

To comply or not to comply: understanding the discretion in reporting public float and SEC regulations

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**To Comply or Not to Comply:
Understanding the Discretion in Reporting Public Float and SEC Regulations***

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Abstract

This paper documents how firms exercise discretion in defining affiliates and reporting public float in response to SEC regulations. I find that firms with higher expected compliance costs under Section 404 of the Sarbanes-Oxley Act (SOX) of 2002 tend to classify more shares as affiliated and report lower public float. In contrast, firms issuing seasoned equity are less likely to underreport public float, possibly due to favorable regulatory treatment for large issuers. These incentives are weakened when future regulatory changes render float less important.

Keywords: SEC regulations, public float, Sarbanes-Oxley Act, Section 404, Security Registration

JEL classification: G18, K22, M41, M4

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1. Introduction

The U.S. Securities and Exchange Commission (SEC) often relies on bright-line thresholds for public float when establishing compliance rules for firms. Some regulations favor firms above a public float threshold; others benefit firms below a threshold, relieving them from burdensome compliance requirements. This paper investigates how firms exercise discretion when measuring public float to influence which rules apply to them.

Public float is the market value of all common equity held by *non-affiliates*; firms report it on the first page of their 10-Ks or 10KSBs. In 1997, the SEC proposed that *affiliates* should include executives, directors, and blockholders with greater than ten percent ownership (SEC 1997). However, this proposal was never finalized, leaving firms with discretion in defining affiliates. For example, of the 1,134 sample observations between 2003 and 2006, 128 consider all five percent blockholders as affiliates, while 109 use ten percent, two use 20 percent, and the remaining 770 do not disclose how they define affiliates.

When different rules apply to firms above or below a float threshold, firms may exercise discretion in reporting public float, especially when compliance involves material differences in costs and benefits. I focus on two regulations that rely on a float threshold of \$75 million: Section 404 of the Sarbanes-Oxley Act (SOX) of 2002 and the registration requirement for seasoned equity offerings (SEOs).

Section 404 contains two provisions: 404(a) requires a firm's management to evaluate the effectiveness of internal control over financial reporting, and 404(b) requires auditors to attest to management's assessment. The high compliance costs of Section 404 for small firms are well documented (e.g., Krishnan, Rama, and Zhang 2007; Zhang 2007; Iliev 2009). To alleviate this burden, the SEC set different compliance schedules for SOX Section 404 for firms of different sizes (SEC 2002). If a firm reports a float *below* the \$75 million threshold, it may qualify as a non-accelerated filer. While accelerated filers started 404 compliance in 2004, non-accelerated filers

could wait until three years later. The extension could have saved \$2 million for a non-accelerated filer, based on the annual compliance cost of \$750,000 for a small firm during the period (SEC 2009). Such savings may motivate some firms to report a lower float by counting more shares as affiliated.

The SEC does not always give small firms favorable treatment. As of 2007, only firms with public float *above* \$75 million could register seasoned equity offerings (SEOs) on Form S-3, also called the short form. This form has advantages over alternatives (e.g., Form S-1). An eligible firm does not need to repeat information disclosed on prior financial statements. Future financial statements also can be incorporated by reference, and firms can register securities on the shelf, which gives them more control over the timing of their offerings. The SEC estimates that a firm saves 717 hours or approximately \$250,000 by preparing the short form (SEC 2007c)

¹. Although it is hard to estimate the value of shelf registration, such an option is valuable. Hence SEO issuers may prefer reporting a higher public float by counting fewer shares as affiliated.

I hand-collect the reported public float on 10-Ks from EDGAR between 2003 and 2006. Using ownership information from Thomson Insider Filing Data, I calculate a benchmark public float following the original proposal of the SEC—that is, I classify all ten percent blockholdings and shares held by executive officers and directors as affiliated. A firm is considered to underreport public float if it reports a float less than its benchmark float.

¹ The SEC estimates that the time required to prepare Form S-3 and S-1 is 459 hours and 1,176 hours respectively, 25 percent of which is internal labor valued at \$175 per hour and 75 percent of which is external labor valued at \$400 per hour. (SEC 2007c, pages 49 and 51). The cost savings for preparing Form S-3 is then estimated to be 717 hours (1,176-459), or \$246,469 (=717*(0.25*\$175+0.75*\$400)).

I find that firms with higher expected Section 404 compliance costs report lower float than their benchmark. Such firms are also more likely to report below the \$75 million threshold when their benchmark float is at (or above) the threshold. In contrast, SEO issuers are less likely to underreport their float, as only larger firms could use the more cost effective registration form.

SEO issuance also affects the association between float reporting and Section 404 compliance costs. Because float increases following SEOs, SEO issuers would need to comply with Section 404 sooner rather than later; thus they may find underreporting less beneficial. Consistent with this prediction, the association between Section 404 compliance costs and float reporting is significant only for firms that do not issue SEOs.

I further find that the association between Section 404 compliance costs and float reporting is especially strong for firms with a benchmark float *just above* \$75 million. The association between SEO issuance and float reporting is strong for firms with a benchmark float *just below* the \$75 million threshold. I do not find similar results when the threshold is replaced with two placebo thresholds—\$50 million and \$100 million.

Next, I examine regulatory changes that render public float thresholds less relevant. In 2007, non-accelerated filers began complying with 404(a), reducing the benefit of underreporting significantly. The introduction of Accounting Standard No.5 (AS5) in 2007 by the Public Company Accounting Oversight Board (PCAOB) further lowered the compliance costs for 404(b) (SEC 2009). The public float threshold of short-form eligibility for the SEO issuers was also removed in 2007. These reduced cost savings could lower the incentives for discretionary float reporting. Using a sample from 2007 to 2010, I find that the association between float reporting and Section 404 compliance costs is not as significant as in the pre-2007 period. Absent the float requirement for short-form registration, SEO issuers no longer report higher public float.

I also examine how other perceived costs and benefits of Section 404 compliance affect float decisions. I find that firms issuing debt tend to report lower float to reduce the cost of

borrowing. In contrast, firms being acquired soon report higher float, which suggests that Section 404 compliance could make a target firm more attractive to acquirers. Private benefits of control, as measured by the influence of CEOs on boards, does not affect float reporting.

This paper contributes to the literature in two ways. First, I show that firms exercise discretion in reporting public float when regulations use float thresholds to apply different rules. Because the SEC periodically reviews the validity of its float thresholds, my analysis may provide evidence to help determine whether any adjustment is warranted.

Second, this paper adds to the literature on SOX. Early studies document various actions firms take to avoid compliance. Some reduce the reported float by paying out more dividends and cutting investments (Gao, Wu, and Zimmerman 2009); others take a more drastic approach by going private or going dark (Engel, Haye, and Wang 2007; Leuz, Triantis, and Wang 2008). My paper highlights another way for firms to lower the compliance cost of SOX: by defining more shares as affiliated. Unlike actions examined in the prior literature, this type of discretion is less costly because it does not require firms to change their business strategies or operating environment.

The rest of the paper is organized as follows. Section 2 provides the hypothesis development and research design. Section 3 describes the data and presents the empirical analysis. Section 4 contains additional analysis, and Section 5 concludes.

2. Hypothesis Development and Research Design

Hypothesis development

Discretion in reporting public float

Public float measures the market value of all common equity held by non-affiliates. The SEC defines an affiliate as “an affiliate of, or person affiliated with, a specified person, is a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is

under common control with, the person specified.”² Although executive officers and directors are always considered affiliates, firms differ in how they treat blockholders because the SEC has not established a bright-line cutoff. For example, California Micro Devices Corp. considers shares held by a five percent owner as affiliated and excludes them from public float, whereas Vical Corp. counts ten percent owners as affiliates, along with executive officers and directors, and excludes their shares.

For purposes of this disclosure, common stock held by persons who hold more than 5% of the outstanding voting shares and common stock held by executive officers and directors of the Registrant have been excluded in that such persons may be deemed to be “affiliates” as that term is defined under the rules and regulations promulgated under the Securities Act of 1933. [Source: 10-K for California Micro Devices Corp. in 2003].³

Shares of Common Stock held by each officer and director and by each person who owns 10% or more of the outstanding Common Stock of the registrant have been excluded in that such persons may be deemed to be affiliates. [Source: 10-K for Vical Inc. in 2003].⁴

Ceteris paribus, excluding more blockholding shares results in a lower public float.

According to the proxy statement of California Micro Devices, two institutional owners own 11.9 percent and 7.7 percent of its shares, respectively.⁵ Using five percent to define affiliates would exclude shares owned by both blockholders from the reported public float; however, using ten percent to define affiliates only excludes shares owned by one of them. Based on its market cap as

² SEC Rule 405 under the 1933 Act. <http://www.gpo.gov/fdsys/pkg/CFR-2009-title17-vol2/xml/CFR-2009-title17-vol2-sec230-405.xml>.

³ <https://www.sec.gov/Archives/edgar/data/800460/000119312504102686/d10k.htm>.

⁴ https://www.sec.gov/Archives/edgar/data/819050/000110465904007082/a04-3224_110k.htm.

⁵ The two institutional owners are Kern Capital Management LLC and T. Rowe Price Associates: https://www.sec.gov/Archives/edgar/data/800460/000119380503000549/e300474_cmcdc-def14a.htm.

of the second fiscal quarter end in 2003, using five percent to define affiliates would result in a float that is \$10 million lower than using ten percent⁶.

Benchmark public float

According to a proposal from the SEC, affiliates should include executives, directors, and blockholders with greater than ten percent ownership (SEC 1997). I follow the proposed algorithm to calculate a benchmark public float for each firm to compare with what is reported on its 10-K. A firm is considered to underreport public float if the reported public float is less than its benchmark.

Although it appears that simply comparing the percentage a firm uses to classify blockholdings against the proposed ten percent threshold would be adequate, obtaining a benchmark public float is necessary for two reasons. First, many firms do not disclose how they classify blockholdings, which makes the comparison infeasible. Second, when there are no blockholdings under ten percent, a firm using five percent to classify blockholdings would report the same public float as its benchmark float. Such a firm is not considered to report float with discretion.

Incentives to report a low public float

In 2003, the SEC adopted rules implementing SOX Section 404, requiring a firm's management and an independent auditor to examine the effectiveness of the internal control over financial reporting (SEC 2003).⁷ Accelerated filers began compliance in fiscal year 2004 (SEC 2004); non-accelerated filers received multiple extensions over a few years and started to comply

⁶ The difference in float between using ten percent and five percent to classify affiliates is $7.7\% * \$7.25 \text{ per share} * 18,503,000 \text{ shares outstanding} = \$10,329,300$.

⁷ See Appendix 1 for a list of SEC rules and regulations on Section 404.

with 404(a) in fiscal year 2007 (SEC 2006). The main factor in determining a firm's filing status was whether its public float as of the second fiscal quarter-end exceeded \$75 million.⁸

There is extensive literature documenting the burden of complying with Section 404 for small firms. For example, Hartman (2007) reports that S&P Small-Cap firms experienced an average increase of over 300 percent in audit fees between 2001 and 2006, mostly due to initial Section 404 compliance. Additional compliance costs also included expenses paid to outside vendors as well as internal labor (SEC 2009; Alexander et al. 2014). The empirical evidence from event studies confirms the burden of Section 404. Zhang (2007) and Iliev (2010) document that non-accelerated filers experience positive abnormal returns around announcements of postponing Section 404 compliance. More direct estimates of overall compliance costs come from survey evidence. The SEC reports that the mean overall compliance costs for a firm with a float of less than \$75 million is over \$750,000 per year (SEC 2009).⁹ I argue that firms facing higher compliance costs are more likely to report a lower float by counting more shares as affiliated:

HYPOTHESIS 1. *Firms with higher expected Section 404 compliance costs are more likely to underreport public float and file as non-accelerated filers.*

Incentives to report a higher public float

Nevertheless, a small firm does not always get favorable treatment from regulators. Using public float to proxy for market following, the SEC has a history of allowing firms *above* a certain public float threshold to register new securities on Form S-3 (i.e., the short form). The eligibility

⁸ The second factor is a firm's filing status in the prior year: an accelerated filer could become a non-accelerated filer in the current year if its public float fell below \$50 million, not otherwise. Before 2005, the exit rules for accelerated filers were even more stringent, requiring both *revenue* and *public float* to be below \$25 million for two consecutive years.

⁹ Table 9 Panel A (SEC 2009).

threshold used between 1982 and 1992 was \$150 million, measured on any day within a 60-day window before registration (SEC 1982).¹⁰ The threshold was later lowered to \$75 million, due to “great advances in the electronic dissemination and accessibility of company disclosure transmitted over the Internet” (SEC 1992). Firms ineligible for Form S-3 could use Forms S-1 or S-2, depending on whether their reporting history exceeded three years.

The ability to conduct primary offerings on the short form “confers significant advantages on eligible companies” (SEC 2007a). First, it allows a firm to incorporate prior financial reports filed under the Securities Exchange Act of 1934 by simply referencing them. According to the SEC, using the short form has an estimated savings of approximately \$250,000 (SEC 2007c). Other advantages include forward-incorporating financial reports and shelf registration. When a firm makes new disclosures after registration, the prospectus is updated automatically without the need to amend the registration.¹¹ This enables a firm to access the capital market more quickly and efficiently, preventing delays in issuance. Registering securities on the shelf gives firms “more control over the timing of their offerings,” so they can “raise capital on more favorable terms.” Although these indirect advantages are hard to estimate, they are valuable. SEO issuers therefore have incentives to report higher public float:

HYPOTHESIS 2. Firms issuing SEOs have incentives to report higher public float than their benchmark public float to register on the short form.

¹⁰ An alternative eligibility requirement for Form S-3 is a minimum of \$100 million in float for registrants with an annual trading volume of at least 3 million shares. Public float thresholds do not apply to transactions involving primary offerings of nonconvertible investment-grade debt securities, certain rights offerings, dividend reinvestment plans and conversions, and offerings by selling shares of securities registered on a national securities exchange.

¹¹ Item 512(a) undertakings [17 CFR 229.512(a)].

Research design

I use the following ordinary least square and logit regressions to model float reporting as follows.

$$Diff_{pf} = \beta_0 + \beta_1 Segment + \beta_2 Assets + \beta_3 Big4 + \beta_4 SEO + \sum_i \beta_i Controls + \varepsilon \quad (1)$$

$$Prob(UnderReport=1) = Logit(\beta_0 + \beta_1 Segment + \beta_2 Assets + \beta_3 Big4 + \beta_4 SEO + \sum_i \beta_i Controls + \varepsilon) \quad (2)$$

The dependent variable in model (1), $Diff_{pf}$, measures the extent of underreporting. It is the difference between the public float reported by firms on their 10-Ks (Pf_{report}) and their benchmark public float (Pf_{bench}). The benchmark float is calculated following the SEC's proposed algorithm, that is, excluding shares held by directors, executive officers, and all ten percent blockholdings. The dependent variable in model (2), $UnderReport$, is an indicator variable, which equals one if a firm reports a float below \$75 million when its benchmark float is above the amount and zero otherwise. Its definition is tied to the \$75 million threshold used in regulations, thus providing a more direct test on the incentives in float reporting.

Compliance costs for Section 404 are comprised of the following main components, ordered in terms of relative magnitude: internal labor, 404 audit fees, outside vendors, and non-labor costs (SEC 2009; Alexander, Bauguess, Bernile, Leem, and Marieeta-Westberg 2014). Both studies identify firm size as a major driver for compliance costs. Iliev (2009) also shows that geographic segments and the size of auditors contribute to audit costs associated with compliance costs. I proxy for total expected compliance costs with three variables: the decile rank of total assets ($Assets$), the number of geographic segments ($Segment$), and a dummy variable for whether a firm hires a Big Four auditor ($Big4$)— all measured at the beginning of the year. According to Hypothesis 1, these proxies for compliance costs have a *negative* association with the difference between the reported float and the benchmark float and a *positive* association with the likelihood of underreporting.

I include an indicator variable, *SEO*, which equals one if a firm issues an SEO during the year of float reporting and zero otherwise. Hypothesis 2 predicts that SEO issuers tend to report higher float than their benchmark float and are less likely to report lower public float than their benchmark float.

Next, I add control variables that affect firms' incentives to comply with Section 404. To reflect the sticky nature of a firm's filing status, I include an indicator variable, *NA_{prior}*, equal to one if a firm was non-accelerated in the prior year and zero otherwise. A prior non-accelerated filer could keep its filing status if it reports a float below \$75 million, whereas a previous accelerated filer faces stricter exit rules—it needs to report public float below \$50 million (or \$25 million before 2005) to change filing status. Because a larger drop in public float is necessary for accelerated filers to qualify as non-accelerated filers, they are less likely to resort to float reporting to avoid compliance.

A related study by Gao et al. (2009) documents actions taken by some small firms to report lower public float and avoid Section 404 compliance. These actions (e.g., paying out more dividends, insiders acquiring more shares, and disclosing bad news before the second quarter-end) could change a firm's growth opportunities, ownership structure, and market cap. I control for the outcome of these actions with three variables: market-to-book (*MB*), benchmark public float (*Pf_{bench}*), and the market value of equity (*Mve*). Following Iliev (2010), I also add the squared and cubic terms of *Mve* to control for nonlinearity in firm size.

3. Empirical Analysis

Data and sample description

Table 1 summarizes the sample selection process. I start with all U.S. firms with annual data available on Compustat from 2003 to 2006. A sample firm has fiscal years ending on or after May 27, 2003, when the SEC first announced Section 404 compliance requirements (SEC 2002).

Its market cap at the second fiscal quarter end is between \$75 million and \$150 million. The lower bound was chosen because a firm with a market cap of less than \$75 million also has a float below \$75 million. Thus there is no need to underreport float. The upper bound excludes large firms, for the sake of a meaningful comparison, and reduces the burden of data collection. Financial institutions and firms in regulated industries are excluded from the sample as they already have similar internal controls in place. I also require sample firms to have at least one year of filing history since IPO firms are exempt from Section 404 compliance during the first year.

[INSERT TABLE 1 ABOUT HERE]

Next, the reported public float is manually collected from firms' 10-K or 10-KSB on EDGAR; I hand-collect their previous filing status from the same source. Observations with either variable missing are dropped.¹² I also require nonmissing shares outstanding and stock price on the measurement date of public float, as well as nonnegative market-to-book ratio, and nonmissing auditor information from Audit Analytics. The sample is then merged with the Securities Data Company's (SDC) database to obtain information on whether a firm has conducted primary seasoned equity offerings.

Finally, I construct the benchmark public float using the Insider Filing Data Feed from Thomson Financial. Following the public float algorithm suggested by the SEC, I identify all executive officers, directors, and ten percent blockholders as affiliates and focus on the most

¹² A couple of firms report filing status inconsistent with the reported public float, and I treat these as missing public float. For example, Reinhold Industries Inc. reported a public float of \$76 million as of the second fiscal quarter-end for 2005, but it filed as a non-accelerated filer. Another example is Dyax Corp., an accelerated filer that didn't report a float for 2006.

recent transaction made by each affiliate within the most recent three years.¹³ I then sum the number of affiliated shares as of the measurement date of public float and subtract these from the total number of shares outstanding on the same date.¹⁴ Multiplying the number of shares held by non-affiliates by the closing price yields the benchmark public float. The above sample selection criteria result in a based sample of 1,134 firm-year observations.

Panel B tabulates what the sample firms disclose as affiliates on their 10-Ks. Approximately 68 percent do not disclose such information (770 out of 1,134), and the rest specify executive officers and directors as affiliates. The classification of blockholders is less uniform. Many do not mention any blockholders (112). Other firms use either five percent or ten percent to define blockholders (128 and 109). Two use 20 percent, and about a dozen do not use any percentage of ownership to classify affiliates (13). They describe their affiliates as “one blockholder,” “any affiliates,” or “13D/13G filers.”

Descriptive statistics

Table 2 Panel A presents summary statistics for the base sample, partitioned by firms' current filing status. An accelerated filer reports a float \$10 million higher than the benchmark float, whereas a non-accelerated filer reports a float \$5 million lower than the benchmark float (10.092 vs. -5.156). This suggests that some non-accelerated filers could have obtained their filing status through underreporting public float. Similarly, accelerated filers are less likely than non-

¹³ Executive officers include the chief executive officer, chief financial officer, chief investment officer, chief technology officer, executive vice president, or president.

¹⁴ Before the introduction of accelerated filer status in 2002 (SEC 2002), public float was measured on any day before the filing date; since then, it has been measured on the most recent second fiscal quarter-end.

accelerated filers to report float less than \$75 million when their benchmark float is above \$75 million (0.060 vs. 0.266).

[INSERT TABLE 2 ABOUT HERE]

Although the number of segments does not differ between the two groups (1.508 vs. 1.510), accelerated filers have more assets (4.917 vs. 3.570), are more likely to choose Big Four auditors (0.783 vs. 0.682), and issue more SEOs than non-accelerated filers (0.085 vs. 0.040). About one-third of accelerated filers filed as non-accelerated filers in the prior year, whereas almost all non-accelerated filers had the same filing status in the prior year (0.289 vs. 0.983). This suggests that some non-accelerated filers became accelerated filers through growth and began complying with Section 404, while few accelerated filers switched their filing status.

Panel B reports the correlation matrix, with similar inferences from the Pearson and Spearman correlations. Firms with more segments report lower public float than their benchmark floats (-0.08); SEO issuers report higher public float than their benchmark floats (0.06). Both are statistically significant at the five percent level. There is no statistically significant relation between float reporting and assets or auditors. These preliminary results provide some support for Hypotheses 1 and 2. I next turn to regression analysis to test the hypotheses.

Regression results

I report the multiple regression results for models (1) and (2) in Table 3. Panel A shows firms with more segments and more assets report lower public float than their benchmark float (-2.986, $p=0.005$; -0.603, $p=-0.026$). Because both are proxies for the expected compliance costs of Section 404, the results are consistent with Hypothesis 1: firms expecting higher compliance costs underreport public float. Similar to the univariate results, the coefficient on *Big4* is not statistically significantly different from zero (0.197, $p=0.893$), suggesting that auditor choice does not affect float reporting.

[INSERT TABLE 3 ABOUT HERE]

Column (2) further examines the link between underreporting and Section 404 compliance costs, with the dependent variable being an indicator variable, *UnderReport*. Consistent with the findings in Column (1), the results suggest that a firm with more segments or more assets is more likely to report below the threshold of \$75 million when its benchmark float exceeds the threshold (0.441, $p=0.006$; 0.082, $p=0.050$).

The coefficient on the variable, *SEO*, measures the float reporting incentives for SEO issuers. As predicted by Hypothesis 2, Column (1) shows that SEO issuers report higher float than their benchmark float (7.422, $p=0.002$). Column (2) reports a negative coefficient on *SEO* (-0.722 , $p=0.036$), suggesting that SEO issuers are less likely to report public float below the \$75 million threshold when their benchmark float exceeds it. Collectively, the results in Table 3 support Hypotheses 1 and 2.

Next, I explore whether SEO issuance affects the association between float reporting and Section 404 compliance costs. SEO issuers tend to be high-growth firms (Loughran and Ritter 1997). If an issuer expects to expand quickly, it has limited savings from underreporting because its growth will result in 404 compliance sooner rather than later. Hence SEO issuers may not consider compliance costs as relevant as non-issuers when reporting public float.

Table 4 summarizes the results when I partition the sample based on whether a firm issues an SEO in the same year. Columns (1) and (2) contain the results for SEO issuers. Neither *Segment* nor *Assets* is statistically significant in these two columns (2.417, $p=0.548$; -0.302 , $p=0.775$; -0.319 , $p=0.703$; -0.358 , $p=0.163$). In contrast, Columns (3) and (4) show that both proxies are significant in the decision to report float for non-SEO issuers (-3.354 , $p=0.002$; 0.460, $p=0.005$; -0.713 , $p=0.013$; 0.108, $p=0.014$). The evidence indicates that only non-SEO issuers consider compliance costs relevant when reporting public float.

[INSERT TABLE 4 ABOUT HERE]

Note that the number of SEO issuers is much smaller than the number of non-SEO issuers. Normally, a lack of statistical significance in a small sample could be attributed to low power. That is not likely here as the coefficients for SEO issuers often have different signs than those for non-SEO issuers, suggesting different incentives to report public float between the two groups.

Alternative placebo thresholds

In this section, I explore the incentives in reporting public float with two placebo thresholds not used in Section 404 compliance and securities registration, that is, \$50 million and \$100 million. First, I partition the sample using the placebo thresholds along with the actual threshold. The incentives to underreport public float to avoid Section 404 should be more pronounced for firms with benchmark public float *just above* \$75 million. On the one hand, if these firms do not underreport float, they would have crossed the threshold and be required to comply with Section 404. On the other hand, discretion in reporting public float is limited to a firm's ownership structure, in particular, the market value of shares held by blockholders with less than ten percent of the shares. A firm with benchmark float far above the \$75 million threshold may not avoid 404 compliance through underreporting due to the ownership constraint. Following a similar argument, incentives to report higher float for SEO issuers could be strong for those with benchmark float *just below* the \$75 million threshold but not too far below.

Table 5 Panel A tabulates results from estimating model (1) based on the benchmark public float and three thresholds: \$50 million, \$75 million, and \$100 million. Consistent with the above predictions, the variable *Segment* is negative and significant only in Column (2), when the benchmark float is between \$75 million and \$100 million (-6.817 ; $p < 0.001$). In the other three columns, the coefficients are all negative but not significant statistically (-0.503 , $p = 0.828$; -1.889 , $p = 0.354$; -2.054 , $p = 0.400$). Moreover, firms with benchmark float between \$50 million and \$75

million have the most positive and significant association between SEO issuance and float reporting (10.565, $p=0.017$). The association is not significant for firms with benchmark public float less than \$50 million (6.967, $p=0.274$), possibly because it is too far below the \$75 million.

[INSERT TABLE 5 ABOUT HERE]

Next, I use the placebo thresholds to define indicator variables similar to *UnderReport*. In particular, *UnderReport*₁₀₀ equals one if a firm reports higher than \$100 million while its benchmark float is below \$100 million and zero otherwise. Another indicator variable, *UnderReport*₅₀, is defined similarly using a placebo threshold of \$50 million. Table 5 Panel B reports the estimation results of model (2) with these two indicators as dependent variables.

Note that many firms identified as underreporting by the actual threshold of \$75 million are the same ones identified by the two placebo thresholds. When a firm with a benchmark float of \$110 million reports a float of \$70 million, both *Underreport* and *Underreport*₁₀₀ equal one. When a float of \$40 million is reported instead, all three indicator variables equal one. To address biased results due to such observations, I drop an observation if it is identified as underreporting using the \$75 million threshold (i.e., *UnderReport* = 1) and estimate model (2) again in Columns (3) and (4).

First, the association between compliance costs and float reporting in the first two columns is not as strong as in Table 3. The coefficient on *Segment* is not significant in Column (1), although it is significant in Column (2) (0.058, $p=0.786$; 0.592, $p=0.003$). The coefficient on *Assets* is marginally significant in Column (1) and not significant in Column (2) (0.089, $p=0.089$; 0.045, $p=4.407$). Second, after firms avoiding Section 404 compliance are dropped in Columns (3) and (4), neither *Segment* nor *Assets* is significantly associated with underreporting based on the placebo thresholds. Third, the coefficient on *SEO* is not significant in any of the four columns. Taken together, the analysis with the placebo thresholds supports how firms report float with discretion to influence which SEC rules to comply with.

Changes in regulations and disappearing incentives: 2007–2010

In 2007, regulatory changes reduced the relevance of public float thresholds in Section 404 compliance and SEO registrations. In this section, I examine the period between 2007 and 2010 when changes in regulations result in lower incentives to report float with discretion.

First, the benefits of avoiding Section 404 were reduced when non-accelerated filers were required to start complying with 404(a) in 2007. A survey conducted by the SEC shows that audit fees associated with 404(b) are about one-third of total 404 compliance costs (SEC, 2009); this implies that the cost savings of filing as non-accelerated filers after 2007 are about one-third of that between 2003 and 2006. In addition, the SEC approved AS5 (proposed by the PCAOB) in 2007, which established new standards for the independent audit of internal control in financial reporting under Section 404(b) (SEC 2007b). The standards decreased the cost of compliance with 404(b) by another 28 percent.¹⁵ Collectively, the expected cost savings for non-accelerated filers after the changes in regulations are about a quarter of those before, thereby decreasing firms' incentives to underreport public float.

Second, the SEC extended the eligibility for short form registration to all firms with a 12-month reporting history in December 2007, regardless of their public float (SEC 2007c).¹⁶ Although firms with a public float of less than \$75 million are still subject to a new issuance cap at one-third of their float within a 12-month period, they may care less about discretionary float reporting than before.

¹⁵ Based on Table 9 Panel A in SEC (2009), the mean 404(b) audit costs before 2007 and after 2007 are \$310,613 and \$171,784. The average change is $-\$87,220$, a decrease of 28 percent = $(\$171,784 - \$310,613) / \$310,613$.

¹⁶ Another requirement is that one class of common shares is listed on a national securities exchange.

I follow two sample selection procedures to examine the disappearing incentives in the post-2007 period. I first follow the same sample selection criteria as described in Section 3, requiring firms to have a market cap between \$75 million and \$150 million. As before, I hand-collect the reported public float and previous filing status from 10-Ks and the benchmark float is calculated from Thomson Insider Data; this results in 590 firm-year observations from 2007 to 2010.

Table 6 Panel A reports the estimation results of models (1) and (2) using this sample. The variable *Segment* is no longer significantly associated with float reporting (1.667, $p=0.489$; 0.287, $p=0.449$); neither is SEO issuance (1.917, $p=0.587$; -0.427, $p=0.519$). The variable *Assets* loads in model (1) but not in model (2) (-0.556, $p=0.074$; 0.021, $p=0.691$). The evidence suggests that firms no longer have strong incentives to exercise discretion in reporting float in the post-2007 period.

[INSERT TABLE 6 ABOUT HERE]

Note that the pre-2007 and post-2007 samples are not necessarily comprised of the same firms despite using the same sample selection procedure. For example, a firm in the pre-2007 period is not in the latter sample if its market cap grows beyond the upper bound of \$150 million. To alleviate the concern that the changing sample contributes to the change in results, I then use an alternative sample selection procedure. In particular, a sample firm is included in the post-2007 sample only if it appears in the pre-2007 sample. This results in 1,484 firm-year observations for the post-2007 period.

I report estimation results using the constant sample in Table 6 Panel B. Column (1) shows that the variable *Segment* is not significantly associated with the reported public float (0.067, $p=0.987$), but it is positively associated with the likelihood of underreporting public float around the \$75 million threshold (1.096, $p=0.001$). This suggests that, although firms with more segments do not report lower public float on average, some still try to stay below the Section 404

compliance threshold when their benchmark float exceeds it. Unlike previous findings, float reporting is not statistically significantly related to assets ($-0.023, p=0.961$; $0.084, p=0.209$) or SEO issuance ($-0.129, p=0.985$; $-0.229, p=0.834$). These results are consistent with weakened incentives to report public float with discretion following regulatory changes.

Robustness checks

In this section, I check whether the results are robust to alternative specifications. First, I probe the possibility that SEO issuers' float biases the degree of underreporting. Issuing an SEO could increase both a firm's reported public float and its benchmark public float. If the issuer uses five percent to define affiliates and some new shares are sold to blockholders with between five percent and ten percent ownership, these shares would be excluded from the reported public float but not from the benchmark float. Hence the reported float for the issuer would be even lower than its benchmark float after the SEO.

To alleviate the effect of concurrent SEOs on float reporting, I replace the indicator variable *SEO* with *SEO_{future}*, an indicator variable equal to one if a firm issues an SEO in the following two years and zero otherwise. Table 7 Panel A presents estimation results for models (1) and (2) with the new indicator variable *SEO_{future}*. The coefficients on the proxies for Section 404 compliance costs have similar magnitudes and significance as in Table 3. Also similar to Table 3, firms with future SEOs report higher public float than benchmark float ($5.787, p=0.003$), and are less likely to report public float below \$75 million while their benchmark float exceeds it ($-0.590, p=0.042$).

[INSERT TABLE 7 ABOUT HERE]

Next, I use an alternative benchmark float constructed with ownership data from proxy statements. The current benchmark public float is calculated based on ownership information from Thomson Insider Data. It could be a noisy measure as I use trades in a three-year window to

identify affiliated officers and directors. If a person does not trade in this window, I assume that the person is no longer affiliated with the firm, which would inflate the benchmark float if the assumption does not hold. Similarly, when one does trade in the window, he or she may no longer be with the firm as of the second fiscal quarter-end. This could lower the benchmark float estimate when more shares are counted as affiliated.

The alternative approach, that is, using the proxy ownership data to calculate the alternative benchmark float is imperfect for several reasons. First, stock ownership on the proxy statements is often measured some time before the proxy is filed, which is unlikely to coincide with the date when the reported public float is measured. Therefore changes in ownership between the two dates cannot be reflected in the alternative benchmark. Second, the percentage of ownership often includes shares to be acquired through outstanding warrants or options that expire within a short period (e.g., 60 days). In the event that these shares are nontrivial, more noise is introduced into the alternative benchmark.

I first obtain detailed ownership of executive officers, directors, and blockholders by reading the proxy statements on Edgar for each firm-year observation in the base sample. To construct the alternative benchmark public float, Pf_{proxy} , I follow the same algorithm as before. In particular, the alternative benchmark float is the firm's market cap minus the value of shares held by all executive officers, directors, and ten percent blockholders. Next, I re-estimate models (1) and (2) with the alternative benchmark and report the results in Table 7.

With the alternative estimate of the benchmark float, firms with more segments report lower public float ($-2.782, p=0.005$) and are more likely to report less than \$75 million when their benchmark exceeds it ($0.343, p=0.062$). The variable *Assets* maintains the same signs as in Table 3, but it is not significant here. As expected, SEO issuers report higher public float than their benchmark float ($5.295, p=0.017$) and are less likely to report below the \$75 million threshold

(-0.983, $p=0.070$). These results are qualitatively similar to those using the original benchmark public float.

4. Other incentives for Section 404 compliance

Aside from direct compliance costs, Section 404 has other implications for compliant firms. In this section, I explore a few variables with the potential to affect firms' incentives to delay Section 404 compliance: (1) whether the firm expects to raise more debt, (2) whether it is a potential target of acquisition, and (3) whether insiders want to avoid compliance to protect their private benefits of control.

First, small firms that begin Section 404 compliance often disclose weaknesses in their internal control structures (Doyle, Ge, and McVay 2007). Such a disclosure could hurt them in capital markets through a lower debt rating (Elbannan 2008), higher cost of debt (Costello and Wittenberg-Moerman 2011; Dhaliwahi et al. 2011), tighter covenants, or fewer willing lenders (Kim et al. 2011). Therefore, if firms have significant financing needs in the near future, they might be less willing to comply with Section 404 and more likely to underreport float.

Second, Section 404 compliant firms may have a better exit strategy. Mergers and acquisitions present difficulties in terms of acquirers maintaining effective internal control. Deloitte & Touche considers ineffectively controlled post-merger integration as a key impediment for Section 404 compliance.¹⁷ *Ceteris paribus*, a compliance-ready target firm may appear more attractive than an alternative due to lower costs of due diligence and information risk for a public

¹⁷ Ineffectively controlled post-merger integration is ranked fourth in the top ten threats to compliance. See "Sarbanes-Oxley Section 404: 10 Threats to Compliance":

<http://www.deloitte.com/us/tenthreats>.

acquirer. Therefore I predict that firms with the potential to be acquired are less likely to underreport float and avoid Section 404 compliance.

Third, Leuz et al. (2008) provide evidence that some firms go dark because controlling insiders have incentives to avoid outside scrutiny and protect their private benefits following SOX. Although Gao et al. (2009) do not find private benefits of control to be associated with costly actions that small firms take, it remains an empirical question whether controlling insiders would avoid Section 404 by underreporting float. If board monitoring is weaker when the CEO is also the chairman of the board, insiders may underreport float to protect their private control benefits.

I define $Debt_{future}$ equal to one if a firm doubles its long-term debt in one of the following two years and zero otherwise. The variable Acq_{future} equals one if a firm is delisted as a result of being acquired by another firm in the following two years and zero otherwise. The variable $CEOchair$ is hand-collected from the proxy statements; it equals one when the CEO also takes the role of chairman of the board and zero otherwise.

Table 8 tabulates the estimation results for models (1) and (2) after including additional proxies for these incentives. The coefficients for $Segment$, $Assets$, and SEO are similar to those documented in earlier tables, both in magnitude and statistical significance. This suggests my previous inferences are robust to the alternative specification. I next focus on the coefficients of other proxies for Section 404 compliance incentives. As predicted, firms issuing future debt report lower public float than their benchmark float ($-2.923, p=0.048$), while firms acquired in the near future tend to do the opposite ($2.735, p=0.041$). In Column (2), these two variables have the predicted signs but are not statistically significantly different from zero ($0.290, p=0.186$; $-0.328, p=0.138$). I do not find any association between the CEO as a chairman and the decision to report float ($0.280, p=0.822$; $-0.249, p=0.214$).

[INSERT TABLE 8 ABOUT HERE]

5. Conclusion

According to the SEC, public float is “a widely used eligibility criterion” to measure the breadth of market following. In the absence of clear-cut rules for classifying blockholdings as affiliated shares, firms have discretion in defining affiliates and measuring public float. I document how firms use this discretion when certain SEC regulations involve public float thresholds—in particular, SOX Section 404 compliance requirements and SEO registration requirements.

The results show that firms with high Section 404 compliance costs underreport public float to delay compliance, while SEO issuers report higher public float than their benchmark float. The incentives to underreport public float are concentrated among firms with benchmark float just above \$75 million; the incentives to report higher float for SEO issuances are strong for firms with benchmark float just below \$75 million. When changes in SEC regulations render float less relevant, firms no longer have strong incentives to manage public float.

These findings could matter to researchers and policymakers alike. This paper is the first to document that discretion in defining affiliates influences regulatory compliance. Although I analyze only two regulations, my research method could apply to other SEC regulations containing bright-line public float thresholds. For example, the current roadmap for International Financial Reporting Standards (IFRS) adoption gives non-accelerated filers an additional two years compared with larger firms. If early adoption of IFRS is costly, it could increase the incentives of non-accelerated filers to underreport public float. Moreover, public thresholds are often set somewhat arbitrarily. Analyzing how firms behave around established thresholds may help to determine whether any adjustments are warranted.

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Appendix 1

SEC rules and regulations on public float

Panel A: Public float and SOX Section 404

Date	Event	Details
September 5, 2002	Accelerated/non-accelerated filers	The SEC adopted final rules regarding accelerating filing deadlines for annual and quarterly reports for “accelerated filers.” One requirement for an accelerated filer is that the firm has at least \$75 million public float at the end of the second fiscal quarter. To exit the accelerated status, a firm’s public float and revenue must fall below \$25 million for two years in a row (SEC Release No. 33-8128).
May 27, 2003	Section 404	The SEC adopted rules regarding compliance of Section 404 of SOX. Accelerated filers must comply with the Section 404 for fiscal years ending after June 15, 2004. Non-accelerated filers must comply by April 15, 2005 (SEC Press Release No. 2003-66).
February 24, 2004	1 st extension	The SEC extended the compliance dates of Section 404. Accelerated filers must begin to comply for its first fiscal year ending on or after Nov. 15, 2004. Non-accelerated filers must comply if its fiscal year ends on or after July 15, 2005 (SEC Press Release No. 2004-21).
March 2, 2005	2 nd extension	The SEC extended the compliance date of Section 404 for non-accelerated filers by one year. The effective compliance date was July 15, 2006 (SEC Press Release No. 2005-25).
September 22, 2005	3 rd extension	The SEC extended the compliance date of Section 404 for non-accelerated filers to July 15, 2007 (SEC Release No. 33-8618).
December 15, 2006	4 th extension	The SEC adopted an extension to postpone the date for non-accelerated filers to comply with Section 404 of the SOX. A non-accelerated filer must comply with 404(a) and 404(b) on or after December 15, 2007, and December 15, 2008, respectively (SEC Press Release No. 2006-210, SEC Release No. 33-8760).
June 20, 2008	5 th extension	The SEC approved a one-year extension of the compliance date for smaller companies to meet the Section 404(b) auditor attestation requirement. The revised deadline is December 15, 2009 (SEC Press Release No. 2008-116).
October 13, 2009	6 th extension	The SEC extended the compliance date of 404(b) for smaller companies to June 15, 2010 (SEC Release No. 33-9702).
July 21,	Permanent	The Dodd-Frank Wall Street Reform and Consumer Protection

2010 exemption Act (Dodd-Frank Act) was signed into law. It includes a permanent exemption for non-accelerated filers from 404(b) of the Sarbanes Oxley Act of 2002.

Panel B: Public float and registration

Date	Event	Details
March 2, 1982	Integration	The SEC revised rules and forms regarding the registration of securities under the Securities Act of 1933. To be eligible to issue primary security offering on Form S-3, a firm must have at least three years of reporting history and a minimum of \$150 million public float. Firms not meeting the threshold are eligible if they have at least \$100 million float and annual trading volume of at least 3 million shares. Investment grade debt offerings are not subject to the float requirement if reporting history is satisfied (SEC Release No. 33-6383).
October 22, 1992	Lowering threshold for Integration	The SEC revised the rules regarding the Form S-3 eligibility requirements: (a) reducing the reporting history from 36 months to 12 months; (b) decreasing the threshold of float from \$150 million to \$75 million (SEC Release No. 33-6964).
December 19, 2007	Adjusting float restrictions	The SEC amended the eligibility requirements of Form S-3, enabling firms to use this form for primary securities offerings regardless of the size of their public float. New issuance of firms with less than \$75 million public float are capped at one-third of their float (SEC Release No. 33-8878).

Appendix 2

Variable definitions in alphabetical order

Variable	Definition
<i>Acq_{future}</i>	An indicator variable equal to one if a firm is acquired in the following two years and zero otherwise.
<i>Assets</i>	The annual decile rank of the total assets (data6) at the beginning of the year.
<i>Big4</i>	An indicator variable equal to one if a firm's auditor is one of the Big Four and zero otherwise.
<i>CEOchair</i>	An indicator variable equal to one if a firm's CEO is also the chairman of the board and zero otherwise.
<i>Debt_{future}</i>	An indicator variable equal to one if a firm doubles its debt in at least one of the following two years and zero otherwise.
<i>Diff_{pf}</i>	The difference between the reported public float on 10-K (Pf_{report}) and the benchmark public float constructed from Thomson Insider Filing Data (Pf_{bench}).
<i>Diff_{proxy}</i>	The difference between the reported public float on 10-K (Pf_{report}) and the benchmark public float constructed from the ownership data on proxy statements (Pf_{proxy}).
<i>MB</i>	The market-to-book ratio at the beginning of the year or common shares outstanding (data25)* closing price (data199)/ common equity (data6).
<i>Mve</i>	The market value of common shares outstanding measured on the same date as the reported public float, in millions of dollars.
<i>NA_{prior}</i>	An indicator variable equal to one if a firm was non-accelerated in the prior year and zero otherwise.
<i>Pf_{bench}</i>	The benchmark public float constructed from Thomson Insider Filing Data on the same date as the reported public float, in millions of dollars. It equals the market cap minus shares held by executive officers, directors, and ten percent blockholders.
<i>Pf_{proxy}</i>	The benchmark public float constructed from the ownership data on proxy statements, in millions of dollars. It equals the market cap minus shares held by executive officers, directors, and ten percent blockholders.
<i>Pf_{report}</i>	The public float reported on 10-K for the current year, often measured as of the second fiscal quarter-end and in millions of dollars.
<i>Segment</i>	The number of geographic segments in the year from Compustat segment data.
<i>SEO</i>	An indicator variable equal to one if a firm issues SEO in the year and zero otherwise.
<i>SEO_{future}</i>	An indicator variable equal to one if a firm issues SEO in the following two years and zero otherwise.
<i>UnderReport</i>	An indicator variable equal to one if the reported public float (Pf_{report}) is less than \$75 million, while the benchmark public float (Pf_{bench}) is at least \$75 million and zero otherwise.
<i>UnderReport₅₀</i>	An indicator variable equal to one if the reported public float (Pf_{report}) is less than \$50 million, while the benchmark public float (Pf_{bench}) is at least \$50 million and zero otherwise.
<i>UnderReport₁₀₀</i>	An indicator variable equal to one if the reported public float (Pf_{report}) is less than \$100 million, while the benchmark public float (Pf_{bench}) is at least \$100 million, and zero otherwise.

*UnderReport*_{proxy} An indicator variable equal to one if the reported public float (Pf_{report}) is less than \$75 million, while the benchmark public float constructed from the proxy statements (Pf_{proxy}) is at least \$75 million, and zero otherwise.

TABLE 1

Sample description

This table summarizes the sample selection and the definition of affiliates reported on firms' 10-Ks. Panel A describes the sample selection process in obtaining the sample of 1,134 firm-year observations between 2003 and 2006. The source of data includes Compustat, CRSP, Thomson Insider Data, and AuditAnalytics. Public float reported by the sample firms is hand-collected from 10-K. Panel B tabulates the definition of affiliates disclosed on 10-Ks.

Panel A: Sample selection

<i>Description</i>	Firm-year
All Compustat and CRSP merged firms with fiscal years 2003–2006	29532
Less: Missing shares outstanding or price for the second fiscal quarter end	(3510)
Less: Not common equity, i.e., shred not in ('10', '11')	(7353)
Less: Market cap at the second fiscal quarter-end above \$150 million or below \$75 million	(16261)
Less: Financial firms and regulated industries	(794)
Less: Missing variables from Compustat, 10-K, or Audit Analytics	(480)
Base sample	1134
Number of unique firms in the base sample	716

Panel B: Affiliates definition on 10-K

<i>Affiliates as disclosed on 10-K</i>	Firm-year
Executive officers, directors	112
Executive officers, directors, and 5% holders	128
Executive officers, directors, and 10% holders	109
Executive officers, directors, and 20% holders	2
Executive officers, directors, and others (one blockholder, any affiliates, or 13D/13G filers)	13
No description of affiliates	770
Base sample	1134

TABLE 2

Summary statistics and correlation matrix

This table summarizes the dependent variables and the independent variables for the base sample and the correlation matrix. Panel A summarizes the dependent variables and the independent variables for accelerated filers and non-accelerated filers. Bold numbers indicate significant differences between the accelerated filers and the non-accelerated filers based on t-tests for mean comparison and Wilcoxon tests for median comparison, at the level of 5% or better (two-tailed). Panel B reports the Pearson (below diagonal) and Spearman (above-diagonal) correlation coefficients (p-values below) for the sample. Correlations that are statistically significant at the 5% level are in bold. All variables are defined in Appendix 2.

Panel A: Summary statistics

Accelerated filers	N	Mean	Median	Std. Dev.
<i>Diff_{pf}</i>	785	10.092	5.570	27.846
<i>UnderReport</i>	785	0.060	0	0.237
<i>Segment</i>	785	1.508	1	0.572
<i>Assets</i>	785	4.917	5	2.834
<i>Big4</i>	785	0.783	1	0.412
<i>SEO</i>	785	0.085	0	0.280
<i>NA_{prior}</i>	785	0.289	0	0.454
<i>MB</i>	785	3.046	1.752	3.868
<i>MVE</i>	785	115.385	115.904	20.513
Non-Accelerated filers				
<i>Diff_{pf}</i>	349	-5.156	-1.388	28.049
<i>UnderReport</i>	349	0.266	0	0.443
<i>Segment</i>	349	1.510	1	0.609
<i>Assets</i>	349	3.570	3	2.719
<i>Big4</i>	349	0.682	1	0.466
<i>SEO</i>	349	0.040	0	0.197
<i>NA_{prior}</i>	349	0.983	1	0.130
<i>MB</i>	349	3.822	2.054	4.736
<i>MVE</i>	349	98.392	91.904	23.098

Panel B: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) <i>Diff_{pf}</i>		-0.51	-0.08	-0.02	0.02	0.06	-0.10	0.04	-0.01
(2) <i>UnderReport</i>	-0.52		0.08	0.03	0.02	-0.04	0.12	-0.01	-0.02
(3) <i>Segment</i>	-0.08	0.09		0.16	0.08	-0.03	-0.08	-0.15	0.43
(4) <i>Assets</i>	-0.02	0.02	0.16		0.22	-0.08	-0.34	-0.70	0.22
(5) <i>Big4</i>	0.02	0.02	0.08	0.22		0.06	-0.11	-0.24	0.04
(6) <i>SEO</i>	0.04	-0.04	-0.04	-0.08	0.06		0.01	0.06	0.01
(7) <i>NA_{prior}</i>	-0.12	0.12	-0.07	-0.34	-0.11	0.01		0.12	-0.25
(8) <i>MB</i>	0.03	-0.00	-0.16	-0.52	-0.20	0.04	0.12		0.04
(9) <i>MVE</i>	-0.02	-0.02	0.01	0.22	0.04	0.01	-0.25	-0.01	

TABLE 3

The incentives for discretionary public float reporting

This table reports the estimation results modeling the incentives to report public float with discretion using the base sample. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Dependent Var.	<i>Diff_{pf}</i>		<i>UnderReport</i>	
	Predicted Sign	Estimate (p-value)	Predicted Sign	Estimate (p-value)
<i>Segment</i>	-	-2.986*** (0.005)	+	0.441*** (0.006)
<i>Assets</i>	-	-0.603** (0.026)	+	0.082** (0.050)
<i>Big4</i>	-	0.197 (0.893)	+	0.158 (0.499)
<i>SEO</i>	+	7.422*** (0.002)	-	-0.722** (0.036)
<i>NA_{prior}</i>		-17.591*** (0.000)		1.392*** (0.000)
<i>MB</i>		0.006 (0.975)		0.041 (0.117)
<i>Pf_{bench}</i>		-0.713*** (0.000)		0.043*** (0.000)
<i>Mve</i>		0.115 (0.856)		0.551** (0.021)
<i>Mve²</i>		0.004 (0.519)		-0.005** (0.017)
<i>Mve³</i>		-0.000 (0.445)		0.000** (0.022)
Intercept		36.547* (0.097)		-26.417*** (0.004)
Adj. R2/Chi2		0.494		125.740
N		1134		1134

TABLE 4

SEO issuers versus Non-SEO issuers

This table reports the estimation results modeling the incentives to report public float with discretion using the base sample, partitioned on whether a firm is an SEO issuer. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Dependent Var.	<u>SEO Issuers</u>		<u>Non-SEO Issuers</u>	
	<u>Diff_{pf}</u> (1) Estimate (<i>p</i> -value)	<u>UnderReport</u> (2) Estimate (<i>p</i> -value)	<u>Diff_{pf}</u> (3) Estimate (<i>p</i> -value)	<u>UnderReport</u> (4) Estimate (<i>p</i> -value)
<i>Segment</i>	2.417 (0.548)	-0.302 (0.775)	-3.354*** (0.002)	0.460*** (0.005)
<i>Assets</i>	-0.319 (0.703)	-0.358 (0.163)	-0.713** (0.013)	0.108** (0.014)
<i>Big4</i>	-6.705 (0.252)	-0.642 (0.639)	0.476 (0.753)	0.173 (0.469)
<i>NA_{prior}</i>	-13.369*** (0.003)	-0.485 (0.652)	-17.920*** (0.000)	1.487*** (0.000)
<i>MB</i>	0.795* (0.077)	-0.448 (0.222)	-0.128 (0.498)	0.057** (0.037)
<i>Pf_{bench}</i>	-0.767*** (0.000)	0.026 (0.398)	-0.710*** (0.000)	0.043*** (0.000)
<i>Mve</i>	-1.560 (0.877)	-1.196 (0.581)	0.126 (0.845)	0.621** (0.011)
<i>Mve</i> ²	0.031 (0.735)	0.010 (0.614)	0.003 (0.592)	-0.005*** (0.009)
<i>Mve</i> ³	-0.000 (0.640)	-0.000 (0.647)	-0.000 (0.557)	0.000** (0.013)
Intercept	52.224 (0.885)	45.100 (0.562)	39.525* (0.076)	-29.485*** (0.002)
Adj. R2/Chi2	0.583	6.911	0.489	126.810
N	81	81	1053	1053

TABLE 5

Placebo public float thresholds

This table reports the estimation results modeling the incentives to report public float with discretion using two placebo compliance public float thresholds, \$100 million and \$50 million. Panel A tabulates the results based on partitioned sample using the placebo thresholds and the actual thresholds, \$75 million. Panel B uses two placebo compliance public float thresholds, \$100 million and \$50 million, to redefine the dependent variable for the likelihood of underreporting. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Panel A: Predicting the amount of underreporting

Dependent Var.	<u>$Pf_{bench} \geq 100$</u>	<u>$100 > Pf_{bench} \geq 75$</u>	<u>$75 > Pf_{bench} \geq 50$</u>	<u>$50 > Pf_{bench}$</u>
	$Diff_{pf}$ (1) Estimate (p-value)	$Diff_{pf}$ (2) Estimate (p-value)	$Diff_{pf}$ (3) Estimate (p-value)	$Diff_{pf}$ (4) Estimate (p-value)
Segment	-0.503 (0.828)	-6.817*** (0.000)	-1.889 (0.354)	-2.054 (0.400)
Assets	-0.550 (0.311)	-0.662 (0.180)	0.029 (0.952)	-0.896 (0.201)
Big4	-1.623 (0.604)	1.721 (0.500)	4.224 (0.130)	-3.060 (0.374)
SEO	8.185* (0.075)	3.256 (0.457)	10.565** (0.017)	6.967 (0.274)
NA_{prior}	-20.206*** (0.000)	-13.297*** (0.000)	-12.123*** (0.000)	-26.889*** (0.000)
MB	-0.035 (0.922)	-0.104 (0.741)	0.550* (0.082)	-0.489 (0.258)
Pf_{bench}	-0.844*** (0.000)	-0.431** (0.012)	-0.496*** (0.001)	-0.809*** (0.000)
Mve	8.203 (0.403)	-14.451** (0.015)	9.354* (0.099)	-0.742 (0.475)
Mve^2	-0.060 (0.402)	0.137** (0.010)	-0.085 (0.111)	0.014 (0.253)
Mve^3	0.000 (0.378)	-0.000*** (0.008)	0.000 (0.112)	-0.000 (0.268)
Intercept	-285.838 (0.518)	537.138** (0.012)	-299.418 (0.129)	71.165** (0.015)
Adj. R2/Chi2	0.203	0.203	0.219	0.492
N	308	327	278	221

Panel B: Predicting the likelihood of underreporting

Dependent Var.	Base Sample		Excluding <i>UnderReport=1</i>	
	<i>UnderReport</i> ₁₀₀ (1) Estimate (<i>p</i> -value)	<i>UnderReport</i> ₅₀ (2) Estimate (<i>p</i> -value)	<i>UnderReport</i> ₁₀₀ (3) Estimate (<i>p</i> -value)	<i>UnderReport</i> ₅₀ (4) Estimate (<i>p</i> -value)
<i>Segment</i>	0.058 (0.786)	0.592*** (0.003)	0.010 (0.971)	0.078 (0.790)
<i>Assets</i>	0.089* (0.089)	0.045 (0.407)	0.093 (0.164)	0.043 (0.559)
<i>Big4</i>	-0.311 (0.287)	0.011 (0.971)	-0.562* (0.096)	0.060 (0.875)
<i>SEO</i>	-0.393 (0.427)	-1.006 (0.172)	-0.157 (0.787)	-1.163 (0.259)
<i>NA_{prior}</i>	1.355*** (0.000)	1.902*** (0.000)	0.838** (0.017)	1.624*** (0.001)
<i>MB</i>	0.016 (0.665)	0.037 (0.241)	-0.026 (0.623)	0.011 (0.816)
<i>Pf_{bench}</i>	0.070*** (0.000)	0.010* (0.063)	0.063*** (0.000)	-0.002 (0.803)
<i>Mve</i>	1.875*** (0.007)	0.207 (0.351)	1.988* (0.068)	0.159 (0.565)
<i>Mve</i> ²	-0.013** (0.013)	-0.002 (0.320)	-0.014* (0.099)	-0.001 (0.599)
<i>Mve</i> ³	0.000** (0.027)	0.000 (0.341)	0.000 (0.153)	0.000 (0.703)
Intercept	-95.449*** (0.002)	-12.115 (0.134)	-99.404** (0.032)	-9.038 (0.321)
Adj. R2/Chi2	215.579	64.362	120.305	39.088
N	1134	1134	994	994

TABLE 6

Disappearing incentives: 2007-2010

This table examines the incentives to report float with discretion for samples from 2007 to 2010 using two different sample selection methods. Panel A tabulates the results using a sample from 2007 to 2010, following the same sample selection procedure as the base sample. Panel B tabulates the results using a sample from 2007 to 2010, including each firm that appears in the base sample. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Panel A: Following the same sample selection procedure as the base sample

Dependent Var.	<u>Diff_{pf}</u> (1) Estimate (<i>p</i> -value)	<u>UnderReport</u> (2) Estimate (<i>p</i> -value)
<i>Segment</i>	1.667 (0.489)	0.287 (0.449)
<i>Assets</i>	-0.556* (0.074)	0.021 (0.691)
<i>Big4</i>	2.623 (0.127)	0.215 (0.466)
<i>SEO</i>	1.917 (0.587)	-0.427 (0.519)
<i>NA_{prior}</i>	-14.374*** (0.000)	0.777*** (0.010)
<i>MB</i>	0.013 (0.573)	0.001 (0.896)
<i>Pf_{bench}</i>	-0.774*** (0.000)	0.039*** (0.000)
<i>Mve</i>	0.807 (0.837)	0.743 (0.270)
<i>Mve</i> ²	0.003 (0.942)	-0.007 (0.248)
<i>Mve</i> ³	-0.000 (0.835)	0.000 (0.241)
Intercept	-13.709 (0.921)	-30.801 (0.204)
Adj. R2/Chi2	0.524	44.434
N	590	590

Panel B: Following an alternative sample selection procedure

Dependent Var.	<u>Diff_{pf}</u> (1) Estimate (<i>p</i> -value)	<u>UnderReport</u> (2) Estimate (<i>p</i> -value)
<i>Segment</i>	0.067 (0.987)	1.096*** (0.001)
<i>Assets</i>	-0.023 (0.961)	0.084 (0.209)
<i>Big4</i>	-0.602 (0.783)	-0.150 (0.649)
<i>SEO</i>	-0.129 (0.985)	-0.229 (0.834)
<i>NA_{prior}</i>	-15.199*** (0.000)	1.132*** (0.002)
<i>MB</i>	-0.008 (0.816)	0.003 (0.798)
<i>Pf_{bench}</i>	-0.704*** (0.000)	0.012** (0.035)
<i>Mve</i>	0.432*** (0.000)	0.075*** (0.000)
<i>Mve</i> ²	0.001*** (0.000)	-0.000*** (0.000)
<i>Mve</i> ³	-0.000*** (0.000)	0.000*** (0.000)
Intercept	16.747*** (0.004)	-9.831*** (0.000)
Adj. R2/Chi2	0.542	67.874
N	1484	1484

TABLE 7

Robustness checks

Panel A tabulates the results for the base sample using future SEO issuance instead of current SEO issuance. Panel B tabulates the results for the base sample using ownership data hand-collected from proxy statements instead of using Thomson Insider Data to measure the benchmark public float. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Panel A: Future SEO issuance

Dependent Var.	<u>Diff_{pf}</u>		<u>UnderReport</u>	
	Predicted Sign	(1) Estimate (<i>p</i> -value)	Predicted Sign	(2) Estimate (<i>p</i> -value)
<i>Segment</i>	–	–2.866*** (0.007)	+	0.438*** (0.006)
<i>Assets</i>	–	–0.564** (0.038)	+	0.078* (0.061)
<i>Big4</i>	–	0.206 (0.888)	+	0.164 (0.482)
<i>SEO_{future}</i>	+	5.787*** (0.003)	–	–0.590** (0.042)
<i>NA_{prior}</i>		–17.613*** (0.000)		1.389*** (0.000)
<i>MB</i>		0.032 (0.855)		0.037 (0.149)
<i>Pf_{bench}</i>		–0.715*** (0.000)		0.043*** (0.000)
<i>Mve</i>		0.027 (0.966)		0.593** (0.014)
<i>Mve²</i>		0.005 (0.415)		–0.005** (0.011)
<i>Mve³</i>		–0.000 (0.340)		0.000** (0.013)
Intercept		38.251* (0.083)		–27.814*** (0.002)
Adj. R2/Chi2		0.493		125.870
N		1134		1134

Panel B: Using proxy statement as a source of ownership data

Dependent Var.	<i>Diff_{proxy}</i>		<i>UnderReport_{proxy}</i>	
	Predicted Sign	Estimate (1) (<i>p</i> -value)	Predicted Sign	Estimate (2) (<i>p</i> -value)
<i>Segment</i>	–	–2.782*** (0.005)	+	0.343* (0.062)
<i>Assets</i>	–	–0.107 (0.671)	+	0.024 (0.610)
<i>Big4</i>	–	0.752 (0.579)	+	–0.003 (0.991)
<i>SEO</i>	+	5.295** (0.017)	–	–0.983* (0.070)
<i>NA_{prior}</i>		–17.915*** (0.000)		1.677*** (0.000)
<i>MB</i>		0.122 (0.453)		0.037 (0.178)
<i>Pf_{proxy}</i>		–0.461*** (0.000)		0.029*** (0.000)
<i>Mve</i>		–0.234 (0.690)		0.603** (0.031)
<i>Mve²</i>		0.006 (0.317)		–0.005** (0.045)
<i>Mve³</i>		–0.000 (0.260)		0.000* (0.070)
Intercept		38.377* (0.060)		–30.957*** (0.005)
Adj. R2/Chi2		0.292		89.404
N		1134		1134

TABLE 8

Other incentives in Section 404 compliance

This table summarizes the results for the base sample, controlling for other incentives in Section 404 compliance. $Diff_{pf}$ is the difference between the reported public float on 10-K and the benchmark public float constructed from Thomson Insider Filing Data. All variables are defined in Appendix 2. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively, based on two-tailed tests.

Dependent Var.	$Diff_{pf}$		$UnderReport$	
	Predicted Sign	Estimate (p-value)	Predicted Sign	Estimate (p-value)
<i>Segment</i>	-	-2.936*** (0.006)	+	0.441*** (0.006)
<i>Assets</i>	-	-0.574** (0.035)	+	0.080* (0.058)
<i>Big4</i>	-	-0.249 (0.866)	+	0.203 (0.391)
<i>SEO</i>	+	7.928*** (0.001)	-	-0.722 (0.110)
<i>Debt_{future}</i>		-2.923** (0.048)		0.290 (0.186)
<i>Acq_{future}</i>		2.735** (0.041)		-0.328 (0.138)
<i>CEOchair</i>		0.280 (0.822)		-0.249 (0.214)
<i>NA_{prior}</i>		-17.467*** (0.000)		1.410*** (0.000)
<i>MB</i>		0.017 (0.923)		0.042 (0.111)
<i>Pf_{bench}</i>		-0.711*** (0.000)		0.042*** (0.000)
<i>Mve</i>		0.189 (0.765)		0.562** (0.019)
<i>Mve²</i>		0.003 (0.628)		-0.005** (0.017)
<i>Mve³</i>		-0.000 (0.567)		0.000** (0.022)
Intercept		34.726 (0.115)		-26.874*** (0.003)
Adj. R2/Chi2		0.496		131.614
N		1134		1134