_OWNΔ	16%	15%	14%

Notes: SDC indicates that 499 of the 1,668 offerings in our full sample involve secondary share sales. We present statistics for the 426 secondary offerings with available executive-specific insider filing data (obtained via firms' S1 filings with the SEC).

Table 3
IPO firms versus other publicly traded firms

Panel A – IPO firms

	IPO firms		
	NASDAQ (n=1,409)	**NYSE/AMEX** (n=259)	**ALL** (n=1,668)
% Sued	4.0%	5.7%	4.3%
% Sued that pay a settlement	3.1%	3.9%	3.2%
% Positive total accruals	25.5%	26.6%	25.7%
% Negative CFO	56.8%	18.6%	51.0%
% Negative CFO and positive net income	6.6%	9.2%	7.0%
% Restatements (1996 - 2004)	2.1%	1.9%	2.0%
% Restatements (after 2000)	4.7%	3.9%	4.0%

Panel B – Publicly traded firms

	Population of firms *(excluding IPOs)*		
	NASDAQ (n~4,920/yr)	**NYSE/AMEX** (n~3,802/yr)	**ALL** (n~8,722/yr)
% Sued (per year during 1996 - 2004)	1.4%	2.0%	1.7%
% Positive total accruals	14.7%	10.0%	12.6%
% Negative CFO	59.0%	49.0%	54.2%
% Negative CFO and positive net income	15.0%	6.0%	10.5%
% Restatements (2002 - 2005)			4.0%

Notes: Using data obtained from the litigation database maintained by the Securities Class Action Clearinghouse of Stanford University's Law School (http://securities.stanford.edu) and as described in detail in Billings (2008), we identify the percentage of NASDAQ, NYSE, and AMEX firms (excluding IPO firms) that face securities litigation per year during 1996 through 2004. In addition, we calculate the average positive total accruals, negative cash flow from operations, and positive net income for the available Compustat population during this time frame (because of data availability n=3,139 NASDAQ firms for this analysis). We calculate the percentage of the population of firms (excluding IPO firms) associated with restatements during 2002 through 2005 using restatement information obtained from the U.S. Government Accountability Office (GAO) via its website (http://www.gao.gov). Unfortunately, data availability precludes a calculation that focuses on 1996 through 2004.

Table 4
Logistic regression predicting the incidence of litigation

$$SUED_i = \beta_o + \beta_1 OPPORTUNISM_i + \beta_2 AUDITOR_i + \beta_3 UWRANK_i + \beta_4 VC_i + \beta_5 PROCEEDS_i + \beta_6 TECHFIRM_i + \beta_7 NYSE\_AMEX_i + \beta_8 REVISION_i + \beta_9 INITIAL\_RET_i + \beta_{10} LOCKUP_i + \beta_{11} AGE_i + \beta_{12} CEO\_OWN\_TYPE_i + \varepsilon_i .$$

Panel A – Base model

	Pred.	(1) Coef.	(1) Pr >|t|	(2) Coef.	(2) Pr >|t|	(3) Coef.	(3) Pr >|t|	(4) Coef.	(4) Pr >|t|	(5) Coef.	(5) Pr >|t|	(6) Coef.	(6) Pr >|t|
Intercept		-12.8	**0.00**	-13.3	**0.00**	-11.9	**0.00**	-12.0	**0.01**	-12.2	**0.00**	-13.5	**0.00**
Opportunism proxies													
UNEXACC1_RK	+	0.07	**0.10**										
UNEXACC2_RK	+			0.05	0.25								
DA1_RK	+					0.04	0.52						
DA2_RK	+							0.02	0.82				
RESTATE	+									3.24	**0.00**		
RESTATE_PCT	+											5.15	**0.00**
SEC_PCT	+	0.14	0.82	0.13	0.82	0.80	0.26	1.02	0.16	0.47	0.45	0.21	0.73
Controls													
AUDITOR	**?**	-1.16	**0.03**	-1.14	**0.03**	-1.28	**0.07**	-1.34	**0.06**	-1.24	**0.03**	-1.35	**0.01**
UWRANK	**?**	0.18	0.13	0.19	0.12	0.37	**0.05**	0.38	**0.06**	0.13	0.28	019	0.12
VC	**-**	0.43	0.14	0.42	0.15	0.81	**0.04**	0.80	**0.06**	0.58	**0.06**	0.61	**0.05**
PROCEEDS	+	0.40	**0.03**	0.43	**0.02**	0.26	0.27	0.26	0.27	0.40	**0.04**	0.45	**0.02**
TECHFIRM	+	0.15	0.58	0.17	0.54	0.34	0.35	0.46	0.23	0.25	0.38	0.13	0.64
NYSE_AMEX	**-**	-0.02	0.95	0.01	0.97	0.22	0.66	0.33	0.51	0.25	0.55	0.08	0.84
REVISION	+	1.77	**0.00**	1.75	**0.00**	2.93	**0.00**	3.01	**0.00**	1.74	**0.01**	1.90	**0.00**
INITIAL_RET	**-**	-1.15	**0.01**	-1.16	**0.01**	-2.67	**0.00**	-2.76	**0.00**	-1.01	**0.01**	-1.16	**0.01**
LOCKUP	+	0.87	**0.01**	0.87	**0.01**	0.58	0.13	0.53	0.17	0.91	**0.01**	0.83	**0.01**
AGE	**?**	0.16	0.24	0.17	0.24	0.23	0.25	0.21	0.30	0.09	0.53	0.17	0.25
CEO_OWN_TYPE	**?**	0.38	**0.02**	0.38	**0.02**	0.55	**0.01**	0.57	**0.01**	0.31	**0.06**	0.39	**0.02**
Pr > ChiSq		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
Pseudo R^2		8%		8%		12%		13%		16%		14%	
N		1,668		1,668		841		806		1,668		1,668	

Notes: Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. Sample size falls in the third and fourth specifications because of the increased data requirements associated with estimating the modified Jones model (Jones, 1991; Defond and Jiambalvo, 1994). Results remain unchanged when we include the log of assets (*LNASSETS*) in place of *PROCEEDS* as our proxy for firm size. In addition, results remain unchanged when we estimate a probit regression that assumes a simultaneous relation between litigation risk and initial returns (Lowry and Shu, 2002). Please refer to the Appendix for variable definitions.

Table 4 (continued)
Logistic regression predicting the incidence of litigation

Panel B – Testing opportunistic incentives

		(1)		(2)		(3)		(4)		(5)		(6)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		-10.2	**0.00**	-11.0	**0.00**	-7.93	**0.01**	-8.76	**0.01**	-10.0	**0.00**	-11.2	**0.00**
Opportunism proxies													
UNEXACC1_RK	+	0.05	0.29			0.06	0.19			0.05	0.29		
*UNEXACC1_RK * INC1*	+	0.13	0.21			0.12	0.25			0.13	0.23		
*UNEXACC1_RK * INC2*	+	-0.16	0.20			-0.16	0.19			-0.17	0.18		
RESTATE_PCT	+			5.37	**0.00**			5.60	**0.00**			5.44	**0.00**
CEO_OWNΔ	**?**	0.74	0.71	0.70	0.74								
*CEO_OWNΔ * INC1*	+	2.29	0.74	-2.88	0.78								
CFO_OWNΔ	**?**					-35.5	**0.05**	-37.6	**0.04**				
*CFO_OWNΔ * INC1*	+					138.3	**0.02**	140	**0.03**				
D&O_OWNΔ	**?**									1.18	0.28	1.11	0.34
*D&O_OWNΔ * INC1*	+									2.29	0.43	1.86	0.51
Controls													
AUDITOR	**?**	-1.18	**0.03**	-1.39	**0.01**	-1.27	**0.02**	-1.52	**0.01**	-1.22	**0.02**	-1.44	**0.01**
UWRANK	**?**	0.17	0.16	0.19	0.15	0.13	0.29	0.14	0.27	0.17	0.18	0.17	0.19
VC	**-**	0.36	0.25	0.49	0.13	0.28	0.35	0.43	0.18	0.29	0.35	0.41	0.19
PROCEEDS	+	0.30	0.12	0.35	**0.08**	0.21	0.28	0.27	0.18	0.29	0.14	0.36	0.08
TECHFIRM	+	0.13	0.65	0.12	0.69	0.19	0.51	0.19	0.54	0.11	0.70	0.11	0.72
NYSE_AMEX	**-**	0.00	0.99	0.08	0.84	0.05	0.91	0.15	0.71	-0.02	0.95	0.06	0.89
REVISION	+	1.82	**0.01**	1.91	**0.01**	2.00	**0.00**	2.10	**0.00**	1.83	**0.01**	1.91	**0.01**
INITIAL_RET	**-**	-1.30	**0.00**	-1.25	**0.01**	-1.36	**0.00**	-1.31	**0.00**	-1.27	**0.01**	-1.24	**0.01**
LOCKUP	+	0.84	**0.01**	0.77	**0.02**	0.82	**0.01**	0.74	**0.03**	0.81	**0.01**	0.76	**0.03**
AGE	**?**	0.22	0.13	0.20	0.19	0.21	0.14	0.20	0.17	0.22	0.13	0.20	0.18
EXEC_OWN	**?**	1.07	0.12	1.21	**0.10**	-10.5	0.26	-9.55	0.31	0.53	0.35	0.80	0.18
Pr > ChiSq		0.0008		<0.0001		0.0001		<0.0001		0.0006		<0.0001	
Pseudo R^2		7%		14%		9%		15%		8%		14%	
N		1,485		1,485		1,485		1,485		1,482		1,482	

Notes: Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. Results remain unchanged when we include the log of assets (*LNASSETS*) in place of *PROCEEDS* as our proxy for firm size. In addition, results remain unchanged when we estimate a probit regression that assumes a simultaneous relation between litigation risk and initial returns (Lowry and Shu, 2002). Please refer to the Appendix for variable definitions.

Table 4 (concluded)
Logistic regression predicting the incidence of litigation

Panel C – Testing informative incentives

		(1)		(2)		(3)		(4)		(5)		(6)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		-10.7	**0.00**	-11.3	**0.00**	-11.3	**0.00**	-8.5	**0.01**	-10.63	**0.00**	-9.3	**0.01**
Opportunism proxies													
UNEXACC1_RK	+	0.12	**0.04**	0.13	**0.02**			0.12	**0.04**	0.13	**0.02**		
*UNEXACC1_RK * INC3*	+	-0.19	**0.04**	-0.19	**0.04**			-0.16	**0.09**	-0.16	**0.08**		
UNEXACC2_RK	+					0.09	**0.08**					0.10	**0.06**
*UNEXACC2_RK * INC3*	+					-0.14	0.12					-0.11	0.23
CEO_OWNΔ	**?**	1.07	0.61	2.30	0.25	0.99	0.63						
*CEO_OWNΔ * INC1*	+	1.22	0.85	2.03	0.75	1.07	0.87						
CFO_OWNΔ	**?**							-35.7	**0.05**	-27.28	**0.10**	-39.6	**0.03**
*CFO_OWNΔ * INC1*	+							135	**0.03**	91.20	**0.09**	137	**0.02**
Controls													
AUDITOR	**?**	-1.19	**0.03**	-1.24	**0.02**	-1.16	**0.03**	-1.31	**0.02**	-1.27	0.02	-1.26	**0.02**
UWRANK	**?**	0.17	0.16	0.18	0.14	0.17	0.17	0.12	0.31	0.15	0.22	0.12	0.32
VC	**-**	0.35	0.26	0.25	0.41	0.34	0.28	0.25	0.41	0.26	0.39	0.25	0.41
PROCEEDS	+	0.31	0.12	0.34	**0.08**	0.35	**0.07**	0.22	0.26	0.32	0.09	0.28	0.16
TECHFIRM	+	0.17	0.55	0.12	0.67	0.18	0.54	0.23	0.43	0.15	0.59	0.24	0.41
NYSE_AMEX	**-**	-0.07	0.86	-0.23	0.57	-0.01	0.97	0.00	0.99	-0.17	0.68	0.06	0.89
REVISION	+	1.79	**0.01**	1.85	**0.01**	1.80	**0.01**	2.00	**0.00**	1.90	0.00	1.99	**0.00**
INITIAL_RET	**-**	-1.24	**0.01**	-1.25	**0.01**	-1.25	**0.01**	-1.32	**0.00**	-1.28	0.00	-1.33	**0.00**
LOCKUP	+	0.81	**0.01**	0.85	**0.01**	0.79	**0.02**	0.80	**0.01**	0.83	0.01	0.77	**0.02**
AGE	**?**	0.22	0.13	0.21	0.14	0.20	0.15	0.22	0.12	0.20	0.17	0.21	0.15
EXEC_OWN	**?**	1.34	**0.07**			1.34	0.69	-10.5	0.27			-9.95	0.28
CEO_FOUNDER	**?**	0.78	0.14	0.94	**0.07**	0.50	0.32	0.9	**0.10**	0.88	**0.10**	0.61	0.24
Pr > ChiSq		0.0003		0.0001		0.0005		<0.0001		<0.0001		<0.0001	
Pseudo R^2		8%		8%		8%		9%		9%		9%	
N		1,477		1,570		1,477		1,477		1,569		1,477	

Notes: Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. Results remain unchanged when we include the log of assets (*LNASSETS*) in place of *PROCEEDS* as our proxy for firm size. In addition, results remain unchanged when we estimate a probit regression that assumes a simultaneous relation between litigation risk and initial returns (Lowry and Shu, 2002). Please refer to the Appendix for variable definitions.

Table 5
OLS regression examining lawsuit settlement amounts

$$SETTLEMENT_i = \gamma_o + \gamma_1 OPPORTUNISM_i + \gamma_2 AUDITOR + \gamma_3 UWRANK_i + \gamma_4 DAMAGES_i + \gamma_5 DEEP\_POCKETS_i + \varepsilon_i.$$

		(1)		(2)		(3)		(4)		(5)		(6)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		-1.16	**0.09**	-1.10	0.16	-0.47	0.51	-1.50	**0.01**	-1.49	**0.02**	-1.16	0.26
Opportunism proxies													
UNEXACC1_RK	+	0.10	**0.01**					0.09	**0.01**			0.15	**0.00**
*UNEXACC1_RK * INC1*	+							0.27	**0.00**				
*UNEXACC1_RK * INC2*	+							-0.24	**0.00**				
*UNEXACC1_RK * INC3*	-											-0.13	**0.08**
UNEXACC2_RK	+			0.07	**0.08**					0.07	**0.06**		
*UNEXACC2_RK * INC1*	+									0.35	**0.00**		
*UNEXACC2_RK * INC2*	+									-0.20	**0.00**		
RESTATE	+					1.03	**0.00**						
SEC_PCT	+	-1.01	0.17	-0.83	0.22	-0.39	0.55	-1.14	0.19	-0.91	0.18	-1.04	0.15
Controls													
AUDITOR	**?**	-0.23	0.57	-0.24	0.63	-0.52	0.31	0.14	0.66	0.16	0.64	-0.18	0.67
UWRANK	**?**	0.24	**0.01**	0.23	**0.01**	0.22	**0.01**	0.23	**0.00**	0.21	**0.01**	0.25	**0.01**
DAMAGES	+	0.18	**0.09**	0.19	**0.08**	0.17	**0.05**	0.17	0.11	0.18	**0.08**	0.31	**0.00**
ASSETS	+	0.02	0.83	0.07	0.45	0.03	0.74	0.04	0.61	0.11	0.24	-0.09	0.31
CEO_FOUNDER	**?**											0.42	0.35
Adjusted R^2		19%		16%		26%		22%		24%		28%	
N		67		67		67		67		67		66	

Notes: We limit this analysis to IPO firms that faced litigation based on behavior during the IPO process. We exclude 5 of the 72 IPO lawsuit firms in this analysis because settlement information is not yet available for these firms. We use the natural log of settlement and assets when estimating the regression. We base the *P* values on robust standard errors. Please refer to the Appendix for variable definitions and sources.

Table 6
Logistic regression examining the likelihood of delisting

Panel A – Nontechnology sample

$$DELIST_i = \begin{array}{l}\delta_o + \delta_1 OPPORTUNISM_i + \delta_2 THIRD\_PARTY\_CERT_i + \delta_3 FIRM\_CHARACTERISTICS_i \\ +\delta_5 DEAL\_MKT\_EXEC\_CHARACTERISTICS_i + \varepsilon_i\end{array}.$$

		(1)		(2)		(3)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		1.11	**0.02**	1.59	**0.01**	1.64	**0.01**
Opportunism Proxies							
RESTATE_PCT	+	3.03	**0.03**				
UNEXACC1_RK	+			-0.02	0.61	-0.02	0.58
*UNEXACC1_RK * INC1*	+			0.05	0.60	0.04	0.66
*UNEXACC1_RK * INC2*	+			0.05	0.59	0.06	0.51
*UNEXACC1_RK * INC3*	-						
SEC_PCT	+	-1.14	0.12				
CEO_OWNΔ	+			3.72	**0.02**	3.81	**0.02**
*CEO_OWNΔ * INC1*	+			-4.58	0.34	-4.63	0.34
CFO_OWNΔ	+			-17.0	0.27	-13.29	0.29
*CFO_OWNΔ * INC1*	+			85.9	0.06	71.65	0.17
SUED	+					1.40	**0.00**
Third-party certification							
AUDITOR	-	-0.29	0.45	-0.43	0.31	-0.40	0.35
UWRANK	-	-0.11	**0.09**	-0.14	**0.05**	-0.15	**0.04**
VC	-	0.00	1.00	-0.05	0.85	-0.09	0.73
Firm characteristics							
AGE	-	-0.48	**0.00**	-0.48	**0.00**	-0.51	**0.00**
INTERNET_FIRM	+	0.61	**0.08**	0.67	**0.07**	0.67	**0.07**
DE_RATIO	+	-0.01	0.31	-0.01	0.32	-0.01	0.33
R & D	**?**	-0.35	**0.08**	-0.31	0.13	-0.25	0.23
SALES	-	-0.07	0.26	-0.06	0.38	-0.05	0.42
GROSS_MARGIN	-	0.00	0.93	0.01	0.75	0.01	0.78
Deal, market, executive characteristics							
OFFER_PRICE	-	-0.04	0.13	-0.06	**0.06**	-0.06	**0.04**
INITIAL_RETURN	**?**	0.11	0.71	0.17	0.57	0.23	0.46
AVGUP_3MPRIOR	+	0.00	0.33	0.01	0.14	0.01	**0.10**
CEO_OWN	-			-0.48	0.44	-0.53	0.40
CFO_OWN	-			-3.59	0.14	-3.36	0.16
Pr > ChiSq		<0.0001		<0.0001		<0.0001	
Pseudo R^2		13%		15%		16%	
N		819		722		722	

Notes: We set the dependent variable, $DELIST$, equal to one if the IPO firm delists for negative reasons within five years of the IPO. Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. Per Demer and Joos (2007) we estimating the delisting model separately for technology and non-technology firms. Please refer to the Appendix for variable definitions and sources.

Table 6 (concluded)
Logistic regression examining the likelihood of delisting

Panel B – Technology sample

$$DELIST_i = \begin{array}{l}\delta_o + \delta_1 OPPORTUNISM_i + \delta_2 THIRD\_PARTY\_CERT_i + \delta_3 FIRM\_CHARACTERISTICS_i \\ +\delta_5 DEAL\_MKT\_EXEC\_CHARACTERISTICS_i + \varepsilon_i\end{array}.$$

		(1)		(2)		(3)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		-0.29	0.74	-0.01	0.99	0.10	0.92
Opportunism proxies							
RESTATE_PCT	+	4.60	**0.01**				
UNEXACC1_RK	+			-0.08	0.15	-0.09	0.11
*UNEXACC1_RK * INC1*	+			0.16	0.11	0.15	0.14
*UNEXACC1_RK * INC2*	+			-0.04	0.66	-0.03	0.80
*UNEXACC1_RK * INC3*	-						
SEC_PCT	+	-0.77	0.52				
CEO_OWNΔ	+			-3.27	0.62	-5.20	0.46
*CEO_OWNΔ * INC1*	+			-51.9	0.50	-63.97	0.48
CFO_OWNΔ	+			19.8	0.51	14.42	0.66
*CFO_OWNΔ * INC1*	+			-585	0.84	-536.9	0.86
SUED	+					2.05	**0.00**
Third-party certification							
AUDITOR	-	0.10	0.89	0.02	0.98	0.16	0.83
UWRANK	-	-0.05	0.54	-0.05	0.60	-0.07	0.45
VC	-	-0.05	0.87	-0.10	0.75	-0.04	0.90
Firm characteristics							
AGE	-	-0.43	**0.02**	-0.38	**0.05**	-0.44	**0.03**
INTERNET_FIRM	+	0.49	**0.09**	0.46	0.12	0.52	**0.08**
DE_RATIO	+	0.01	0.44	0.01	0.40	0.01	0.36
R & D	**?**	-0.14	0.23	-0.21	**0.10**	-0.21	**0.10**
SALES	-	-0.04	0.31	0.00	0.95	0.00	0.96
GROSS_MARGIN	-	0.00	0.11	0.00	**0.08**	0.00	**0.07**
Deal, market, executive characteristics							
OFFER_PRICE	-	-0.06	**0.05**	-0.06	0.11	-0.07	**0.05**
INITIAL_RETURN	**?**	0.09	0.59	0.01	0.94	0.06	0.73
AVGUP_3MPRIOR	+	0.00	0.39	0.00	0.41	0.01	0.27
CEO_OWN	-			-0.44	0.66	-0.65	0.53
CFO_OWN	-			-0.67	0.85	-0.08	0.98
Pr > ChiSq		<0.0001		0.03		<0.0001	
Pseudo R^2		8%		7%		10%	
N		849		762		762	

Notes: We set the dependent variable, *DELIST*, equal to one if the IPO firm delists for negative reasons within five years of the IPO. Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. Per Demer and Joos (2007) we estimating the delisting model separately for technology and non-technology firms. Please refer to the Appendix for variable definitions and sources.

Table 7
Logistic regression predicting SEC enforcement actions

$$SEC_i = \theta_o + \theta_1 OPPORTUNISM_i + \theta_2 DAMAGES_i + \theta_3 SIZE_i + \theta_4 EXEC\_OWN_i + \varepsilon_i .$$

		(1)		(2)		(3)		(4)		(5)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		17.25	**0.08**	13.40	0.15	8.40	0.37			26.07	**0.02**
Opportunism proxies											
UNEXACC1_RK	+	0.28	**0.04**					0.32	**0.03**	0.28	**0.05**
UNEXACC2_RK	+			0.24	**0.06**						
RESTATE	+					2.25	**0.00**				
SEC_PCT	+	-5.56	0.17	-5.80	0.15	-3.92	0.30				
CEO_OWNΔ	+							-19.34	0.18		
CFO_OWNΔ	+									-24.72	0.78
Controls											
DAMAGES	+	0.43	**0.05**	0.44	**0.05**	0.26	0.23	0.82	**0.01**	0.67	**0.01**
PROCEEDS	**?**	-1.13	**0.05**	-0.90	**0.10**	-0.59	0.26	-2.18	**0.00**	-1.64	**0.01**
CEO_OWN	**?**							-1.77	0.42		
CFO_OWN	**?**									-38.87	0.53
Pr > ChiSq		0.015		0.030		<0.0001		<0.0001		0.030	
Pseudo R^2		18%		16%		25%		27%		19%	
N		72		72		72		72		72	

Notes: We limit this analysis to IPO firms that faced litigation based on behavior during the IPO process (N = 72). Please refer to the Appendix for variable definitions and sources.

Table 8
Logistic regression predicting CEO turnover

$$CEO\_TURNOVER_i = \begin{aligned} &\lambda_o + \lambda_1 OPPORTUNISM_i + \lambda_2 SUED_i + \lambda_3 CEO\_CHAIRMAN_i \\ &+\lambda_4 CEO\_AGE_i + \lambda_5 CEO\_FOUNDER_i + \lambda_6 ABRET_i \\ &+\lambda_7 ROA + \lambda_8 ASSETS_i + \lambda_9 CEO\_OWN_i + \lambda_{10} CFO\_OWN_i + \varepsilon_i \end{aligned} .$$

		(1)		(2)		(3)		(4)		(5)		(6)	
	Pred.	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**	**Coef.**	**Pr >|t|**
Intercept		-1.44	**0.01**	-1.61	**0.00**	-1.35	**0.01**	-1.20	**0.03**	-1.39	**0.01**	-1.51	**0.01**
Opportunism proxies													
UNEXACC1_RK	+	0.01	0.72					0.00	0.98	0.04	0.22		
*UNEXACC1_RK * INC1*	+							0.01	0.84				
*UNEXACC1_RK * INC2*	+							0.03	0.67				
*UNEXACC1_RK * INC3*	-									-0.15	**0.03**		
UNEXACC2_RK	+			0.05	**0.10**							0.07	**0.04**
*UNEXACC2_RK * INC3*	-											-0.10	0.16
RESTATE	+					0.98	**0.04**						
SEC_PCT	+	-0.43	0.39	-0.42	0.40	-0.39	0.43						
CEO_OWNΔ	+							3.96	**0.08**	4.12	**0.07**	3.94	**0.08**
*CEO_OWNΔ * INC1*	+							-0.20	0.98	0.04	0.99	0.57	0.93
CFO_OWNΔ	+							-4.83	0.54	-4.05	0.61	-5.16	0.52
*CFO_OWNΔ * INC1*	+							-11.1	0.77	-13.5	0.71	-11.0	0.77
SUED	+	1.17	**0.00**	1.14	**0.00**	0.94	**0.01**	1.23	**0.00**	1.18	**0.00**	1.17	**0.00**
Controls													
CEO_CHAIRMAN	-	-1.02	**0.00**	-1.02	**0.00**	-1.04	**0.00**	-0.87	**0.00**	-0.89	**0.00**	-0.87	**0.00**
CEO_AGE	+	0.01	0.60	0.00	0.67	0.01	0.63	0.01	0.43	0.01	0.38	0.01	0.46
CEO_FOUNDER	-	-0.43	**0.02**	-0.44	**0.02**	-0.45	**0.02**	-0.15	0.47	0.47	0.17	0.29	0.42
ABRET	-	0.02	0.30	0.02	0.27	0.02	0.33	0.02	0.35	0.02	0.31	0.02	0.28
ROA	-	-0.69	**0.00**	-0.73	**0.00**	-0.68	**0.00**	-0.61	**0.00**	-0.62	**0.00**	-0.65	**0.00**
ASSETS	**?**	-0.05	0.32	-0.04	0.43	-0.06	0.25	-0.11	**0.03**	-0.12	**0.02**	-0.11	**0.04**
CEO_OWN	-							-3.94	**0.00**	-3.90	**0.00**	-3.96	**0.00**
CFO_OWN	-							1.19	0.57	1.19	0.57	1.36	0.51
Pr > ChiSq		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
Pseudo R^2		10%		10%		10%		12%		13%		13%	
N		1,404		1,404		1,404		1,282		1,282		1,282	

Notes: Our sample includes IPOs that took place during the period of January 1996 through December 2004. Of the 1,668 IPOs used in our analyses, 72 were sued based on information reported during the IPO process. The sample size falls for this analysis because of missing data (primarily caused by firm failure or acquisition). Please refer to the Appendix for variable definitions and sources.