# Testing the Waters Meetings, Retail Trading, and Capital Market Frictions

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Pre-IPO firms may "test the waters" (TTW) by meeting privately with investors in order to allow access to management and more time to make an investment decision. However, TTW meetings have the potential to undermine the SEC's objectives of protecting investors and supporting market efficiency by allowing institutional investors, but not retail investors, privileged and private access to management. We find lower retail trading after IPOs of firms that held TTW meetings, consistent with TTW meetings reducing retail investor participation. This effect is magnified for firms with higher proprietary information and for firms with weaker transparency, consistent with retail investors losing confidence in a level playing field and withdrawing from the market in the presence of TTW meetings. Moreover, retail investors that still participate in the market in the presence of TTW meetings have inferior investment outcomes. Nonetheless, we find no evidence of lower overall market liquidity or slower price discovery following TTW meetings. In fact, we observe a reduction in stock return volatility. Overall, our evidence suggests that while TTW meetings may harm retail investors, there does not appear to be a negative impact on overall market function.

## 1. Introduction

The SEC describes its three objectives as (i) protect investors, (ii) maintain fair, orderly, and efficient capital markets, and (iii) facilitate capital formation. In pursuit of facilitating capital formation by reducing barriers for IPOs, the Jumpstart Our Business Startups (JOBS) Act permitted firms to "test the waters" (hereafter "TTW") by privately meeting with prospective investors before the IPO. In TTW meetings, firm managers have extensive and repeated conversations with potential IPO investors over the weeks or months preceding an IPO, allowing investors more time to understand the firm outside of the constrained IPO timeline. However, because TTW meetings permit private communications between firms and institutional investors, they have the potential to undermine the SEC's other objectives of protecting investors and maintaining fair, orderly, and efficient markets. This could occur to the extent that retail investors (who do not participate in TTW meetings) perceive an information disadvantage and withdraw from the market or be harmed from trading, thereby undermining the SEC's mandates to protect investors and promote fair markets. To the extent that retail investors withdraw from the market or are harmed by trading in the market, this could negatively impact liquidity as investor confidence in fair markets declines, as suggested by the SEC and others (Chiyachantana et al., 2004; Lee et al., 2004; SEC, 2000), thereby undermining market efficiency. In this paper, we consider whether TTW meetings contribute to these negative (if perhaps unintended) consequences for retail investors and the overall market.

When the JOBS Act was originally passed in 2012, only Emerging Growth Companies ("EGCs") were permitted to hold TTW meetings. However, in 2019 the SEC expanded the availability for TTW meetings to all firms. We use this 2019 expansion as our primary research setting.[1] This setting provides a clear treatment group (i.e., non-EGCs who were *not* permitted to test the waters before the TTW

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[1] When originally passed in 2012, the JOBS Act included several other potentially confounding provisions that benefited EGC firms such as reduced disclosure requirements, SOX exemptions, confidential filings, etc. In contrast, the 2019 expansion only applied to the TTW provision, providing a cleaner research setting.

expansion, but were permitted to do so *after* the expansion) and control group unaffected by the change (i.e., EGCs who were permitted to test the waters before *and* after the TTW expansion). Because the TTW expansion was a significant IPO regulation change[2], and because most firms mention TTW meetings in their regulatory filings, retail investors are likely to be aware of TTW meetings and perceive themselves at an informational disadvantage due to their non-participation.[3] This is supported by concerns raised by a prominent market advocate that TTW meetings would disadvantage investors who were not able to attend these meetings.[4] To the extent that retail investors perceive themselves at a disadvantage, we would expect them to withdraw from the market leading to lower retail trading for non-EGC IPOs after the TTW expansion.

Prior literature studies private communications between managers and investors in the context of selective disclosure. However, we note that TTW meetings are distinct from prior literature in important ways. First, private meetings, such as non-deal road shows, investor conferences, or private phone calls (e.g., Bradley et al., 2022; Bushee et al., 2017; Bushee et al., 2018; Solomon and Soltes, 2015), are unobservable to retail investors and are permitted under Reg FD only when they do not contain material non-public information.[5] Thus, retail investors are unlikely to perceive themselves at an information disadvantage from these meeting either because (i) they do not know whether or when to react because the existence or timing of the meetings are unobservable, and/or (ii) even if retail investors understand

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[2] The TTW expansion was widely discussed in public forums by both the SEC and law firms. It was also covered by major news agencies such as the Wall Street Journal. See, for example: https://www.wsj.com/articles/sec-wants-to-make-it-easier-for-companies-to-explore-ipos-11550608078.

[3] Although not all institutional investors participate in TTW meetings, as a class they have much greater access to information shared in TTW meetings either through their direct participation or because of indirect information channels (i.e., sharing of information across investors). In contrast, retail investors have no direct access and are unlikely to have indirect access to information in TTW meetings.

[4] The SEC cited a comment letter from Better Markets stating that TTW meetings would "increase the problem of information asymmetry between investors who are 'in the know' and investors who learn about the existence and characteristics of a securities offering only once it is made public through the ordinary filing of a registration statement. This risks *de-leveling the playing field* ...." See Apr. 29, 2019 comment letter from Dennis Kelleher available at: https://www.sec.gov/comments/s7-01-19/s70119.htm

[5] While some firms announce their future group presentation at investor conferences, firms may or may not participate in private meetings during the conference. Thus, the private meetings are unobservable to retail investors even if the group presentation is observable (and sometimes publicly webcast).

private meetings are a normal occurrence, they may reasonably assume they are happening within the limits of Reg FD and therefore they believe they are not disadvantaged by them. Thus, this literature focuses on outcomes for institutional, rather than retail, investors. In contrast, because TTW meetings were permitted by the JOBS Act, are held before the firm is public (and therefore Reg FD does not yet apply), and they were accompanied by significant media coverage, retail investors are much more likely to be aware that TTW meetings are occurring in their absence. Therefore, they are more likely to perceive an information disadvantage for IPO firms and thus react to those meetings by withdrawing from the market.

Second, in other private disclosure settings, the transfer of private information and trading in the firm's shares occur simultaneously (i.e., during a private meeting or phone call). Thus, the information conveyed is likely to be immediately value-relevant and the investors receiving the information can profit from their information advantage immediately. In contrast, with TTW meetings the provision of information and trading in the firm's shares is strictly non-simultaneous because TTW meetings occur weeks or months before the trading begins for the IPO firm. Any advantage gained by an institutional investor is not immediately actionable. Therefore, retail investors are less likely to see the private information shared in TTW meetings as creating real trading disadvantages once trading begins in the firm, because more time has passed between when the information was shared and when investors had an opportunity to profit from the information.

We also note that when considering whether to allow firms to hold TTW meetings, the SEC anticipated the potential for these private communications to harm some investors. In particular, the SEC acknowledged the possibility that solicited institutional investors may gain a competitive advantage over retail investors through TTW meetings. They note however that these concerns are "likely to be mitigated" by requirements in other past regulations and conclude that they "do not anticipate the final rule to have a significant adverse competitive impact on investors that are not solicited". For these

reasons, we cannot rely on prior literature for predictions on how information conveyed in TTW meetings may affect retail investors.

We begin our analysis by examining whether TTW meetings lead to lower trading by retail investors. We find that after the TTW expansion, retail investors are less likely to trade in non-EGC firms (as compared to EGC firms) in the 25 days after the IPO issue date. However, we fail to find similar evidence for institutional investors, which mitigates the concern that the retail investor withdrawal is attributable to IPO firm characteristics or overall market conditions.

As additional evidence that this retail investor withdrawal is attributable to real or perceived information advantages from TTW meetings, we next examine cross-sectional variation in the likely informational benefit from TTW meetings. First, prior literature suggests that IPO firms with greater proprietary costs are likely to benefit the most from TTW meetings (e.g., Dambra et al., 2015; Alhusaini et al., 2023). Therefore, retail investors may perceive that they would be at a greater informational disadvantage among firms with high proprietary costs. Consistent with this prediction, we find a greater withdrawal in retail trading when there are TTW meetings for firms with high proprietary costs, using biotechnology firms and confidential treatment orders as proxies for proprietary costs (Guo et al., 2004; Verrecchia and Weber, 2006; Dambra et al., 2015; Boone et al., 2016; Glaeser, 2018). However, we find only weak evidence of reduced institutional investor trading among firms with high proprietary costs.

Next, we examine whether the retail investor withdrawal is attenuated for firms with better corporate transparency, because these firms may be more likely to consider the interests of minority shareholders in their disclosure choices (Bushman and Smith, 2003). Retail investors may therefore believe that firms with better corporate transparency are less likely to provide information in TTW meetings that will not be subsequently provided in the public S-1 filing. Consistent with this prediction, we find that reduced retail trading is attenuated for firms with better transparency, using S-1 length to

proxy for transparency (Hanley and Hoberg, 2010; Bushee et al., 2017). However, we fail to find similar evidence for institutional investors.

Given the importance of retail investor protections for regulators such as the SEC, we next consider whether retail investors that still participate in the market experience worse investment outcomes in the presence of TTW meetings. We find an incrementally negative association between signed retail trades on the first post-IPO trading day and buy-and-hold abnormal returns over the first 180 days post-IPO. This is consistent with worse investment performance for retail investors in the presence of TTW meetings.

While our results thus far suggest that retail investors are harmed by TTW meetings, the implications of their pullback in trading on the overall market are unclear. We thus consider the impact of TTW meetings on SEC's mandate to promote efficient markets. We first examine the potential impact on market liquidity. As argued by the SEC, retail investors play a critical role in providing liquidity to the market (SEC, 2000). To the extent this is the case, retail investors withdrawing from the market may reduce overall market liquidity. Using a difference-in-differences research design, we fail to find evidence of a measurable reduction in liquidity, which is inconsistent with TTW meetings harming the market through reduced liquidity.

We next consider whether TTW meetings are associated with market volatility. Retail investors are subject to various behavioral biases and face resource constraints (Barber and Odean, 2013; Blankespoor et al., 2020) that impact how their information and perceptions are impounded into stock prices. In particular, prior research suggests that retail investors may lack the requisite analytical skills needed to properly identify the relevant information and/or adequately interpret publicly available information, or they may simply trade on factors unrelated to fundamental value (Hirshleifer and Teoh, 2003; Paredes, 2003). Their trading may add noise or otherwise destabilize the market through increased stock return volatility (Bushee et al., 2004; Foucault et al., 2011). Thus, a pullback in retail trading may

benefit the market through lower return volatility. Consistent with this notion, we find a reduction in volatility for IPO firms with TTW meetings.

We also consider the potential impact of the changes in trading on the speed of price discovery following TTW meetings. To the extent that retail investors contribute to price formation through their trading, we may expect slower price formation as retail investors withdraw from the market in the presence of TTW meetings. On the other hand, retail investors are often seen as price takers in equity markets, while institutional investors are the primary drivers of price discovery (Ben-Raphael et al., 2017; Blankespoor et al., 2018; Israeli et al., 2022). Therefore, retail trading, or the lack thereof, may not directly impact price formation. We fail to find a change in price discovery using intra-period timeliness as a proxy (Butler et al., 2007; Blankespoor et al., 2018), which further contradicts the view that retail investor withdrawal from TTW meetings leads to negative consequences for the broader market. Overall, our findings suggest that while TTW meetings potentially undermine the SEC's goal of protecting investors and maintaining fair markets, these meetings do not seem to undermine the SEC's goal of maintaining efficient markets, and may even benefit some firms with lower volatility.

In robustness analysis, we consider several possible alternative explanations. First, we mitigate the possible confounding effect of speculative retail trading around the COVID-19 pandemic. Second, we rerun our analysis to test for a similar effect one year after the IPO. To the extent that our results are attributable to TTW meetings and not differences in firm characteristics, we would expect a temporary effect because any information disadvantage due to selective disclosure should not persist indefinitely. Consistent with expectations, we fail to find similar results one year after the IPO. Third, we mitigate the potential confounding effect of the Robinhood IPO access program, which may affect retail investor trading in the secondary market since retail investors now have access to primary IPO shares. Fourth, we address the possibility that our results are attributable to changes in disclosure choices concurrent with TTW meetings. We find no observable differences in S-1 content after the TTW expansion. Fifth,

we mitigate concerns that TTW meetings may alter investor behavior or IPO pricing during the book-building process, which may impact retail trading in the secondary market.

Our findings contribute to the literature on the consequences of the JOBS Act. Prior literature suggests that the JOBS Act supported the SEC's goal of facilitating capital formation (Dambra et al., 2015), and had several unintended positive consequences such as improved investment decisions (Dambra and Gustafson, 2021), increased learning from external market participants (Pinto, 2023), and fewer lawsuits due to delayed disclosure from confidential filings (Esmer et al., 2023). However, the JOBS Act also had some negative consequences, such as reduced informativeness of affiliated analysts (Dambra et al., 2018) and increased investor uncertainty because scaled disclosure by EGC firms increased IPO underpricing (Barth et al., 2017; Chaplinsky et al., 2017). The literature on the costs and benefits of TTW meetings specifically (as opposed to other JOBS Act provisions addressed by the literature mentioned above) is limited to Alhusaini et al. (2023) who provide evidence that TTW meetings reduce myopic behavior by both investors and managers. We contribute to this literature by showing that TTW meetings undermines the SEC's objective of supporting fair capital markets and protecting investors. In particular, TTW meetings deter retail trading and negatively impact their trading profits around the IPO. Nevertheless, we fail to find evidence that TTW meetings undermine the SEC's mandate to support market efficiency given the absence of a detrimental impact on market liquidity or price discovery.

Our findings also contribute to the literature on retail investor trading. Prior studies find that disclosure processing costs can deter retail trading (Blankespoor et al., 2020). For example, retail investors are less likely to trade in the presence of complex information or when they are unfamiliar with the firm (e.g., Barber and Odean, 2008; Miller, 2010; Blankespoor et al., 2018). Our study adds to this literature by showing that TTW meetings discourage retail investor trading due to retail investors' perceived information disadvantage.

## 2. Background and Related Literature

### 2.1. The SEC's Triple Mandate

The SEC describes its three objectives as (i) protect investors, (ii) maintain fair, orderly, and efficient capital markets, and (iii) facilitate capital formation. The SEC protects investors by (among other things) requiring fair and full disclosure of material information by publicly-listed firms, requiring audits of financial reports, requiring registration and providing oversight of financial advisors, and bringing enforcement actions against firms or other market participants who mislead or otherwise harm investors. The SEC fulfills their second objective of maintaining fair, orderly, and efficient markets by continuously monitoring the market environment and responding to market developments by adjusting rules and regulations as needed. The SEC also ensures fair markets by supporting a "level playing field" whereby retail or other resource-constrained investors can expect equal access to material information. To fulfill its third objective of facilitating capital formation, the SEC attempts to expand access to capital, increase market participation, and reduce regulatory burdens. For example, the SEC allows small businesses to access capital in ways that avoid much of the regulatory burden that applies to larger public firms, such as through crowdfunding.

Another area where the SEC has expressed concern about regulatory burden is around IPOs. Since peaking in the late 1990s, the number of annual IPOs experienced a sharp decline (e.g. Ewens and Farre-Mensa, 2020). Some argue that the IPO process had become overly restrictive (e.g. Zweig, 2010; Weild, 2011; Bova et al., 2014). Previous prohibitions on firms meeting with investors before the IPO, such as anti-gun jumping rules, were motivated by the first two of the SEC's objectives of protecting investors and maintaining fair markets. IPOs are a time when returns can be highly volatile, which can attract investors of all types, including retail investors. This created the potential for investor harm if IPO firms engaged in pre-IPO hyping or related activity. Thus, IPOs rules during this time were

consistent with the SECs objectives, but led to trading off market fairness at the expense of capital formation.

*2.2. The JOBS Act TTW Expansion*

Partially in response to concerns arising from the reduced number of IPOs in the U.S, Congress passed the JOBS Act of 2012 to reduce the costs of going public in the hope of making public markets more accessible for firms raising capital. The JOBS Act contained multiple provisions intended to encourage more IPOs, including scaled disclosure, exemptions from certain SOX requirements, allowing firms to file IPO documents confidentially, and the ability to meet privately with investors to "test the waters" (TTW) before an IPO.

Before the JOBS Act, investors could only speak with managers during the highly constrained IPO road show, which usually operated under a tight timeline in the final days or weeks before the IPO. However, the constraints of the roadshow were an impediment to information gathering by some investors, particularly when the firm had novel or complicated technology or a long path to commercial viability. In feedback to the SEC, investors solicited more time and the ability to talk with managers in a less constrained setting in order to make a fully informed investment decision.[6]

When originally passed in 2012, all JOBS Act provisions (including TTW) only applied to EGCs, which are firms with revenues below $1.07 billion.[7] Following the passage of the JOBS Act, TTW meetings were one of the most frequently used provisions and were broadly perceived as an improvement in the IPO process. Managers of firms who went public under the JOBS Act and held TTW meetings described how they were very helpful in allowing them to provide more details and

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[6] In the final rule, the SEC explained that testing-the-waters meetings provide investors the "potential benefit of additional time to evaluate, understand, and ask questions about potential future investment opportunities before a registration statement is publicly filed" and "informational benefits in the form of better informed decisions." See final ruling available at: https://www.sec.gov/rules/final/2019/33-10699.pdf

[7] When originally passed, the JOBS Act defined EGCs as those with revenues below $1 billion. The threshold was changed to $1.07 billion in 2017 and then again to $1.235 billion in 2022 to adjust for inflation. For the purpose of our study, we use the $1.07 billion threshold since our sample period starts in 2018 and ends in 2021.

relevant information to help investors understand the firm (Alhusaini et al, 2023). Institutional investors also appreciated the opportunity to meet with managers in a less constrained setting and repeatedly (if necessary) in TTW meetings.[8]

Consistent with a robust information exchange in TTW meetings, advocates for retail investors raised concerns about missing out. In a comment letter to the SEC regarding TTW meetings, Dennis Kelleher, CEO of Better Markets, a prominent advocate for retail investors, expressed concerns about potential informational advantages for institutional investors. Kelleher stated,

> "it is shortsighted by the Commission to deny itself, the investing public, analysts and entities that serve investors, journalists, and other interested parties from gaining the benefits and insights that come from seeing and evaluating these TTW communication materials…We further expect that this information could be useful for all interested parties (and not just those exposed to the TTW engagement) to evaluate the performance of the security (and the underlying issuer)."

In spite of concerns about disadvantaging retail investors, and based on the overwhelmingly positive feedback from institutional investors and firms about TTW meetings, the SEC granted all firms the opportunity to hold TTW meetings beginning in December 2019. Importantly, only the TTW provision of the JOBS Act was expanded in December 2019. This is a beneficial feature of our research setting because it provides exogenous variation in private communications while holding other factors constant.[9]

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[8] The frequency and usefulness of TTW meetings were widely discussed in both the business press and in comment letters to the SEC prior to the TTW expansion. For example, the U.S. Chamber of Commerce stated that "the ability to test the waters is frequently relied upon by EGCs." Davis Polk & Wardwell stated that "pre-marketing an offering on a confidential basis to a handful of investors… has become a common and useful marketing tool for registered offerings for EGCs, and we believe the clear ability to engage in these sorts of investor communications is one the most beneficial innovations of the JOBS Act of 2012." Lastly, a comment letter from Nasdaq stated that "based on [feedback from our listed companies], we believe the current 'test the waters' accommodation for EGCs has been a resounding success." See: https://www.sec.gov/comments/s7-01-19/s70119.htm for a list of comment letters supporting the TTW expansion.

[9] Note that we can only observe firms *permitted* to hold TTW meetings. Data on whether firms actually held those meetings is not publicly available. However, given the significant benefits for firms holding TTW meetings and the low costs of doing so, TTW meetings appear to be nearly universal for firms permitted to hold them (Alhusaini et al., 2023).

*2.3. Selective Disclosure Literature*

Prior literature on selective disclosure supports the view that it creates informational advantages for some investors and erodes a level playing field. This literature generally uses one of two research settings: (i) the passage of Reg FD (Bushee et al., 2004; Chiyachantana et al., 2004; Lee et al., 2004), or (ii) settings in which investors have limited access to managers such as investor conferences or private investor meetings (Solomon and Soltes, 2015; Bushee et al., 2017; Bushee et al., 2018).

Prior literature using the Reg FD setting finds some evidence of an increase in retail trading after the passage of Reg FD. Bushee et al. (2004) find that the adoption of public access to earnings conference calls (i.e., "open" conference calls) following Reg FD is associated with a significant increase in retail trading and increased stock volatility. Chiyachantana et al. (2004) find that retail trading increased after earnings announcements in the post-Reg FD era. They also find that Reg FD improved market liquidity and decreased information asymmetry among market participants. Similar to Bushee et al. (2004), Lee et al. (2004) also find an increase in trading activity by retail investors with the adoption of "open" conference calls following Reg FD. However, unlike Bushee et al. (2004), they do not find a significant increase in market volatility.

Prior literature using private investor access to management after Reg FD finds an increase in trade sizes and institutional investor ownership surrounding invitation-only investor conferences and private meetings with investors (Solomon and Soltes, 2015; Bushee et al., 2017; Bushee et al., 2018). This also leads to profitable and informed trades suggesting that these settings provide participating investors with an informational advantage over those that do not attend.

*2.4. Unique Features of TTW meetings*

TTW meetings are different from the previously studied settings of selective disclosure in various ways. Specifically, in contrast to other potential selective disclosure venues, with TTW meetings (i) retail

investors are more likely to be aware of their information disadvantage and (ii) private information provision and market trading are strictly non-simultaneous.

Selective disclosure is frequently studied in settings where any provision of private information is entirely invisible to retail investors (e.g., in private meetings or investor conferences). For example, if company executives have a private phone call with investors, or travel to meet privately with an investor, these events would be completely unknown to retail investors. For this reason, prior studies examining selective disclosure in these settings mainly focus on the impact on institutional investors' trading profits while disregarding the potential impact on retail investor withdrawal from the market. This is presumably because retail investors are unlikely to be aware of any information disadvantage that exists and thus are unlikely to withdraw from the market as a result. In contrast, because TTW meetings were permitted with the JOBS Act, and they were accompanied by significant media coverage, retail investors are much more likely to be aware that TTW meetings are occurring in their absence. Therefore, they are more likely to perceive an information disadvantage for IPO firms.

However, even if they perceive an information disadvantage, retail investors may not withdraw from IPO firms with TTW meetings. This is because retail investors may view institutional investor demand in the primary market because of TTW meetings as a positive signal of the IPO's potential and trade regardless of their inability to access the information shared in those meetings.

Further, in other selective disclosure settings, the transfer of private information and trading in the firm's shares occur simultaneously (i.e., during a private meeting or phone call). Thus, the information conveyed is likely to be immediately value-relevant and the investors receiving the information can profit from their information advantage immediately. In this situation, retail investors suffer an information disadvantage that is arguably more severe because it is immediately actionable. In contrast, with TTW meetings, the provision of information and trading in the firm's shares is strictly non-simultaneous because TTW meetings occur weeks or months before the trading begins for the

IPO firm. In other words, any information advantage gained by an institutional investor participating in the TTW meetings is not immediately actionable. Therefore, retail investors are less likely to see the private information shared in TTW meetings as creating real trading disadvantages once trading begins in the firm, because more time has passed between when the information was shared and when investors had an opportunity to profit from the information.

It is noteworthy that when considering whether to allow firms to hold TTW meetings, the SEC anticipated the potential for selective disclosure to harm some investors. Specifically, as part of their required consideration of the costs and benefits of the regulation change, the SEC acknowledged the possibility that solicited institutional investors may gain a competitive advantage over retail investors through TTW meetings. They note however that these concerns are "likely to be mitigated" by requirements in other past regulations and conclude that they "do not anticipate the final rule to have a significant adverse competitive impact on investors that are not solicited" (meaning those not participating in TTW meetings). In examining whether retail investors withdraw from participating in IPOs with TTW meetings and related capital market consequences, we hope to provide additional insight regarding this prediction.

*2.5. Retail Investors and TTW Meetings*

If retail investors withdraw from IPOs with TTW meetings, there is a potential for negative consequences for the overall market. Capital markets rely on retail investors to provide liquidity and a non-institutional source of capital for investment (Kaniel et al., 2008; Kelley and Tetlock, 2013, Barrot et al., 2016). This role benefits all market participants by improving market efficiency and supporting healthy market functioning.

A contrasting view on retail investors is that their behavior and rational constraints (Barber and Odean, 2013; Blankespoor et al., 2020) impact how their information and perceptions are impounded into stock prices in ways that can be detrimental. In particular, prior research suggests that retail

investors may lack the requisite analytical skills needed to properly identify the relevant information and/or adequately interpret publicly available information, or they may simply trade on factors unrelated to fundamental value. To the extent this is the case, their trading may constitute a destabilizing force in the market, which may lead to increased stock return volatility (Bushee et al., 2004; Foucault et al., 2011). Therefore, reduced retail trading may lower return volatility.

## 3. Sample

We collect data on IPOs from the Securities Data Company (SDC) database. Our IPO sample begins on January 1, 2018 and ends on December 31, 2021.[10] We limit our sample to U.S. IPOs on the American, New York, and Nasdaq stock exchanges, excluding financial firms, unit issues, blank check companies, and right issues. We also use company founding dates from the Field-Ritter dataset. After excluding firms with missing data necessary for our analyses, we have 544 unique IPO firms. We classify firms as EGCs using Audit Analytics.[11] We merge our IPO dataset with Trade and Quote ("TAQ") database to retrieve daily trading data for the first 25 days after the IPO issuance date.[12,13] The final sample has 8,931 trading-day observations.

We provide descriptive statistics in Table 1. Approximately 7% of trading days are for non-EGC IPOs (*NonEGC*). The average IPO firm in our sample has a leverage ratio (*Leverage*) of 0.3, is

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[10] In July 2017, the SEC expanded another JOBS Act provision (confidential filings) to non-EGCs, which may have also altered retail trading behavior. We thus start our sample in 2018 to mitigate the potential confounding effect of the expansion of the confidential filing provision on our analysis.

[11] We manually categorize EGCs using the revenue threshold when they cannot be matched to Audit Analytics.

[12] Managers are limited in their public communications for 40 days after the IPO issue date (i.e. management IPO quiet period). Furthermore, following the JOBS Act of 2012, analysts adhered to a 25-day de facto period after the IPO issue date that limited their research on IPO firms (i.e. analyst IPO quiet period). Because prior research suggests that firms conducting TTW meetings exhibit differences in post-IPO disclosures in the three years after the IPO (Alhusaini et al., 2023), we use this 25-day window corresponding to the end of the quiet period when there is no additional disclosure from the firm, making it easier to attribute trading patterns to pre-IPO events. The primary disclosure venue in our setting is the prospectus. In Section 5.4, we rule out the possibility that differences in S-1 content are driving our results.

[13] We note that prior literature on the JOBS Act uses long-term windows to test outcomes, such as manager and investor myopia (Alhusaini et al, 2023). Our results are unlikely to be so long-lasting because they rely on retail investors' perception of their information disadvantage, which is to diminish over time and with new disclosures provided by the firm, given Reg FD applies post-IPO. In Section 5.1, we replicate our tests one year after the IPO and fail to find similar results, which supports the view that the effect on retail investors is relatively short-term.

R&D-intensive (*R&D*) and is operating at a loss (*ROA*). Approximately 58% of IPO firms are venture capital-backed (*VC*) and 80% are listed on the Nasdaq exchange (*Nasdaq*). Daily retail volume (*RetailVol*) is about 0.6% of shares outstanding, on average. These statistics are consistent with prior literature focusing on the IPO setting (e.g. Butler et al., 2014). See the appendix for variable definitions.

## 4. Research Design and Empirical Results

### 4.1. TTW Meetings and Investor Trading

In this section, we examine whether TTW meetings reduce trading volume for retail investors, institutional investors and the overall market. We expect that retail investors will lose confidence in the public markets when TTW meetings occur and will thus trade less in non-EGC firms shortly after an IPO after the TTW expansion. For institutional investors, both the IPO firm and their underwriters have strong incentives to generate investor interest in the upcoming IPO, so it is likely that many institutional investors who want to meet with the company will be granted an opportunity to do so.[14] Therefore, because some institutional investors participate in TTW meetings (while no retail investors participate) we expect the pullback in institutional investor trading to be attenuated relative to the pullback by retail investors. In contrast, to the extent that the previous results are attributable to an alternative explanation related to the timing of the TTW, we might expect the results to hold for institutional investors as well. We test the effect of TTW meetings on trading volume by estimating the following regression:

$$Vol_{i,d} = \beta_0 + \beta_1 NonEGC_i + \beta_2 Post * NonEGC_i + Controls + \varepsilon_{i,d} \qquad (1)$$

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[14] This is consistent with anecdotal evidence. For example, Kenneth Moch (President and CEO of Chimerix, Inc.) stated that "in our roadshow during the 10 days prior to the IPO launch, we met with 16 parties who had participated in testing the waters meetings, of which 12 ended up making investments… All told, nearly half of the investors with whom we met during one-on-ones placed an order – fully two-thirds of whom had previously met with our team during the testing the waters period." He also concludes that "the practical impact of these meetings was that the investors were able to do their homework on both Chimerix and their own portfolio in the time between our testing the waters meeting and the actual IPO. This flexibility allowed them to gather the information necessary to make an investment in our company." Overall, these quotes suggest that firms have a strong incentive to meet with many institutional investors during TTW meetings to enhance the probability of a successful IPO. See July 10, 2013 testimony of Kenneth Moch available at: https://docs.house.gov/meetings/BA/BA16/20130710/101122/HHRG-113-BA16-Wstate-MochK-20130710.pdf

*Vol* is the daily trading volume, scaled by shares outstanding for either retail investors (*RetailVol*), institutional investors (*InstitutionalVol*), or all investors (*TotalVol*). For *RetailVol*, we measure retail trades using the Boehmer et al. (2021) methodology. Specifically, trades reported in TAQ as exchange code "D" and those receiving a price improvement as a result of the trade are identified as retail trades.[15] We measure *InstitutionalVol* as volume of trades with dollar trade value greater than $50,000 (e.g. Bushee et al., 2020). *TotalVol* is total volume scaled by shares outstanding. *NonEGC* is an indicator variable equal to one if the firm is not an Emerging Growth Company, or zero otherwise. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise.[16] Our variable of interest is the interaction term, *Post\*NonEGC*. If retail investors trade less after the TTW expansion, we expect a negative coefficient.

We also follow prior literature for our control variables (e.g., Pastor and Veronesi, 2005; Butler et al., 2014; Boone et al., 2016; Barth et al., 2017). Specifically, we control for firm characteristics that could potentially explain the relationship between TTW meetings and retail investor trading, such as firm size at the time of the IPO (*Size*), firm revenue (*Revenue*), and profitability (*ROA*). We also control for R&D intensity (*R&D*), how long the firm has been in business (*Age*), and the extent to which their business strategy depends on direct marketing (which could increase investor awareness about the IPO firm) using advertising intensity (*Advertising*). We also control for various features of their current or previous capital structure, including the level of indebtedness (*Leverage*), and the presence of venture capital-backing (*VC*). We further control for whether the shares are listed on a more technology-oriented exchange (*Nasdaq*) and the firm's implied future growth opportunities (*BTM*). We lastly control

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[15] This measure is based on the institutional fact that most retail trades are executed and traded off-exchange. These trades are required to be reported publicly through FINRA Trade Reporting Facilities and are categorized in TAQ as exchange code "D". While a large portion of off-exchange trades are retail, some institutional investor orders are sent to dark pools and are thus included in these off-exchange trades. To distinguish between those trades, Boehmer et al. (2021) take advantage of the fact that institutional investor orders are executed in whole or half-penny increments, while retail trades receive a fraction of a cent price improvements (e.g., 0.01 or 0.1).

[16] We exclude firms with a filing date before, but an IPO issue date after, the TTW expansion because it is unclear whether these firms had the ability to take advantage of TTW meetings.

for several features of how the IPO was brought to market, including the number of prior Reg D offerings (*FormD*), how much of the pre-IPO ownership was retained after the IPO (*PctRetained*), whether the underwriter has a high reputation (*Underwriter*), and whether the IPO came to market during a particularly strong time in the IPO market (i.e., during an "IPO wave") (*IPOVol*). All financial information is measured in the year prior to issuance. We also include time (year) and industry (FF12) fixed effects and cluster standard errors by time (year-quarter) and industry (FF48).

Table 2 reports the results for *TotalVol* (Column 1), *RetailVol* (Column 2) and *InstitutionalVol* (Column 3). As reported in Column 1, we find a negative and statistically significant coefficient on the interaction term (coefficient = -0.034, t-stat = -2.03) when *TotalVol* is the dependent variable, suggesting an overall pullback by investors from the market when there are TTW meetings. As reported in Column 2, we find a negative and statistically significant coefficient on the interaction term (coefficient = -0.009, t-stat = -2.27) when *RetailVol* is the dependent variable, suggesting retail investors pull back from the market when there are TTW meetings. As reported in Column 3, we fail to find a significant coefficient estimate on the interaction term (coefficient = -0.003, t-stat = -0.84) when *InstitutionalVol* is the dependent variable. More importantly, we find that the coefficient estimate on *Post * NonEGC* is significantly smaller for institutional investor trading relative to retail investor trading (p-value: 0.06). This suggests that TTW meetings lead to a pullback by retail investors, who are most disadvantaged by their non-participation in those meetings, but not by institutional investors.

*4.2. Cross-sectional analyses*

In our primary tests, we examine and find that TTW meetings reduces retail and overall trading. We contend that the decrease in retail trading is due to retail investors losing confidence in capital markets because of their informational disadvantage relative to investors that were present in those meetings. In this section, we examine cross-sectional variation in retail investor trading based on retail investors' belief of the extent of information disadvantage. First, we examine differences in the *type of*

*information* being divulged in TTW meetings (i.e., degree of proprietary information), which may increase retail investors' information disadvantage. Second, we examine differences in the *type of firm* divulging the information (i.e., degree of corporate transparency), which may protect minority shareholders and limit their information disadvantage. These tests are important because they attribute the reduction in retail trading to our mechanism of interest, namely that retail investors lose confidence in the integrity of the capital markets in the presence of TTW meetings.

*4.2.1. Trading Volume and Proprietary Information*

We first examine whether our main results are amplified in the presence of proprietary information. We contend that retail investors would believe that firms with greater proprietary information are more likely to reveal sensitive information in TTW meetings that would place them at a greater informational disadvantage. We identify firms with greater proprietary information as those in the biotechnology industry (Guo et al., 2004; Dambra et al., 2015) and those with confidential treatment orders (Verrecchia and Weber, 2006; Boone et al., 2016; Glaeser, 2018). We expect the association between TTW meetings and retail trading to be stronger for firms with greater proprietary information. We test this prediction by estimating Equation (1) after including an additional binary interaction term for firms with greater proprietary information, using each of two proxies for proprietary information as described below.

Table 3, Panel A reports these results for retail investors. Column 1 reports the results when using a biotechnology industry indicator (*Biotech*) as our proxy for proprietary information. Specifically, we define IPO firms in SIC codes 2830, 2833, 2834, 2835, 2836, and 8731 as those in the biotechnology industry. As expected, we find that the association between TTW meetings and retail trading is stronger in biotech firms (coefficient = -0.015; t-stat = -2.04). Column 2 reports the results when using an indicator variable equal to one for firms that filed a confidential treatment order in Form S-1 (*CTO*). Similar to Column 1, we find that the effect on retail trading is amplified for firms with confidential

treatment orders (coefficient = -0.014; t-stat = -2.64). These findings are consistent with retail investors trading less in the presence of TTW meetings because they perceive an informational disadvantage relative to those that engaged in TTW meetings.

Table 3, Panel B reports these results for institutional investors. In Column 1, we fail to find a significant association between TTW meetings and institutional investor trading in biotech firms (coefficient = 0.01; t-stat = 0.15). Column 2 reports the results when using an indicator variable equal to one for firms that filed a confidential treatment order in Form S-1 (*CTO*). We find that the effect on institutional investor trading is amplified for firms with confidential treatment orders (coefficient = -0.013; t-stat = -2.24). Taken together we interpret these results as weak evidence that TTW meetings by firms with greater proprietary information lead institutional investors to withdraw from trading.

*4.2.2. Trading Volume and Corporate Transparency*

We next examine whether our results are attenuated for firms with better corporate transparency. Firms with better transparency signal to investors their commitment to the public disclosure of all relevant information. This is important for retail investors who are excluded from TTW meetings because they are more likely to infer that the information conveyed privately in the TTW meetings is also included in the firms' public disclosures. Thus retail investors are less likely to withdraw from the market as a result of TTW meetings by more transparent firms. We use the length of the S-1 filings to proxy for transparent disclosure because retail investors may believe that firms with longer disclosures are more likely to have publicly disclosed information shared in TTW meetings (Bushee et al., 2017). We expect the association between TTW meetings and retail trading to be weaker for firms with better corporate transparency. We test this prediction by estimating Equation (1) after including an additional interaction term for firms with better corporate transparency.

Column 3 of Table 3 reports these results. Panel A reports the results for retail investors. As expected, when using S-1 length as our proxy for transparency we find that the association between TTW meetings and retail trading is weaker for firms with longer S-1 filings (coefficient = 0.46, t-stat = 2.49). Panel B reports the results for institutional investors. When using S-1 length as our proxy for transparency we fail to find an association between TTW meetings and institutional trading for firms with longer S-1 filings (coefficient = 0.022, t-stat = 1.14).

Overall, we interpret the findings in Table 3 as evidence that the mechanism through which retail trading is decreasing in TTW meetings is the perception of an informational disadvantage when firms and investors participate in TTW meetings. For institutional investors where we find no evidence when using biotech firms as a proxy for proprietary information or S-1 length as a proxy for transparency, but some evidence of a pullback when using CTOs, we interpret this as weak evidence that institutions pull back trading in the presence of TTW meetings. One possible explanation of the differential results depending on the proxy for proprietary information is that CTOs represent the most intentionally withheld information because it requires firms to request from the SEC that information be redacted from certain filings.

*4.3. TTW and Potential Retail Investor Harm*

Our findings thus far show that retail investors pull back from the market in the presence of TTW meetings. Given regulators such as the SEC are motivated by their mandate to protect investors, we consider whether retail investors are harmed by being excluded from TTW meetings. We argue that some retail investors understand TTW meetings are occurring and reduce their trading accordingly, but others may not know about the TTW meetings and proceed to trade in these IPO firms. These investors could be harmed by *not* withdrawing from the market out of ignorance about the presence of TTW meetings, thereby failing to recognize their potential information disadvantage. We examine whether

investors who proceed to trade in IPO firms that conducted TTW meetings observe worse investment outcomes.

We evaluate this question by analyzing the relation between signed retail trading on the first day post-IPO and future returns (e.g. Bushee et al., 2018; Bushee et al., 2020). We measure signed retail trading as the difference between trading volume of retail purchase transactions and trading volume of retail sale transactions, scaled by shares outstanding. We classify the trades as either buy or sell following Barber et al. (2023). To the extent that retail investors are fully informed we would expect a positive relation between signed trades and future returns. In other words, retail investor net buying (net selling) immediately upon the IPO should be associated with positive (negative) future returns. On the other hand, to the extent retail traders lack complete information or are unaware of their potential information disadvantage from the TTW meetings, we would expect a negative relation between post-IPO trading and future returns.

Table 4 presents the results of this analysis. We test the association between signed retail trading on the first post-IPO trading day and returns in the 180-day window after the IPO date. We use 180 days because it allows ample time for the quiet period to expire and for the first quarterly earnings to be announced. It is also the end of the lock-up period which insiders and pre-IPO investors are prohibited from trading their shares. We first show an on average negative association between signed retail investor trading on the first post-IPO trading day and buy-and-hold abnormal returns over the 180-day window regardless of TTW meetings (Column 1), suggesting that retail investors experience trading losses in general. In Column 2, we find that the negative association is exacerbated in the presence of TTW meetings (t-stat: -3.25).[17] This is consistent with worse investment outcomes for retail investors because of TTW meetings.

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[17] We note that we do not have access to investor holding periods. Based on a study by Reuters, the average holding period for investors was 8.5 months by the end of 2019 and 5.5 months by June 2020 (Chatterjee and Adinarayan, 2020). This suggests that 180 days is a natural window to examine retail investor trading losses. However, we also repeat our analysis

*4.4. TTW Meetings and Capital Market Outcomes*

We have shown that TTW meetings are negatively associated with retail trading and that retail investors who continue to trade exhibit worse investment outcomes. However, the overall capital market effects of TTW meetings are unclear. In this section, we examine the implications of TTW meetings on market liquidity, stock return volatility, and the speed of price discovery.

*4.4.1.TTW Meetings and Liquidity*

The SEC argues that retail investors play an important role in the capital markets by providing liquidity (SEC, 2000). Therefore, the reduction of retail trading that we find may impede the capital markets by harming liquidity. We thus consider the impact of TTW meetings on market liquidity. As noted in Harris (1990), liquidity is determined as investors' ability to trade at a desired price at a low cost, i.e., with minimal market frictions, which is consistent with the SEC's description of the important role retail investors play as liquidity providers. In other words, it is not necessarily the overall volume of trading that matters, but rather whether investors can trade at a low cost. We use several empirical proxies of liquidity that reflect the ability to trade at a low cost. First, we use the average daily bid-ask spreads following Corwin and Shultz (2009) (*Spread_CS*). Second, we use the log of volume divided by the absolute value of daily return (*Amivest*). Third, we use the dollar value-weighted effective spreads obtained from TAQ (*Spread_DW*). Fourth, we use the best bid dollar depth obtained from TAQ, scaled by market capitalization (*Depth_Bid*). Fifth, we use the best ask dollar depth obtained from TAQ, scaled by market capitalization (*Depth_Ask*). If the decrease in retail trading following TTW meetings is harmful to market liquidity, then we expect to find a positive (negative) association between retail trading and both *Spread_CS* and *Spread_DW* (*Amivest*, *Depth_Bid*, and *Depth_Ask)*. We test this prediction

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after substituting returns over days 0 to 365 after the first post-IPO trading day. We find a negative but insignificant coefficient estimate on our variable of interest. Taken together we interpret this as evidence consistent with retail investor harm over a six-month window but we fail to find similar evidence over a longer time horizon.

by estimating Equation (1) after replacing the dependent variable with each of the five proxies for liquidity as described above.

Table 5 reports these results. We fail to find a significant effect in any of the five columns (t-stat = -0.03 in Column 1, -1.20 in Column 2, -0.96 in Column 3, -0.71 in Column 4, and -0.45 in Column 5).[18] These findings suggest that the reduction in retail trading because of TTW meetings is not associated with an observable reduction in liquidity.

*4.4.2.TTW Meetings and Volatility*

Next, we consider the impact of TTW meetings on market volatility. Retail investors are subject to various behavioral biases as well as rational constraints that impedes their ability to impound information properly into stock prices (Barber and Odean, 2013; Blankespoor et al., 2020). Specifically, retail investors may lack the skills and knowledge to identify relevant information or properly interpret publicly available information. Retail investors may also simply trade on factors unrelated to firm value. Therefore, retail investor trading may destabilize the market through increased market volatility (Bushee et al., 2004; Foucault et al., 2011). If the decrease in retail trading following TTW meetings is beneficial to the capital markets through a reduction in stock return volatility, we expect to find a negative association with *Volatility*. We test this prediction by estimating Equation (1) after replacing the dependent variable with a measure of stock volatility. We measure market volatility as the standard deviation of stock returns in the 25-day trading window after the IPO issue date (*Volatility*) (e.g., Bushee and Noe, 2000; Kothari et al., 2009).

Table 6 reports these results. We find a negative and statistically significant coefficient on the interaction term (coefficient = -0.019, t-stat = -2.85). These findings suggest that TTW meetings and the resulting reduction in retail trading decreases market volatility. Overall, the findings in Tables 5 and

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[18] In untabulated analysis, we also examine Amihud illiquidity, share-weighted effective spreads, and depths based on share volume. We continue to find no effect on these alternative measures of liquidity.

6 suggest that the decrease in retail investor participation in the capital markets following TTW meetings is potentially beneficial to IPO firms since it reduces return volatility without a significant decline in market liquidity.

*4.4.3.TTW Meetings and Price Formation*

We lastly consider the potential impact of reduced retail trading on the speed of price discovery following TTW meetings. To the extent that retail investors contribute to price formation through their trading, we may expect slower price formation as retail investors withdraw from the market in the presence of TTW meetings. On the other hand, retail investors are often seen as price takers in equity markets and are therefore unlikely to directly impact price formation (Ben-Raphael et al., 2017; Blankespoor et al, 2018; Israeli et al., 2022). To the extent this is the case, we would not expect to find a deterioration in the speed of price discovery from a pullback by retail investors following TTW meetings. We test the effect of retail trading following TTW meetings on price formation by estimating Equation (1) after replacing the dependent variable with a measure of intra-period timeliness (IPT) over the first 25 days following the IPO (*IPT*).[19]

Table 7 reports these results. In Column 1, we fail to find evidence of a change in the speed of price formation using adjusted IPT as a proxy for the speed of price formation (t-stat = -0.37). Given the pervasiveness of extreme returns in the IPO setting, our results may be impacted by large outliers. To deal with this concern, in Column 2, we replicate our analysis after decile ranking our IPT variable. We continue to find similar results (t-stat = -0.97).[20] Combined, the results in Tables 5 through 7 indicate that a reduction in retail trading associated with TTW meetings does not appear to be detrimental to

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[19] Following Blankespoor et al. (2018), we use the adjusted intra-period timeliness measure. The original IPT measure assumes no overreaction and subsequent reversals. Given overreactions are common in the IPO setting, we focus on the adjusted IPT measure.

[20] Institutional investors commonly flip their shares in the first few days after the IPO, suggesting that some of their trades may be unrelated to firm information. While we do not believe this would affect our results since we do not expect inherent differences in flipping activity across our treatment and control groups, we nonetheless estimate our analysis after excluding the first four days after the IPO (Loughran and McDonald, 2013). We continue to find similar results.

market outcomes, in general, and perhaps may even improve market function via a reduction in volatility. This suggests that while TTW meetings may undermine the SEC's goal of protecting investors and ensuring fairness in capital markets, it does not seem to undermine their other goal of maintaining market efficiency.

## 5. Additional Tests

### 5.1. *Time Horizon of Retail Investor Withdrawal*

In this section, we consider the potential concern that the 2019 expansion leads to different types of firms going public. For example, it could be the case that non-EGCs with more complex and uncertain operating environments are more likely to go public because they now have the ability to solicit feedback during TTW meetings. To explore this issue, we examine whether our results persist over time. If our results are attributable to real or perceived informational disadvantages created by TTW meetings, we do not expect them to persist indefinitely because any information conveyed would gradually become less useful over time. On the other hand, if the results are attributable to different firms going public with TTW meetings, we would expect the results to persist over time. In other words, analyzing the time-persistence of our results helps tie our results to the private communications that occur due to TTW meetings, rather than differences in firm characteristics.

We replicate our results over a 25-day period starting one year after the IPO. Table 8 reports the results of this test. We fail to find similar evidence of a pullback in trading by retail investors (t-stat = -0.34). This suggests the pullback by retail investors in the presence of TTW meetings is transient rather than persistent and is consistent with private communication in TTW meetings driving our results, rather than differences in firm characteristics.

### 5.2. *Ruling out the Effect of the COVID-19 Pandemic*

In this section, we consider the potential impact of the COVID-19 pandemic on our findings. The COVID-19 pandemic caused a stock market crash in early 2020, which aligns closely with our TTW

expansion shock in late 2019. It is important to note that while the pandemic shock may have impacted firms, in general, we have no reason to believe that the shock influenced retail trading *differentially* across EGCs and non-EGCs. That is, we expect the EGC control group to limit the potential confounding effect of COVID-19 on our findings. Nonetheless, we estimate our main analysis after excluding the stock market crash that followed the pandemic. Specifically, the global stock market crash started on February 20, 2020 and ended on April 7, 2020. To be conservative, we exclude all IPOs in February, March, or April of 2020. Not surprisingly, there were only five firms that went public during that period, suggesting that the COVID-19 stock market crash is unlikely to have an effect on our findings. We estimate Equation 1 after excluding these five firms from our sample. Column 1 of Table 9 reports the results of this test. We continue to find a negative and statistically significant coefficient on the interaction term, similar to our main analysis (coefficient: -0.009; t-stat: -2.27).

*5.2.1. COVID-19 and Speculative Retail Trading*

We also consider the potential effect of the increase in speculative trading by retail investors that followed the COVID-19 pandemic. To the extent that speculative trading was concentrated in smaller firms soon after their IPO, the outcomes we observe could be attributable to the speculative trading frenzy rather than the TTW expansion. In other words, our findings could be impacted to the extent that retail investors increase trading in smaller firms (given these would constitute our control sample of EGC firms), without a similar increase in trading at larger firms. However, anecdotal evidence suggests the opposite is the case: notable examples of post-pandemic speculative trading included large and highly visible firms such as GameStop, AMC and others.[21] These firms are much larger and more visible than the median EGC firm that constitute our sample. Moreover, because our control sample consists of EGC firms (which are somewhat smaller on average than our treatment sample of non-

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[21] Some of the most popular retail investor "meme" stocks during the speculative trading frenzy following the COVID-19 pandemic were Amazon, Nio, Peloton, Tesla, and Zoom (Wilkes and Adinarayan, 2020) all of which have revenues much greater than $1 billion.

EGC firms), speculative retail trading focused on larger firms would bias against finding the results we document. Lastly, it is unclear whether the speculative trading by retail investors included IPO firms or whether such trades were concentrated in firms that were already public at the time of the pandemic.[22] Regardless of these considerations, we estimate Equation 1 after excluding IPOs in the one-year period after the COVID-19 pandemic (February 2020 to January 2021), which was the peak year for post-pandemic speculative trading by retail investors (Tsekova, 2022).[23] Column 2 of Table 9 reports these results. We continue to find a negative and statistically significant coefficient on the interaction term, similar to our main analysis (coefficient: -0.008; t-stat: -2.11).

To further rule out the possibility that retail investor speculative trading increased only for small firms after COVID-19, we estimate our analysis after dropping the smallest firms in our sample. Specifically, we exclude all EGC firms with revenues less than $500 million. In Panel B of Table 9, we find that, by excluding these firms, our non-EGC sample and EGC sample become indistinguishable across all control variables in our analysis (except for revenues), suggesting that the two groups are similar in all observable dimensions.[24] We report the results in Column 3 of Table 9. Despite the large reduction in sample size, we continue to find a negative and statistically significant coefficient on the interaction term, similar to our main analysis (coefficient: -0.004; t-stat: -2.03).

Lastly, we contend that if our results are driven by size differences between our treatment and control groups (which could be the case if the retail trading frenzy were concentrated among smaller firms), we would find similar results when comparing large EGC firms as a placebo treatment group to small EGC firms. We estimate our analysis after classifying IPO firms above $500 million in revenues

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[22] A large portion of retail investors' speculative trading began in early 2020 to take advantage of the market dip after COVID-19 with an expectation that stock prices would significantly rise again. Since IPO firms tend to go public when managers believe they are able to sell their shares at a premium, it is unlikely that the observed speculative trading by retail investors would be as widespread in IPO firms.

[23] See the following Bloomberg article for trends in retail trading surrounding the COVID-19 pandemic: https://www.bloomberg.com/news/articles/2022-12-07/meme-stock-drops-bitcoin-btc-fall-leave-retail-traders-hurting.

[24] Note that the difference in revenues between EGCs and non-EGCs is expected because EGC classification is determined by a revenue threshold.

but below $1 billion in revenues as our "placebo" treatment group and classifying IPO firms below $500 million as the control group. We report the results in Column 4 of Table 9. We fail to find an effect on the interaction term (t-stat = -0.58). This suggests that an increase in speculative trading by retail investors in different sized firms after COVID-19 is unlikely to explain our results.

*5.2.2. COVID-19 and Retail Trading in Biotech Firms*

We also consider the possibility that retail investor interest in biotech firms increased during the COVID-19 pandemic. This could explain our findings to the extent that retail investors increase trading in smaller biotech firms (given these would constitute our control sample of EGC firms), without a similar increase in trading at larger biotech firms. While it is possible that the COVID-19 pandemic increased retail investor trading in biotech firms in general because these firms were likely to benefit from higher sales as a result of the pandemic, we are unaware of any reason that this effect would vary by firm size. Nevertheless, we estimate Equation 1 after excluding EGC biotech firms from our sample. Column 5 of Table 9 reports these results. We continue to find a negative and statistically significant coefficient on the interaction term, similar to our main analysis (coefficient: -0.006; t-stat: -1.92). Overall, the findings in Table 9 suggest that our main results are unlikely to be attributable to the COVID-19 pandemic.

*5.3. Ruling Out the Potential Impact of the Robinhood IPO Access Program*

Some retail investors were granted limited access to purchase shares in IPOs in the primary market (meaning before the initiation of trading on the secondary market) through the Robinhood app starting in May of 2021 (Gempesaw, Henry, and Pisciotta 2023). Based on data from the Robinhood app, 14 of the 15 firms in the Robinhood program that were also in our sample are in the EGC group. This largely rules out one potential concern with the Robinhood program; the possibility that retail investors shifted their trading from the secondary market to the primary market through the Robinhood IPO access program. This would only impact our results if Robinhood IPO access firms were concentrated in the

non-EGC group (our treatment firms), which was not the case. However, it gives rise to a second concern related to the Robinhood program which is that the program increased retail investor attention in the secondary market for Robinhood IPO access firms (Gempesaw, Henry, and Pisciotta 2023). Given that Robinhood IPO access firms are disproportionately in the EGC control sample, retail investors may have increased their trading for EGC firms that were part of the IPO access program, without a similar increase in non-EGC firms. To mitigate this concern, in Table 10 we replicate our results after excluding firms that were part of Robinhood's IPO access program. The results are robust to this sample exclusion (coefficient: -0.009, t-stat: -2.11).

*5.4. Ruling Out the Effect of Potential Differences in S-1 Content*

We next consider the potential confounding effect of public disclosures. Prior literature suggests that managers may alter publicly available disclosures when private disclosure increases (e.g. Heflin et al., 2003; Nagar and Schoenfeld, 2021). Alhusaini et al. (2023) also provide evidence that TTW meetings changes the disclosure landscape for firms that conducted TTW meetings after going public. We note that these changes occur in post-IPO disclosures. Our analyses deliberately focus on trading during the quiet period to avoid the potential confounding effect of post-IPO disclosure changes. However, the S-1 is available during the quiet period, so there remains a possibility that firms change public disclosures in the S-1 in the presence of TTW meetings. To the extent this is the case, our results could be attributable to reduced disclosure or reduced information content in the S-1 rather than in the TTW meetings. To address this concern, we examine whether TTW meetings are associated with differences in S-1 content. Specifically, we examine length (*Length*), readability (*Fog*), tone *(Tone)*, and numerical intensity (*Numeric*) of the S-1 filings (e.g. Li, 2008; Loughran and McDonald, 2013; Guay et al., 2016). We report these results in Table 11. Columns 1, 2, 3, and 4 report results when the dependent variable is *Length, Fog, Tone,* and *Numeric*, respectively. We fail to find differences in S-1 content (t-stat: 1.31 in

Column 1, 0.16 in Column 2, 1.56 in Column 3, and 0.76 in Column 4). Therefore, we conclude that our results are unlikely to be attributable to changes in public disclosure post-regulation.

*5.5. Ruling Out Changes in the Book-building Process*

We next consider the potential impact of TTW meetings on how institutional investors are allocated shares or value the firm. In the weeks and months before the IPO, investors are assessing firm value and deciding whether to make an investment. The underwriters hired by the firm are gauging market interest and updating the expected offer price. It is possible that TTW meetings, which are happening around the same time, could change how institutional investors behave. We focus on two specific potential changes that could potentially confound our results. The first is that IPO pricing could become more efficient, meaning the offer price for the IPO firm is closer to its fundamental value which would imply less underpricing in the primary market. This could affect retail investor attention because the large positive returns caused by underpricing in the first day of trading create attention through greater investor awareness and media coverage, which could impact retail investor trading immediately after the IPO.

In order to mitigate this concern, we replicate the main results after controlling for underpricing. We report these results in Column 1 of Table 12. We continue to find a negative association between retail investor trading and TTW meetings after controlling for underpricing (t-stat: -2.15), which largely rules out the possibility that retail investors are trading less because of less attention to the IPO because of lower first-day returns (i.e., reduced underpricing).

A second possible consequence of TTW meetings is that there is a better matching between firms and investors (Alhusaini et al., 2023) such that primary market investors hold the shares initially allocated to them for longer (i.e., less share "flipping"). This could provide an alternative explanation for our results to the extent that there were simply fewer available shares for retail investors to trade. We note that our previous results mitigate this concern because we fail to find a significant change in institutional

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trading volume immediately after the IPO in Table 2. This evidence suggests that better matching between IPO firms and institutional investors in the primary market is unlikely to fully explain our results. However, to more fully mitigate this concern, in Column 2 of Table 12, we report the results after controlling for daily institutional trading volume. We continue to find a negative association between retail investor trading and TTW meetings (t-stat: -2.35), which mitigates the concern that retail investors are trading less because there are fewer shares available to trade.[25] Therefore, we conclude that our results are unlikely to be attributable to changes in the book-building process that impact IPO market characteristics or institutional investor behavior in the presence of TTW meetings.

*5.6. Parallel Trends*

We next examine whether the control and treatment observations in our sample exhibit parallel trends prior to the regulation change. Specifically, we examine whether the interaction effect in t-1 is significantly different than t-2. We do not extend this analysis to the years prior to 2018 since, as we noted above, in 2017, the SEC expanded the confidential filing provision to all issuers (i.e. non-EGCs). Since the expansion of confidential filings may impact retail investors, we only examine parallel trends in the two years prior to the 2019 regulation change.

We drop the interaction effect in t-2 and use that year as our baseline year. If the control and treatment observations exhibit parallel trends prior to the regulation change, then we expect to find an insignificant effect on the interaction term in t-1. In Table 13, we find that the effect in period t-1 is insignificant (t-stat = -0.21). In contrast, we begin to find a statistically significant effect after the regulation change in t+1 and t+2 (t-stat = -2.10 for t+1 and -1.88 for t+2). For a visual representation of parallel trends, we plot these coefficient estimates in Figure 1. Overall, these findings suggest that

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[25] To the extent that institutional trading volume does not include all trades made by institutions, we may be underestimating flipping activity. In untabulated analysis we control for total volume instead of institutional volume to capture all possible flipped shares and continue to find similar results.

the treatment and control observations exhibited similar trends prior to the regulation change and that the regulation itself drove the differences in retail trading.

## 6. Conclusion

In this paper, we study the effect of TTW meetings on retail investor trading and capital market outcomes using the 2019 expansion of testing-the-waters meetings for firms anticipating an IPO. We first use a difference-in-differences research design comparing the effect on retail trading for firms permitted to hold TTW meetings after the 2019 expansion relative to a control set of firms who were permitted to hold TTW meetings before and after the expansion. We find lower retail investor trading for treatment firms, consistent with TTW meetings reducing retail investor trading. We also find evidence consistent with worse investment outcomes for those retail investors still participating in the capital markets. This effect is magnified for firms with higher proprietary information and for firms with weaker transparency. Combined, our evidence is consistent with retail investors losing confidence in a level playing field and withdrawing from the market in the presence of TTW meetings. Despite reduced retail trading, we fail to find a reduction in market liquidity or any harm in price discovery for our treatment firms. However, we observe a reduction in stock return volatility. Overall, our evidence suggests that while TTW meetings appear to harm retail investors, they do not seem to harm, and perhaps even help, overall market function.

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**Appendix – Variable Definitions**

| Variable | Definition |
|---|---|
| *Advertising* | Advertising expense, scaled by total assets |
| *Age* | Log of firm age at IPO date |
| *Amivest* | Log of volume divided by the absolute value of daily return |
| *Biotech* | Indicator variable equal to one if the IPO firm is in SIC code 2830, 2833, 2834, 2835, 2836, or 8731, or zero otherwise |
| *BTM* | Book value of equity divided by market value of equity based on the IPO offering price |
| *CTO* | Indicator variable equal to one if the firm redacted information in their registration statement, or zero otherwise |
| *Depth_Ask* | Best ask dollar depth obtained from TAQ, scaled by market capitalization |
| *Depth_Bid* | Best bid dollar depth obtained from TAQ, scaled by market capitalization |
| *Fog* | Fog Index of the S-1 filing |
| *FormD* | Number of Reg D offerings in the year prior to the IPO date |
| *InstitutionalVol* | Institutional investors' trading volume, scaled by shares outstanding |
| *IPOVol* | Number of IPOs in the industry in the three months prior to the IPO date |
| *IPT* | IPT over days +1 to +25 relative to the IPO date. $IPT_{1,25} = \frac{1}{2}\Sigma_{t=0}^{20}(BH_{t-1} + BH_t)/BH_{25} = \Sigma_{t=0}^{20}(BH_t)/BH_{25} + 0.5$, where $BH_t$ represents the market-adjusted buy-and-hold return over the $[0,+t]$ day window. We follow Blankespoor et al. (2018) to adjust for reversals and overreactions. |
| *Length* | Log of the total number of words in the S-1 filing |
| *Leverage* | Total debt divided by total assets |
| *Nasdaq* | Indicator variable equal to one if the IPO firm is listed in the Nasdaq exchange, or zero otherwise |
| *NetRetail* | The difference between trading volume of retail purchase transactions and trading volume of retail sale transactions, divided by shares outstanding |
| *NonEGC* | Indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise |
| *Numeric* | Count of numbers in the S-1 filing, scaled by total words |
| *PctRetained* | Percentage of shares retained after the IPO by pre-IPO shareholders |
| *Post* | Indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise |
| *R&D* | Research and development expense, scaled by total assets |
| *RetailVol* | Retail investors' trading volume, scaled by shares outstanding |
| *Returns180* | Buy-and-hold abnormal returns over the 180-day window starting on IPO date |
| *ROA* | Net income divided by total assets |
| *Size* | Market value of equity based on the IPO offering price |
| *Spread_CS* | The average daily bid-ask spreads following Corwin and Shultz (2009) |
| *Spread_DW* | The dollar value-weighted effective spread obtained from TAQ |
| *Tone* | The number of positive words minus the number of negative words in the S-1 filing, scaled by total words |
| *TotalVol* | Total trading volume, scaled by shares outstanding |
| *Underpricing* | Percentage change between closing price on IPO date and the IPO offer price |
| *Underwriter* | Carter-Manaster underwriter reputation ranking |
| *VC* | Indicator variable equal to one if the IPO firm is venture capital-backed, or zero otherwise |
| *Volatility* | Standard deviation of returns in the 25-day window after the IPO date |

**Figure 1 – Parallel Trends**
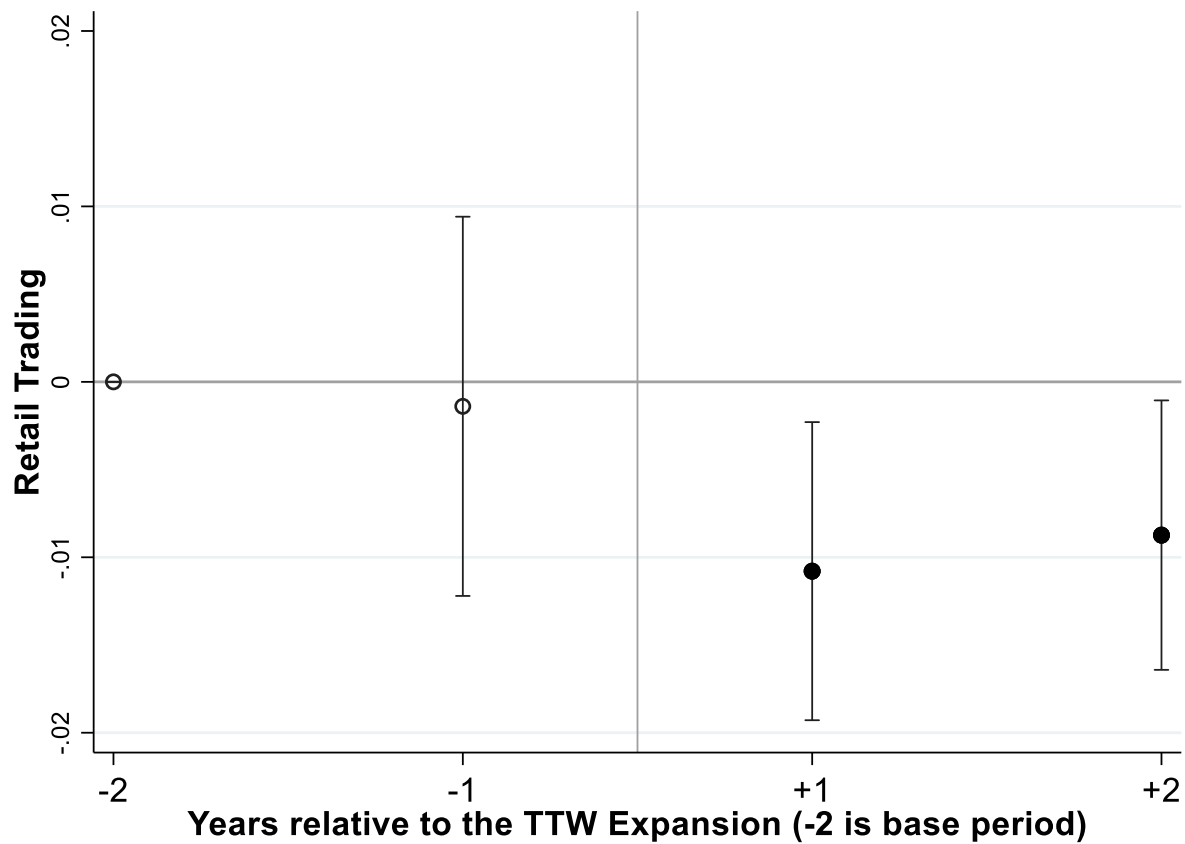


Figure 1 presents retail trading volume for the two years before and after the TTW expansion. Retail trading volume is the difference-in-differences coefficient estimate for each year (-2 is the base period). Vertical lines represent the 90% confidence intervals. Unshaded (shaded) circles represent insignificant (significant) coefficients. See Table 13 for the tabulated version of the figure.

**Table 1 – Descriptive Statistics**

| Variable | STD | P25 | Mean | Median | P75 |
|---|---|---|---|---|---|
| Advertising | 0.088 | 0.000 | 0.028 | 0.000 | 0.008 |
| Age | 0.814 | 1.792 | 2.362 | 2.303 | 2.833 |
| Amivest | 1.672 | 15.232 | 16.392 | 16.308 | 17.496 |
| Biotech | 0.497 | 0.000 | 0.445 | 0.000 | 1.000 |
| BTM | 0.210 | 0.000 | 0.097 | 0.057 | 0.154 |
| CTO | 0.497 | 0.000 | 0.557 | 1.000 | 1.000 |
| Depth_Ask | 0.047 | 0.006 | 0.023 | 0.012 | 0.024 |
| Depth_Bid | 0.086 | 0.006 | 0.028 | 0.012 | 0.025 |
| Fog | 0.765 | 23.687 | 24.196 | 24.250 | 24.758 |
| FormD | 0.397 | 0.000 | 0.282 | 0.000 | 0.693 |
| InstitutionalVol | 0.051 | 0.000 | 0.010 | 0.001 | 0.004 |
| IPOVol | 1.236 | 0.000 | 1.171 | 0.693 | 2.303 |
| IPT | 148.11 | -4.417 | -22.323 | 9.063 | 15.003 |
| Length | 0.235 | 11.589 | 11.689 | 11.725 | 11.840 |
| Leverage | 0.344 | 0.000 | 0.300 | 0.164 | 0.530 |
| Nasdaq | 0.400 | 1.000 | 0.801 | 1.000 | 1.000 |
| NetRetail | 0.013 | 0.001 | 0.006 | 0.003 | 0.006 |
| NonEGC | 0.257 | 0.000 | 0.071 | 0.000 | 0.000 |
| Numeric | 0.009 | 0.031 | 0.038 | 0.037 | 0.044 |
| PctRetained | 0.464 | 0.680 | 0.674 | 0.764 | 0.833 |
| Post | 0.469 | 0.000 | 0.673 | 1.000 | 1.000 |
| R&D | 0.773 | 0.014 | 0.414 | 0.173 | 0.417 |
| RetailVol | 0.052 | 0.000 | 0.006 | 0.001 | 0.002 |
| Returns180 | 0.406 | -0.411 | -0.123 | -0.192 | 0.076 |
| Revenue | 2.732 | 0.000 | 3.022 | 2.966 | 5.362 |
| ROA | 2.416 | -0.695 | -0.844 | -0.256 | -0.030 |
| Size | 1.285 | 12.584 | 13.294 | 13.273 | 14.068 |
| Spread_CS | 0.056 | -0.013 | 0.008 | 0.015 | 0.037 |
| Spread_DW | 0.011 | 0.003 | 0.007 | 0.005 | 0.009 |
| Tone | 0.003 | -0.011 | -0.009 | -0.009 | -0.007 |
| TotalVol | 0.146 | 0.003 | 0.039 | 0.007 | 0.022 |
| Underpricing | 0.389 | -0.001 | 0.256 | 0.169 | 0.434 |
| Underwriter | 2.647 | 7.000 | 7.063 | 8.000 | 9.000 |
| VC | 0.494 | 0.000 | 0.580 | 1.000 | 1.000 |
| Volatility | 0.042 | 0.034 | 0.055 | 0.049 | 0.068 |

Table 1 provides descriptive statistics for all variables used in our analyses. All variables are defined in the Appendix.

**Table 2 – TTW and Investor Trading**

|  | (1) TotalVol | (2) RetailVol | (3) InstitutionalVol |
|---|---|---|---|
| NonEGC | 0.049*** | 0.013*** | -0.000 |
|  | (2.93) | (2.92) | (-0.08) |
| Post*NonEGC | -0.034** | -0.009** | -0.003 |
|  | (-2.03) | (-2.27) | (-0.84) |
| Size | -0.012*** | -0.003*** | 0.002*** |
|  | (-5.39) | (-5.12) | (4.48) |
| Revenue | -0.002 | -0.001 | 0.001* |
|  | (-0.73) | (-1.40) | (1.73) |
| ROA | 0.007*** | 0.002** | -0.000 |
|  | (3.44) | (2.05) | (-1.57) |
| R&D | 0.009* | -0.000 | 0.000 |
|  | (1.81) | (-0.06) | (0.07) |
| Age | -0.006 | -0.000 | -0.001 |
|  | (-0.96) | (-0.13) | (-1.36) |
| Advertising | 0.025 | 0.002 | -0.002 |
|  | (1.09) | (0.46) | (-0.46) |
| Leverage | 0.015*** | 0.008*** | -0.001* |
|  | (3.92) | (3.55) | (-1.84) |
| VC | 0.003 | 0.000 | 0.003 |
|  | (0.44) | (0.24) | (1.45) |
| Nasdaq | 0.002 | -0.000 | -0.001 |
|  | (0.26) | (-0.24) | (-0.34) |
| BTM | 0.011 | 0.004 | -0.002 |
|  | (1.35) | (1.49) | (-1.03) |
| FormD | -0.013** | -0.003* | -0.001 |
|  | (-2.22) | (-1.78) | (-0.64) |
| PctRetained | -0.066*** | -0.004** | -0.043*** |
|  | (-6.99) | (-2.11) | (-19.22) |
| Underwriter | -0.003*** | -0.001*** | -0.000 |
|  | (-2.95) | (-2.83) | (-1.23) |
| IPOVol | -0.006 | -0.002 | -0.000 |
|  | (-1.62) | (-1.52) | (-0.90) |
| Observations | 8,931 | 8,931 | 8,931 |
| R-squared | 0.120 | 0.051 | 0.161 |
| Time Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |

Table 2 reports the results of estimating Equation 1. Columns 1, 2, and 3 report the results when the dependent variable is *TotalVol, RetailVol* and *InstitutionalVol*, respectively. *TotalVol* is total trading volume, scaled by shares outstanding. *RetailVol* is retail investors' trading volume, scaled by shares outstanding. *InstitutionalVol* is institutional investors' trading volume, scaled by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 3 – Cross-sectional Analysis**
**Panel A. Retail Trading**

| | (1) RetailVol | (2) RetailVol | (3) RetailVol |
|---|---|---|---|
| Post*NonEGC | -0.006 | -0.007 | -0.550** |
| | (-1.55) | (-1.41) | (-2.53) |
| Post*NonEGC*Biotech | -0.015** | | |
| | (-2.04) | | |
| Post*NonEGC*CTO | | -0.014*** | |
| | | (-2.64) | |
| Post*NonEGC*Length | | | 0.046** |
| | | | (2.49) |
| Size | -0.003*** | -0.003*** | -0.002*** |
| | (-4.97) | (-5.21) | (-2.96) |
| Revenue | -0.001 | -0.001 | -0.001 |
| | (-1.41) | (-1.39) | (-0.97) |
| ROA | 0.002** | 0.002** | 0.002 |
| | (2.20) | (2.01) | (1.56) |
| R&D | -0.001 | -0.000 | -0.000 |
| | (-0.29) | (-0.10) | (-0.14) |
| Age | -0.000 | -0.000 | 0.000 |
| | (-0.07) | (-0.22) | (0.07) |
| Advertising | 0.003 | 0.002 | 0.004 |
| | (0.58) | (0.41) | (0.76) |
| Leverage | 0.008*** | 0.008*** | 0.008** |
| | (3.77) | (3.61) | (2.57) |
| VC | 0.000 | 0.000 | 0.001 |
| | (0.10) | (0.13) | (0.74) |
| Nasdaq | -0.001 | -0.000 | -0.000 |
| | (-0.51) | (-0.30) | (-0.19) |
| BTM | 0.003 | 0.004 | 0.005 |
| | (1.16) | (1.29) | (1.36) |
| FormD | -0.003* | -0.003* | -0.002* |
| | (-1.69) | (-1.70) | (-1.72) |
| PctRetained | -0.004** | -0.004** | -0.005* |
| | (-2.01) | (-2.15) | (-1.83) |
| Underwriter | -0.001*** | -0.001** | -0.001* |
| | (-2.77) | (-2.55) | (-1.81) |
| IPOVol | -0.003 | -0.002 | -0.002 |
| | (-1.62) | (-1.43) | (-1.25) |
| Observations | 8,931 | 8,931 | 8,851 |
| R-squared | 0.053 | 0.052 | 0.053 |
| Time Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |
| Lower Order Terms | Yes | Yes | Yes |

## Panel B. Institutional Trading

| | (1) InstitutionalVol | (2) InstitutionalVol | (3) InstitutionalVol |
|---|---|---|---|
| Post*NonEGC | -0.003 | -0.002 | -0.263 |
| | (-0.87) | (-0.60) | (-1.15) |
| Post*NonEGC*Biotech | 0.001 | | |
| | (0.15) | | |
| Post*NonEGC*CTO | | -0.013** | |
| | | (-2.24) | |
| Post*NonEGC*Length | | | 0.022 |
| | | | (1.14) |
| Size | 0.002*** | 0.002*** | 0.003*** |
| | (4.46) | (4.54) | (4.36) |
| Revenue | 0.000* | 0.001* | 0.001** |
| | (1.90) | (1.77) | (2.42) |
| ROA | -0.000 | -0.000 | -0.000 |
| | (-1.22) | (-1.57) | (-1.64) |
| R&D | 0.000 | 0.000 | 0.000 |
| | (0.31) | (0.15) | (0.16) |
| Age | -0.001 | -0.001 | -0.001 |
| | (-1.34) | (-1.30) | (-1.13) |
| Advertising | -0.003 | -0.003 | -0.002 |
| | (-0.56) | (-0.46) | (-0.38) |
| Leverage | -0.001* | -0.001* | -0.001* |
| | (-1.81) | (-1.96) | (-1.85) |
| VC | 0.003 | 0.003 | 0.003 |
| | (1.40) | (1.49) | (1.53) |
| Nasdaq | -0.000 | -0.001 | -0.001 |
| | (-0.24) | (-0.31) | (-0.41) |
| BTM | -0.002 | -0.003 | -0.001 |
| | (-1.01) | (-1.49) | (-0.36) |
| FormD | -0.001 | -0.001 | -0.001 |
| | (-0.46) | (-0.57) | (-0.54) |
| PctRetained | -0.043*** | -0.043*** | -0.043*** |
| | (-19.07) | (-19.02) | (-17.98) |
| Underwriter | -0.000 | -0.000 | -0.000 |
| | (-1.02) | (-1.27) | (-0.71) |
| IPOVol | -0.000 | -0.000 | -0.000 |
| | (-0.33) | (-0.84) | (-0.97) |
| Observations | 8,931 | 8,931 | 8,851 |
| R-squared | 0.162 | 0.162 | 0.164 |
| Time Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |
| Lower Order Terms | Yes | Yes | Yes |

Table 3 replicates the results of estimating Equation 1 after including an interaction term with variables that proxy for proprietary information or information transparency. Columns 1 and 2 report the results when the proxy for proprietary information is *Biotech* and *CTO*, respectively. Column 3 report the results when the proxy for information transparency is *Length*. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. *Biotech* is an indicator variable equal to one if the IPO firm is in the biotech industry, or zero otherwise. *CTO* is an indicator

variable equal to one if the IPO firm redacted information in their registration statement through a confidential treatment order, or zero otherwise. *Length* is the log of the total number of words in the S-1 filing. Our variable of interest in Columns 1 – 3 is the three-way interaction term, *Post\*NonEGC\*Biotech* and *Post\*NonEGC\*CTO*, respectively. All other variables are defined in the Appendix. \*, \*\*, \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels.

## Table 4 – TTW and Retail Investor Harm

| | (1) Returns180 | (2) Returns180 |
|---|---|---|
| *NetRetail* | -6.168** | -10.507** |
| | (-2.42) | (-2.59) |
| *Post*NonEGC*NetRetail* | | -42.344*** |
| | | (-3.25) |
| *Size* | -0.019 | -0.025 |
| | (-0.85) | (-0.97) |
| *Revenue* | 0.004 | 0.004 |
| | (0.29) | (0.39) |
| *ROA* | 0.006 | 0.006 |
| | (0.52) | (0.58) |
| *R&D* | 0.050* | 0.049 |
| | (1.70) | (1.41) |
| *Age* | 0.018 | 0.024 |
| | (0.57) | (0.71) |
| *Advertising* | -0.314*** | -0.257 |
| | (-3.10) | (-1.63) |
| *Leverage* | -0.021 | -0.020 |
| | (-0.83) | (-0.80) |
| *VC* | 0.029 | 0.035 |
| | (0.46) | (0.52) |
| *Nasdaq* | -0.000 | -0.016 |
| | (-0.00) | (-0.24) |
| *BTM* | 0.045 | 0.055 |
| | (0.66) | (0.75) |
| *FormD* | -0.088 | -0.082 |
| | (-1.50) | (-1.42) |
| *PctRetained* | -0.146** | -0.136** |
| | (-2.28) | (-2.19) |
| *Underwriter* | 0.009 | 0.009 |
| | (0.69) | (0.59) |
| *IPOVol* | -0.051** | -0.044* |
| | (-2.45) | (-1.87) |
| Observations | 544 | 544 |
| R-squared | 0.131 | 0.146 |
| Time Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Lower Order Terms | Yes | Yes |

Table 4 reports the results of estimating the effect of TTW meetings on retail investor trading losses. Columns 1 examines the effect of signed retail trading on future returns. Column 2 examines the effect of signed retail trading on future returns in the presence of TTW meetings. *Returns180* is buy-and-hold returns for the 180-day window starting on the IPO date. *NetRetail* is the difference between trading volume of retail purchase transaction and trading volume of retail sale transactions, divided by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest in Columns 1 and 2 is *NetRetail* and the interaction term, *Post*NonEGC*NetRetail*, respectively. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

## Table 5 – TTW and Liquidity

| | (1) Spread_CS | (2) Amivest | (3) Spread_DW | (4) Depth_Bid | (5) Depth_Ask |
|---|---|---|---|---|---|
| NonEGC | 0.001 | 0.952*** | 0.003 | 0.010 | 0.010** |
| | (0.35) | (5.33) | (1.16) | (1.13) | (2.33) |
| Post*NonEGC | -0.000 | -0.369 | -0.002 | -0.004 | -0.002 |
| | (-0.03) | (-1.20) | (-0.96) | (-0.71) | (-0.45) |
| Size | -0.001 | 0.497*** | -0.002*** | -0.014*** | -0.014*** |
| | (-0.80) | (8.60) | (-2.92) | (-9.05) | (-9.51) |
| Revenue | -0.001 | 0.060 | -0.001*** | -0.000 | -0.001 |
| | (-1.58) | (1.39) | (-2.62) | (-0.31) | (-0.84) |
| ROA | -0.000 | 0.056** | -0.001* | 0.002 | -0.000 |
| | (-0.00) | (2.06) | (-1.77) | (1.41) | (-0.26) |
| R&D | 0.003*** | 0.026 | -0.001 | 0.000 | -0.002 |
| | (2.84) | (0.42) | (-1.03) | (0.11) | (-0.91) |
| Age | 0.000 | -0.090 | -0.000 | -0.003 | -0.002 |
| | (0.12) | (-1.18) | (-0.63) | (-0.79) | (-0.66) |
| Advertising | 0.004 | 0.641 | -0.004* | 0.040*** | 0.011* |
| | (1.07) | (1.32) | (-1.68) | (2.72) | (1.69) |
| Leverage | 0.000 | 0.172** | -0.001*** | 0.004 | 0.002 |
| | (0.42) | (2.57) | (-3.05) | (1.02) | (1.54) |
| VC | 0.001 | -0.068 | -0.001** | -0.004 | -0.002 |
| | (0.42) | (-0.92) | (-2.05) | (-0.80) | (-0.76) |
| Nasdaq | 0.004* | 0.065 | 0.000 | 0.005 | 0.000 |
| | (1.94) | (0.63) | (0.38) | (0.88) | (0.11) |
| BTM | 0.001 | 0.386* | -0.001 | 0.014 | 0.004 |
| | (0.39) | (1.85) | (-1.33) | (1.39) | (1.12) |
| FormD | -0.002 | -0.080 | -0.001 | -0.001 | -0.001 |
| | (-1.35) | (-1.16) | (-1.02) | (-0.25) | (-0.53) |
| PctRetained | 0.002 | -0.470* | 0.002* | -0.006** | -0.005*** |
| | (0.97) | (-1.89) | (1.75) | (-2.60) | (-2.78) |
| Underwriter | 0.001 | -0.021 | -0.000 | -0.003** | -0.001** |
| | (1.23) | (-0.75) | (-0.58) | (-2.51) | (-2.24) |
| IPOVol | -0.000 | -0.018 | -0.000 | 0.001 | -0.001 |
| | (-0.62) | (-0.47) | (-0.79) | (0.82) | (-0.41) |
| Observations | 8,327 | 8,188 | 8,868 | 8,931 | 8,931 |
| R-squared | 0.007 | 0.348 | 0.211 | 0.110 | 0.224 |
| Time Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes |

Table 5 reports the results of estimating the effect of TTW meetings on liquidity. Columns 1, 2, 3, 4, and 5 report the results when the dependent variable is *Spread_CS*, *Amivest*, *Spread_DW*, *Depth_Bid*, and *Depth_Ask* respectively. *Spread_CS* is the average daily bid-ask spreads following Corwin and Shultz (2009). *Amivest* is the log of volume divided by the absolute value of daily return. *Spread_DW* is the dollar value-weighted effective spread obtained from TAQ. *Depth_Bid* is the best bid dollar depth obtain from TAQ, scaled by market capitalization. *Depth_Ask* is the best ask dollar depth obtained from TAQ, scaled by market capitalization. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 6 – TTW and Volatility**

| | (1) Volatility |
|---|---|
| NonEGC | 0.015** |
| | (2.54) |
| Post*NonEGC | -0.018*** |
| | (-2.82) |
| Size | -0.004** |
| | (-2.39) |
| Revenue | -0.003** |
| | (-2.33) |
| ROA | 0.000 |
| | (0.39) |
| R&D | -0.002 |
| | (-0.74) |
| Age | -0.003 |
| | (-1.00) |
| Advertising | -0.013 |
| | (-0.91) |
| Leverage | -0.000 |
| | (-0.15) |
| VC | 0.011*** |
| | (4.25) |
| Nasdaq | 0.004 |
| | (1.10) |
| BTM | -0.010 |
| | (-1.48) |
| FormD | -0.005*** |
| | (-3.14) |
| PctRetained | 0.004** |
| | (2.01) |
| Underwriter | -0.002* |
| | (-1.67) |
| IPOVol | -0.003* |
| | (-1.83) |
| Observations | 544 |
| R-squared | 0.165 |
| Time Fixed Effects | Yes |
| Industry Fixed Effects | Yes |

Table 6 reports the results of estimating the effect of TTW meetings on market volatility. *Volatility* is the standard deviation of returns in the 25-day window after the IPO date. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

## Table 7 – TTW and Price Discovery

| | (1) IPT | (2) IPT_Deciles |
|---|---|---|
| NonEGC | 3.155 | 1.159 |
| | (0.08) | (1.14) |
| Post*NonEGC | -11.140 | -1.003 |
| | (-0.37) | (-0.97) |
| Size | -19.968 | -0.223 |
| | (-1.28) | (-1.38) |
| Revenue | 5.938 | 0.014 |
| | (0.62) | (0.15) |
| ROA | -7.782 | -0.066 |
| | (-1.37) | (-0.82) |
| R&D | -16.585 | -0.093 |
| | (-1.12) | (-0.37) |
| Age | 0.094 | 0.041 |
| | (0.01) | (0.16) |
| Advertising | -53.073 | -2.274 |
| | (-1.54) | (-1.57) |
| Leverage | -14.341** | -0.230* |
| | (-2.11) | (-1.92) |
| VC | -9.373 | 0.158 |
| | (-0.87) | (0.42) |
| Nasdaq | -12.404 | -0.289 |
| | (-0.62) | (-0.77) |
| BTM | -62.896 | -0.259 |
| | (-0.91) | (-0.38) |
| FormD | 12.051 | 0.325 |
| | (0.90) | (1.06) |
| PctRetained | 24.066 | 0.438*** |
| | (1.59) | (3.05) |
| Underwriter | 2.386 | -0.165** |
| | (0.67) | (-1.99) |
| IPOVol | 4.370 | 0.058 |
| | (0.55) | (0.37) |
| Observations | 544 | 544 |
| R-squared | 0.045 | 0.099 |
| Time Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |

Table 7 reports the results of estimating the effect of TTW meetings on price discovery. *IPT* is the adjusted intra-period timeliness in the [1,25] window after the IPO date. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 8 – Retail Trading One Year Post-IPO**

|  | (1)<br>*RetailVol* |
|---|---|
| *NonEGC* | 0.002 |
|  | (0.90) |
| *Post\*NonEGC* | -0.001 |
|  | (-0.34) |
| *Size* | -0.001 |
|  | (-1.09) |
| *Revenue* | -0.000 |
|  | (-0.73) |
| *ROA* | 0.000 |
|  | (0.80) |
| *R&D* | 0.000 |
|  | (0.26) |
| *Age* | 0.000 |
|  | (0.44) |
| *Advertising* | 0.006 |
|  | (1.29) |
| *Leverage* | 0.000 |
|  | (1.04) |
| *VC* | 0.002 |
|  | (1.15) |
| *Nasdaq* | 0.001 |
|  | (0.81) |
| *BTM* | -0.003 |
|  | (-1.54) |
| *FormD* | -0.001 |
|  | (-1.08) |
| *PctRetained* | -0.000 |
|  | (-0.14) |
| *Underwriter* | -0.000 |
|  | (-1.29) |
| *IPOVol* | 0.000 |
|  | (0.38) |
| Observations | 7,928 |
| R-squared | 0.010 |
| Time Fixed Effects | Yes |
| Industry Fixed Effects | Yes |

Table 8 reports the results of estimating Equation 1 when examining retail trading one year after the IPO. *RetailVol* is retail investors' trading volume, scaled by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post\*NonEGC*. All other variables are defined in the Appendix. \*, \*\*, \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 9 – Ruling out the effect of the COVID-19 Pandemic**

**Panel A. Regression analysis to rule out the effect of the COVID-19 pandemic**

| | (1) RetailVol | (2) RetailVol | (3) RetailVol | (4) RetailVol | (5) RetailVol |
|---|---|---|---|---|---|
| NonEGC | 0.013*** | 0.015*** | 0.004** | 0.002 | 0.013*** |
| | (2.91) | (3.06) | (2.07) | (0.54) | (3.91) |
| Post*NonEGC | -0.009** | -0.008** | -0.004** | -0.002 | -0.006* |
| | (-2.27) | (-2.11) | (-2.03) | (-0.58) | (-1.92) |
| Size | -0.003*** | -0.002** | -0.001*** | -0.003*** | -0.003*** |
| | (-5.07) | (-2.54) | (-2.95) | (-4.99) | (-5.94) |
| Revenue | -0.002 | -0.003* | -0.001* | -0.001 | -0.002** |
| | (-1.41) | (-1.95) | (-1.77) | (-1.20) | (-2.20) |
| ROA | 0.002** | 0.004*** | -0.033*** | 0.002** | 0.000 |
| | (2.05) | (3.13) | (-24.40) | (2.01) | (0.01) |
| R&D | -0.000 | -0.003 | -0.007 | -0.000 | -0.007** |
| | (-0.03) | (-1.17) | (-0.53) | (-0.05) | (-2.49) |
| Age | -0.000 | -0.000 | 0.002 | -0.000 | -0.001 |
| | (-0.11) | (-0.07) | (1.43) | (-0.00) | (-0.55) |
| Advertising | 0.002 | -0.000 | 0.026*** | -0.008* | -0.001 |
| | (0.46) | (-0.06) | (3.37) | (-1.87) | (-0.16) |
| Leverage | 0.008*** | 0.011*** | -0.001 | 0.008*** | -0.000 |
| | (3.53) | (4.06) | (-0.37) | (3.64) | (-0.24) |
| VC | 0.000 | -0.000 | -0.004* | 0.000 | -0.000 |
| | (0.31) | (-0.21) | (-1.68) | (0.29) | (-0.30) |
| Nasdaq | -0.000 | 0.001 | 0.001 | -0.000 | 0.001 |
| | (-0.30) | (0.33) | (0.76) | (-0.32) | (0.49) |
| BTM | 0.004 | 0.002 | 0.003 | 0.004 | -0.001 |
| | (1.53) | (0.85) | (1.01) | (1.07) | (-0.46) |
| FormD | -0.003* | -0.005*** | -0.001 | -0.002 | -0.001 |
| | (-1.77) | (-3.62) | (-0.18) | (-1.64) | (-0.50) |
| PctRetained | -0.004** | -0.015** | -0.002 | -0.004** | -0.005*** |
| | (-2.10) | (-2.08) | (-0.61) | (-2.08) | (-3.51) |
| Underwriter | -0.001*** | -0.001*** | -0.001 | -0.001** | -0.000 |
| | (-2.91) | (-2.88) | (-1.53) | (-2.58) | (-0.66) |
| IPOVol | -0.002 | -0.003* | -0.000 | -0.002 | 0.000 |
| | (-1.53) | (-1.68) | (-0.28) | (-1.47) | (0.18) |
| Observations | 8,819 | 6,927 | 1,218 | 8,274 | 5,039 |
| R-squared | 0.051 | 0.061 | 0.418 | 0.050 | 0.117 |
| Time Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes |

**Panel B. Descriptive statistics by EGC classification**

| Variable | EGC | Non-EGC | Difference | t-Stat |
|---|---|---|---|---|
| *Size* | 14.468 | 14.910 | 0.442 | 1.56 |
| *Revenue* | 6.556 | 7.379 | 0.823 | 2.58** |
| *ROA* | -0.007 | -0.078 | -0.071 | 1.63 |
| *R&D* | 0.044 | 0.026 | -0.018 | 1.08 |
| *Age* | 3.192 | 3.486 | 0.294 | 1.59 |
| *Advertising* | 0.024 | 0.052 | 0.028 | 1.27 |
| *Leverage* | 0.446 | 0.479 | 0.033 | 0.38 |
| *VC* | 0.111 | 0.140 | 0.029 | 0.37 |
| *Nasdaq* | 0.611 | 0.581 | -0.030 | 0.26 |
| *BTM* | 0.217 | 0.134 | -0.083 | 1.13 |
| *FormD* | 0.000 | 0.032 | 0.032 | 1.31 |
| *PctRetained* | 0.673 | 0.745 | 0.072 | 1.19 |
| *Underwriter* | 8.497 | 8.112 | -0.385 | 1.32 |
| *IPOVol* | 0.584 | 0.306 | -0.278 | 1.44 |

Table 9 Panel A rules out the effect of the COVID-19 pandemic. Column 1 reports the results of estimating Equation 1 after excluding IPOs during the 2020 stock market crash. Column 2 reports the results of estimating Equation 1 after excluding IPOs in the one-year period after COVID-19 (i.e. the peak of speculative trading by retail investors). Column 3 reports the results of estimating Equation 1 after excluding non-EGCs below $500 million in revenues. Column 4 reports the results of comparing large EGC firms (between $500 million and $1 billion in revenue) as a placebo treatment group to small EGC firms (less than $500 million in revenue). Column 5 reports the results of estimating Equation 1 after excluding EGC biotech IPOs. Panel B provides descriptive statistics by EGC classification after excluding EGC firms with revenues below $500 million. *RetailVol* is retail investors' trading volume, scaled by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 10 – Ruling out the effect of the Robinhood IPO access program**

|  | (1) RetailVol |
| --- | --- |
| NonEGC | 0.012*** |
|  | (2.74) |
| Post*NonEGC | -0.009** |
|  | (-2.11) |
| Size | -0.003*** |
|  | (-4.00) |
| Revenue | -0.002 |
|  | (-1.45) |
| ROA | 0.003** |
|  | (2.01) |
| R&D | -0.000 |
|  | (-0.11) |
| Age | -0.000 |
|  | (-0.07) |
| Advertising | 0.004 |
|  | (0.61) |
| Leverage | 0.008*** |
|  | (3.45) |
| VC | -0.000 |
|  | (-0.29) |
| Nasdaq | -0.001 |
|  | (-0.61) |
| BTM | 0.003 |
|  | (1.08) |
| FormD | -0.002* |
|  | (-1.72) |
| PctRetained | -0.004** |
|  | (-2.10) |
| Underwriter | -0.001*** |
|  | (-2.86) |
| IPOVol | -0.002 |
|  | (-1.42) |
| Observations | 8,681 |
| R-squared | 0.051 |
| Time Fixed Effects | Yes |
| Industry Fixed Effects | Yes |

Table 10 reports the results of estimating Equation 1 after excluding IPO firms that were part of the Robinhood IPO access program. *RetailVol* is retail investors' trading volume, scaled by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post*NonEGC*. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 11 – Ruling out the effect of differences in S-1 disclosure content**

|  | (1)<br>*Length* | (2)<br>*Fog* | (3)<br>*Tone* | (4)<br>*Numeric* |
|---|---|---|---|---|
| *NonEGC* | -0.086 | 0.291 | -0.000 | 0.002 |
|  | (-1.25) | (1.17) | (-0.03) | (0.56) |
| *Post\*NonEGC* | 0.081 | 0.042 | 0.001 | 0.002 |
|  | (1.31) | (0.16) | (1.56) | (0.76) |
| *Size* | 0.061\*\*\* | 0.129\*\*\* | 0.000 | -0.000 |
|  | (5.14) | (4.22) | (1.26) | (-0.61) |
| *Revenue* | 0.015\* | -0.090\*\* | 0.000\*\* | 0.001\*\*\* |
|  | (1.90) | (-2.15) | (2.04) | (4.11) |
| *ROA* | 0.011\* | 0.055 | -0.000 | -0.000 |
|  | (1.74) | (1.45) | (-0.39) | (-0.74) |
| *R&D* | 0.031\* | 0.163\* | 0.000 | -0.001 |
|  | (1.95) | (1.79) | (0.32) | (-0.58) |
| *Age* | 0.027 | 0.021 | -0.000 | 0.001 |
|  | (1.61) | (0.31) | (-0.18) | (1.49) |
| *Advertising* | -0.083 | -0.324 | -0.001 | -0.003 |
|  | (-0.71) | (-1.11) | (-1.19) | (-0.59) |
| *Leverage* | 0.008 | 0.050 | -0.000 | 0.000 |
|  | (0.56) | (1.40) | (-1.14) | (0.56) |
| *VC* | 0.136\*\*\* | -0.160 | -0.000 | 0.000 |
|  | (4.72) | (-0.88) | (-1.35) | (0.12) |
| *Nasdaq* | 0.013 | -0.020 | 0.000 | 0.001 |
|  | (0.48) | (-0.19) | (1.41) | (0.87) |
| *BTM* | 0.073 | 0.369\*\*\* | 0.000 | -0.000 |
|  | (1.26) | (3.02) | (0.63) | (-0.09) |
| *FormD* | -0.017 | 0.080 | -0.000 | -0.000 |
|  | (-0.77) | (0.89) | (-0.57) | (-0.22) |
| *PctRetained* | -0.037 | -0.231\*\*\* | 0.000 | 0.002\*\*\* |
|  | (-1.10) | (-5.07) | (0.53) | (3.40) |
| *Underwriter* | 0.014\*\*\* | 0.033\*\* | -0.000 | -0.000\*\* |
|  | (2.95) | (2.01) | (-0.41) | (-2.00) |
| *IPOVol* | 0.010 | 0.014 | 0.000 | -0.000 |
|  | (0.92) | (0.58) | (0.61) | (-1.25) |
| Observations | 539 | 539 | 539 | 539 |
| R-squared | 0.531 | 0.337 | 0.477 | 0.590 |
| Time Fixed Effects | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes |

Table 11 rules out the potential effect of differences in S-1 content. *Length* is the log of the number of words in the S-1 filing. *Fog* is the Fog Index of the S-1 filing. *Tone* is the number of positive words minus the number of negative words in the S-1 filing, scaled by total words. *Numeric* is the count of numbers in the S-1 filing, scaled by total words. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. Our variable of interest is the interaction term, *Post\*NonEGC*. All other variables are defined in the Appendix. \*, \*\*, \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 12 – Ruling out potential changes in the book-building process**

| | (1)<br>*RetailVol* | (2)<br>*RetailVol* |
|---|---|---|
| *NonEGC* | 0.013*** | 0.013*** |
| | (2.97) | (3.11) |
| *Post\*NonEGC* | -0.008** | -0.008** |
| | (-2.15) | (-2.35) |
| *Size* | -0.003*** | -0.003*** |
| | (-5.74) | (-5.74) |
| *Revenue* | -0.001 | -0.002 |
| | (-1.40) | (-1.47) |
| *ROA* | 0.002** | 0.003** |
| | (2.04) | (2.09) |
| *R&D* | -0.000 | -0.000 |
| | (-0.08) | (-0.07) |
| *Age* | -0.000 | -0.000 |
| | (-0.08) | (-0.06) |
| *Advertising* | 0.003 | 0.003 |
| | (0.61) | (0.48) |
| *Leverage* | 0.008*** | 0.008*** |
| | (3.55) | (3.61) |
| *VC* | -0.000 | 0.000 |
| | (-0.13) | (0.01) |
| *Nasdaq* | -0.001 | -0.000 |
| | (-0.41) | (-0.22) |
| *BTM* | 0.004 | 0.004* |
| | (1.44) | (1.72) |
| *FormD* | -0.003* | -0.003* |
| | (-1.74) | (-1.89) |
| *PctRetained* | -0.004** | 0.001 |
| | (-2.13) | (0.97) |
| *Underwriter* | -0.001** | -0.001*** |
| | (-2.57) | (-2.63) |
| *IPOVol* | -0.002 | -0.002 |
| | (-1.42) | (-1.46) |
| *Underpricing* | 0.003 | |
| | (1.37) | |
| *InstitutionalVol* | | 0.125*** |
| | | (6.12) |
| Observations | 8,931 | 8,931 |
| R-squared | 0.052 | 0.064 |
| Time Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |

Table 12 estimates Equation 1 after controlling for *Underpricing* and *InstitutionalVol*. *Underpricing* is the percentage change between the closing price on the IPO date and the offering price. *InstitutionalVol* is institutional trading volume, scaled by shares outstanding. *Post* is an indicator variable equal to one if the IPO firm filed their initial registration statement after December 3, 2019, or zero otherwise. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero

otherwise. Our variable of interest is the interaction term, *Post\*NonEGC*. All other variables are defined in the Appendix. \*, \*\*, \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels.

**Table 13 – Parallel Trends**

|  | (1) RetailVol |
|---|---|
| NonEGC | 0.014** |
|  | (2.36) |
| Pre(t-1)*NonEGC | -0.001 |
|  | (-0.21) |
| Post(t+1)*NonEGC | -0.011** |
|  | (-2.10) |
| Post(t+2)*NonEGC | -0.009* |
|  | (-1.88) |
| Size | -0.003*** |
|  | (-4.98) |
| Revenue | -0.001 |
|  | (-1.43) |
| ROA | 0.002** |
|  | (2.09) |
| R&D | -0.000 |
|  | (-0.06) |
| Age | -0.000 |
|  | (-0.14) |
| Advertising | 0.002 |
|  | (0.47) |
| Leverage | 0.008*** |
|  | (3.45) |
| VC | 0.000 |
|  | (0.25) |
| Nasdaq | -0.000 |
|  | (-0.20) |
| BTM | 0.004 |
|  | (1.50) |
| FormD | -0.003 |
|  | (-1.65) |
| PctRetained | -0.004* |
|  | (-1.97) |
| Underwriter | -0.001** |
|  | (-2.53) |
| IPOVol | -0.002 |
|  | (-1.52) |
| Observations | 8,931 |
| R-squared | 0.051 |
| Time Fixed Effects | Yes |
| Industry Fixed Effects | Yes |

Table 13 tests for pre-treatment parallel trends. The table reports the results of estimating Equation 1 after splitting the *Post* variable into separate periods. *RetailVol* is retail investors' trading volume, scaled by shares outstanding. *NonEGC* is an indicator variable equal to one if the IPO firm is a non-EGC, or zero otherwise. All other variables are defined in the Appendix. *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels.