Joining the conversation: How quiet is the IPO quiet period?

Job market paper

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Abstract

This study evaluates the IPO quiet period, which restricts managers' ability to publicly communicate in the weeks immediately following the IPO. I investigate the effectiveness of and compliance with the quiet period for a sample of 3,380 IPOs from 1996 through 2011, and report several key findings. Firms significantly increase their communication immediately after the quiet period expires, and this manifests in more firm-specific information in returns. While this suggests the quiet period rules are effective on average, I find that there is non-random variation across firms in this effectiveness. In particular, the marginal effect of increased communication on firm-specific information processed by the market is greater for firms which are harder to value or receive less-than-expected attention in the aftermarket. Moreover, notwithstanding overall effectiveness, I find wide variation in the level of compliance with the quiet period, and that firms benefit from non-compliance. In particular, firms with more quiet period "loudness" obtain more analyst attention and are more likely to meet or beat future consensus forecasts. Collectively, the results suggest that [1] the quiet period rules prevent investors from learning useful information in a timely manner, and [2] a lack of SEC enforcement provides advantages to firms that violate the spirit, if not the letter, of the rules. This calls into question whether the IPO quiet period rules—essentially unchanged for over 80 years—remain relevant and useful in modern equity markets.

Keywords: disclosure, quiet period, IPO, stock return synchronicity, press release, regulation

JEL classifications: M41, M48, K22, G14

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> In 1997, unsuccessfully proposing a reduction of the quiet period to a bare minimum, Arthur Levitt, then chairman of the SEC, argued that even back in 1933 it had been difficult to stop leaks of information beyond that contained in the prospectus; by 1997 it had become "impossible". If that was true in 1997, it is likely to be even truer today.
>
> — *The Economist*, September 1, 2012

1 Introduction

Since its inception, the Securities and Exchange Commission (SEC) has required all firms undertaking an initial public offering (IPO) of stock to undergo a quiet period, effective once the firm is in registration, remaining effective leading up to the offering, and extending for a period of time *after* shares begin trading. During the quiet period, management (and affiliated analysts) are prohibited from offering opinions or forward-looking statements about the firm's valuation, prospects, or future plans.[1] Once the quiet period expires (currently 40 days after the IPO date), management and affiliated analysts can speak more freely about the firm with reduced risk of SEC sanction. Indeed, the quiet period expiration date is often highlighted by analyst coverage initiation, firm press releases, and media interviews with company executives.[2]

The quiet period thus obviously restricts a newly public firm's ability to communicate with investors, and thus influences its information environment. Yet, little research has examined the impact of this SEC-imposed gag order on management communication and its capital market consequences. Nor has there been significant research on the effectiveness, compliance, and overall desirability of the IPO quiet period regulations more generally.

In this study, I examine the quiet period's influence on management communication activity, and the resulting capital market consequences. I then examine cross-sectional compliance with the quiet period rules, and investigate whether firms that violate the quiet period

[1] The failure to comply with these restrictions is colloquially known as "gun-jumping."
[2] For example, on the day Facebook's quiet period expired, the company launched a public relations effort to counter criticisms of its advertising model, with several executives giving television and other media interviews (Raice, 2012). Additionally, analysts from several of Facebook's underwriters immediately initiated coverage.

rules derive benefits over firms with more compliant quiet period behavior. Collectively, these analyses evaluate the effectiveness of the quiet period regulations as promulgated, thereby providing evidence that informs the current debate over the merits of the IPO quiet period.

IPOs are classic cases of information asymmetry for several reasons. Compared to existing public firms, IPO firms have shorter histories, and exhibit greater uncertainty about their underlying value. Moreover, IPO firm underwriters have superior information about the firm, due to their direct access to management. Beyond this, however, the quiet period adds a unique twist to the IPO aftermarket—one that, to date, has received little attention in the accounting literature. During the quiet period, the only source of information for general investors and unaffiliated analysts is the Form S-1 registration statement. The expiration of the quiet period is a fixed date known by all in advance. Once that date arrives, the information floodgates open, allowing management and affiliated analysts, who possess superior information about the firm, to speak publicly and subjectively about the firm's prospects for the first time since going public.

This observation forms the basis for my first testable prediction. If a gag order on management is lifted once the quiet period expires, then I expect to see a significant increase in firm-initiated communication upon quiet period expiration. Using press release-based proxies of information dissemination employed in several recent studies on a sample of 3,380 IPOs during 1996-2011, I find that firms' communication activity significantly increases upon quiet period expiration. Daily press release issuance spikes nearly fourfold from immediately before to immediately after the quiet period expiration date alone.

I then test whether this increase in firm communication after quiet period expiration has real capital market consequences consistent with it conveying firm-specific information not previously incorporated by the market. Using stock return synchronicity as a measure of the

relative mix of market and industry versus firm-specific information in returns, I find a significant increase in the amount of firm-specific information after the quiet period expires. For the full sample, synchronicity (measured as the R^2 from a regression of firm returns on market and industry returns) decreases from 17.7% to 15.3%. This change is statistically and economically significant (both within sample and relative to a matched control sample) and is driven by firms with greater increases in communication.

These full sample results suggest that, in the aggregate, the quiet period rules (at least as promulgated) appear to be effective. However, cross-sectional analyses reveal that the increase in communication after quiet period expiration varies non-randomly. In particular, I find that firms with greater difficulty of valuation or receiving less-than-expected attention in the aftermarket increase communication activity to a significantly greater extent. Further, the marginal effect of increased post-quiet period communication on synchronicity is greater for these firms. If the quiet period prevents firms from disclosing information useful for valuation (as critics argue), then these effects seem to be especially pronounced for the very firms that would benefit most from such disclosure, raising the question as to whether the quiet period rules do more harm than good.

Notwithstanding the overall effectiveness of the quiet period regulations, I find significant variation in the degree of firms' compliance with the spirit—if not the letter—of the quiet period's mandates and that firms derive benefits from non-compliance. I explore two settings in which benefits manifest. First, I exploit intra-year variation in the timing of IPOs to evaluate quiet period effectiveness and compliance. Although the quiet period rules prohibit forward-looking statements, the SEC states that firms within the quiet period should continue to furnish regularly issued reports, including earnings announcements. Within the sample of 3,380

IPOs, I find 696 instances where the firm's inaugural public earnings announcement occurred during the quiet period, and also significant variation in the manner in which firms disseminate these earnings reports. Firms releasing earnings during the quiet period experience more muted volume reactions than those releasing earnings immediately after. However, this muting effect is significantly less powerful for firms which release earnings during the quiet period yet hold a conference call to discuss results, suggesting that firms violating the quiet period rules derive benefits over more compliant firms.

Second, using various measures of post-IPO quiet period "loudness," I find that firms with louder quiet periods obtain more numerous and detailed income statement forecasts from analysts, and are more likely to meet-or-beat consensus analyst forecasts of future quarterly earnings. These results are especially noteworthy given that substantially all SEC quiet period enforcement actions to date have been for violations *prior* to the IPO.

Collectively, the findings in this study suggest that while the quiet period is indeed effective on average, there is non-random variation in this effectiveness. Moreover, there exists considerable variation in the level of compliance that confers advantages to certain firms over others, with apparently little in the way of enforcement from the SEC. These results call into question whether the IPO quiet period rules—essentially unchanged for over 80 years—remain relevant and useful in modern equity markets.

This study contributes to the broader stream of literature examining various facets of the IPO aftermarket, and in particular provides new evidence on the relatively under-researched IPO quiet period. The few studies that have examined the IPO quiet period (Bradley, Jordan, and Ritter, 2003; Highfield, Lach, and White, 2008) focus on short window returns around quiet period expiration and affiliated analyst bias. This paper, in contrast, focuses on management

actions, and attempts to assess the effectiveness and desirability of the quiet period regulations. As such, regulators should find this study of interest.

Practitioners, particularly investor relations (IR) professionals at pre-IPO firms, should also find this study of interest. As Lev (2012) and Kirk and Vincent (2014) note, managers at public companies are increasingly turning to IR professionals to manage their interactions with investors. This study investigates the impact of management communication actions at a precise time when the IR function should be especially vital: when a newly public company is suddenly free to speak publicly for the first time.

The rest of the paper proceeds as follows. Section 2 provides institutional background on the quiet period and reviews existing literature. Section 3 develops hypotheses and describes tests and research designs. Section 4 describes data collection procedures, sample construction, and univariate statistics. Section 5 presents the empirical results on quiet period effectiveness, and Section 6 provides the empirical results on quiet period compliance. Section 7 concludes and suggests potential avenues for future research.

2 Institutional background and prior literature

2.1 The IPO quiet period

After the stock market crash of 1929, the newly-formed SEC sought to more rigorously standardize information on newly offered securities. It did this not only by regulating registration statement content and prospectus delivery, but also by regulating firm and underwriter communication before and after a stock offering. The rationale for a quiet period during the registration process was to prevent hyping the stock prior to the offering. Extending the quiet period for a time *after* the firm begins trading gives the market time to establish a fair

value for the stock without undue influence from management or affiliated analysts.[3] Essentially, the SEC's view is to "let the prospectus speak for itself." During the quiet period, all information relevant for valuation should, in theory, be contained in the Form S-1 filing.

However, several aspects of the quiet period rules are vague. Notably, the SEC does not precisely define what kinds of communications are allowed or prohibited.[4] Nor does the SEC specify when the quiet period officially begins.[5] However, one aspect *is* clear: the day the quiet period ends. In 1988, the SEC set the quiet period expiration date to 25 calendar days after the IPO. On June 9, 2002, the quiet period was extended to 40 calendar days after the IPO.[6]

Anecdotal evidence highlights the seriousness of potential violations. Perhaps most notoriously, in August 2004 Google made a last-minute amendment to its S-1 filing to include a *Playboy* magazine interview with founders Sergei Brin and Larry Page which hit newsstands just two weeks prior to its IPO. More recently, prior to Groupon's scheduled September 2011 IPO, Chairman Eric Lefkofsky gave a television interview with Bloomberg in which he said the company would be "wildly profitable." In response, the SEC imposed a cooling off period on Groupon, delaying its IPO two months.

Partly owing to these and other anecdotal cases, the quiet period has come under scrutiny, and there has been renewed debate on the merits of the quiet period. Critics argue that the quiet

[3] The quiet period is also reinforced through FINRA rule 2711 (formerly NASD rule 2711) and NYSE Rule 472, which prohibit research from affiliated analysts during the first 40 days after the IPO.

[4] The SEC has stated that promulgating a comprehensive list of prohibited and permitted activities would not be feasible. It does, however, provide certain general guidelines and recommended practices. In particular, the SEC says that firms should continue to report "factual business matters" and refrain from making any kind forecast, projection, or valuation opinion. Refer to SEC release No. 33-8591 for information on these guidelines.

[5] Illustrating this uncertainty, in a January 2005 comment letter, PR Newswire Association noted that it had recently surveyed investor relations (IR) professionals at 125 of its clients about when they thought the quiet period started. Twenty-six of the respondents thought it was when the firm began consulting with investment bankers, 66 thought it was when the firm filed its first registration statement, 25 said they weren't sure, and the remaining 8 responded with various other dates.

[6] This extension was part of a number of events leading up to the December 20, 2002 settlement (the "Global Settlement") among the SEC, NYSE, NASD, the New York Attorney General, and ten investment banking firms, which addressed analyst conflicts of interest by, among other things, requiring that banks physically separate their investment banking and research divisions.

period is a relic from an era when rapid dissemination of firm announcements was impossible, and is increasingly irrelevant in the internet age.[7] As the opening quote from *The Economist* (2012) notes, even former SEC Chairman Arthur Levitt, historically an advocate for stricter capital market regulations, has voiced skepticism over the quiet period rules.

On December 1, 2005, the SEC adopted securities offering reforms that sought to clarify which communications unrelated to an upcoming equity offering would not be considered gun-jumping violations. However, Heyman (2013), Primack (2011), and others argue that the reforms were cosmetic, and left in place the restrictions on forward-looking statements. Cowan (2007) also notes that the reforms had no impact on firm behavior and communications in the pre-IPO period, and, moreover, kept in place the post-IPO quiet period restrictions.

Some critics further allege that the quiet period rules can leave smaller investors in the dark. For example, after Facebook's flawed IPO in May 2012 (in which Facebook shares dropped sharply from the offer price), several investors sued the firm and its lead underwriter, Morgan Stanley, alleging that retail investors were left unaware that Morgan Stanley had cut its revenue estimates and outlook for the firm. Facebook and Morgan Stanley countered that quiet period restrictions prevented them from making details of such forecasts public.[8]

2.2 Research on the quiet period

Though there is a rich literature covering many aspects of the IPO aftermarket, research directly examining the IPO quiet period is notably sparse. Examining IPOs during the 1996-

[7] Somewhat remarkably, when the Securities Exchange Act passed in 1933, the quiet period lasted for one full year after the IPO date, and that rule remained in place until 1954.

[8] After Facebook's IPO, several U.S. lawmakers voiced concerns over the quiet period rules. In a letter to SEC Chairwoman Mary Schapiro, Congressman Darrell Issa of California's 49th district argued that in the case of the Facebook IPO, "the informational disadvantage to the less informed public proved harmful." (Eaglesham and Demos, 2012) In a response letter, Ms. Schapiro noted that she would ask her staff to review the quiet period rules "in light of recent advances in communications technology," although so far no rule changes have been made.

2000 period, Bradley et al. (2003) find positive abnormal returns of 3.1% in the five-day window surrounding quiet period expiration, and that this return is driven by firms receiving analyst coverage (almost always favorable) immediately upon quiet period expiration.

Subsequent studies examine this pattern for post-tech bubble IPOs and report mixed evidence. In a follow-up study, Bradley, Jordan, Ritter, and Wolf (2004) examine IPOs during 2001-2002 and no longer find significant returns around quiet period expiration. Highfield et al. (2008) examine IPOs during 2002-2005 and find that analyst ratings after the quiet period are slightly less positive than those in Bradley et al. (2003). Lach, Highfield, and Treanor (2012) find that analyst ratings after quiet period expiration become better predictors of long-run performance after the Global Settlement.

I am unaware of any study performing a similar investigation on *firm* communication around quiet period expiration. A few studies, however, examine firm communication in the context of quiet periods for seasoned equity offerings (SEO).[9] Frankel, McNichols, and Wilson (1995) find that immediately prior to a seasoned offering, firms are less likely to issue forecasts, due to heightened legal exposure. Lang and Lundholm (2000) find that prior to SEOs, firms increase disclosure of factual information, but not forward-looking statements.

More recently, Shroff, Sun, White, and Zhang (2013) and Clinton, White and Woidtke (2014) both examine the impact of the 2005 Securities Offering Reforms on disclosure around SEOs. Generally, these two studies find that pre-SEO disclosure significantly increases after the 2005 Reforms, and that this increase is associated with a decrease in information asymmetry.

Liu, Sherman, and Zhang (2014) argue that, due to quiet period restrictions, media coverage on a pre-IPO firm should not contain genuine news or previously unknown information. Yet, they find that pre-IPO media coverage is significantly related to long-term

[9] Quiet periods for SEOs extend to 10 calendar days after the offering.

institutional investment, liquidity, and firm value, suggesting that media coverage plays a long-term role in attracting attention to the firm, even when there is no new information conveyed in such coverage.

2.3 The IPO aftermarket information environment

Much of the literature on the IPO aftermarket focuses on the role of analysts in shaping the information environment. James and Karceski (2006) find that affiliated analysts give IPO firms with poor aftermarket performance a temporary "booster shot" in the form of higher recommendations and target prices. Examining IPO and SEO firms during 1994-2001, O'Brien, McNichols, and Lin (2005) find that affiliated analysts downgrade more slowly than unaffiliated analysts, and are less likely to drop coverage. Kadan, Madureira, Wang, and Zach (2009) find that after the Global Settlement, optimistic recommendations from affiliated analysts are less frequent and more informative.

Other studies focus instead on how firms generate analyst and investor interest once they go public. Cliff and Denis (2004) find a positive relation between underpricing and subsequent analyst coverage, and that underpriced firms receiving less-than-expected coverage are more likely to switch investment banks for future SEOs. Aggarwal, Krigman, and Womack (2002) hypothesize and find that IPO firms use underpricing to generate attention to the stock, keeping the price high until managers can sell their shares after the lockup period ends. Demers and Lewellen (2003) find that greater underpricing is associated with greater company website traffic after the IPO. Taking a somewhat different approach, Das, Guo, and Zhang (2006) hypothesize that analysts provide more coverage for firms for which they have more favorable expectations. They find that firms with greater analyst coverage after the IPO experience better subsequent

operating and market performance.

Other studies focus on firm disclosures around the IPO. Clarkson, Dontoh, Richardson, and Sefcik (1992) and Jog and McConomy (2003) both examine Canadian IPO firms which provide earnings forecasts in their prospectus (a practice prohibited in the U.S.) and find that the market is able to correct for expected bias in such forecasts. Leone, Rock, and Willenborg (2007) find that IPO firms which more extensively disclose their intended use of IPO proceeds in the prospectus experience less underpricing.

While these studies and others examine prospectus disclosures, there has been less research on management disclosure behavior immediately after the firm goes public. Examining IPOs during 1982-1984, Baginski, Hassell, and Neill (1999) find that older firms, firms with higher quality underwriters, and firms with more risk factors disclosed in the prospectus are more likely to issue forecasts sooner after the IPO. Allee, Christensen, Graden, and Merkley (2013) investigate the factors that influence how quickly firms initiate earnings guidance after the IPO. They find that firms with greater offering proceeds, venture capital backing, and higher profitability initiate guidance more quickly after IPO. Ertimur, Sletten, and Sunder (2014) argue that newly public firms strategically time when they initiate earnings guidance. They find that firms with bad news delay disclosures until after the lockup period ends, enabling insiders to opportunistically unload shares.

However, the above studies do not consider the quiet period's impact on the IPO aftermarket and firm disclosure behavior. This study adds to the above studies by explicitly considering the impact of the quiet period on firms' disclosure and communication behavior.

3 Hypothesis development and research design

3.1 Hypothesis development

First, to assess the overall effectiveness of the quiet period rules as currently promulgated, I investigate the impact of the quiet period on firm communication behavior, and its capital market consequences. As discussed earlier, once the quiet period expires, managers are free to publicly communicate with reduced risk of SEC sanction. If the quiet period is effective, one should expect to see a sharp increase in firm-initiated communications, such as management disclosure and press release activity, after the quiet period expires.

However, firms may increase their disclosure by varying amounts, and I explore two cross-sectional dimensions toward this end. First, if a firm receives less-than-expected attention after it goes public, the firm may increase disclosure to a greater extent after the quiet period expires, in order to attract attention from analysts and/or investors.

Second, if an IPO firm has greater uncertainty of value, then management might be especially likely to take advantage of the quiet period's expiration. For example, if an IPO firm has invested large amounts in R&D projects with uncertain future payoffs, the quiet period restricts management from speaking qualitatively about the status and possible outcomes of such projects.[10] Once the quiet period expires, management can describe in greater detail the expected outcomes and payoff projections of such projects.

On the other hand, firms with significant R&D projects may refrain from publicly discussing such projects to avoid disclosing proprietary information. For example, it has been shown that biotech firms going public are often reluctant to disclose product-related information depending on the extent of proprietary costs (Guo, Lev, and Zhou, 2004). Thus, the extent to

[10] Management would also likely be restrained by their auditors and lawyers from making extensive qualitative statements about their R&D projects in the Form S-1. Although prospectus disclosures are extensive, they tend to be factual in nature.

which firms increase their level of communication with the market after the quiet period expires is an empirical question. I hypothesize in the alternative form.

> **Hypothesis #1** — Firms exhibiting greater value uncertainty or receiving less-than-expected aftermarket attention increase public communications to a greater extent after the quiet period expires.

I use size and R&D intensity to proxy for difficulty of valuation, with smaller firms and more R&D-intensive firms expected to exhibit greater uncertainty of value. I use underpricing and analyst initiations of coverage immediately upon quiet period expiration (within 5 days) to proxy for market and analyst attention. Firms which have less underpricing and less analyst coverage are expected to have less aftermarket attention. I measure firm communication activity using firm-initiated press releases, described in greater detail in Section 4.1.

If firms increase their communication activity after the quiet period expires, and if such communications provide useful information that would not otherwise be allowed under the quiet period's restrictions, then the amount of firm-specific information reflected in stock returns should increase following the expiration of the quiet period. Moreover, the effect of increased communication on firm-specific information in the market should be especially prominent for firms with greater difficulty of valuation or less-than-expected attention. Utilizing stock return synchronicity to measure the firm-specific information content in stock returns (described more fully in Section 3.2), I hypothesize this interactive relationship as follows.

> **Hypothesis #2** — The impact of post-quiet period increases in communication on the incorporation of firm-specific information into stock returns is greater for firms exhibiting greater value uncertainty or receiving less-than-expected aftermarket attention.

I then explore whether firms derive benefits from engaging in communication activity *during* the quiet period that might run afoul of the rules. As discussed previously, the quiet period rules are vague, and there appears to be little SEC enforcement of the quiet period *after*

the IPO. A firm seeking advantages in the aftermarket might exploit this fact and begin communicating with the market before the quiet period expires. Whether such behavior results in capital market benefits—such as increased analyst following or a greater ability to beat analyst earnings estimates in subsequent earnings announcements—is an empirical question, for which I hypothesize in the alternative form as follows.

> **Hypothesis #3** — Firms with greater communication and disclosure activity *during* the quiet period obtain capital market advantages over firms whose quiet period communication behavior is more compliant.

Because of the lack of enforcement and a clear definition of what constitutes prohibited quiet period communication, I use measures of quiet period "loudness" that proxy for the extent to which a firm exploits vagueness in (and this more likely violates) the quiet period rules. These measures are described more fully as introduced in the empirical tests in Section 6.

3.2 Stock return synchronicity

I utilize stock return synchronicity (the association between firm and market returns) as the (inverse) measure of firm-specific information reflected in returns. The use of synchronicity as a measure of firm-specific information has gained significant following since Roll (1988), who conjectured that greater firm-specific price movements reflect greater information being impounded into prices.[11] Supporting this view, Durnev, Morck, Yeung, and Zarowin (2003) show that firms with lower synchronicity exhibit greater association between returns and future earnings, while Morck, Yeung, and Wu (2013) show that lower synchronicity is associated with more efficient capital allocation. Diaz (2010) finds that firms switching from small to large audit offices within the same Big-4 audit firm experience increases in synchronicity.

[11] Roll (1988) does not actually use the more recently developed term "stock return synchronicity". Other studies refer to idiosyncratic volatility or idiosyncratic risk, but the concept is the same: the power of market returns (and possibly also industry returns) to explain firm returns.

Other studies examine the factors influencing synchronicity. Piotroski and Roulstone (2004) find that analyst forecast activities increase synchronicity, consistent with intra-industry information transfers. In contrast, synchronicity is inversely related to insider trading and institutional ownership, consistent with the informational advantage of these parties. Crawford, Roulstone, and So (2012) find that when a firm has no analyst coverage, the first analyst to initiate coverage increases synchronicity, suggesting that this first analyst produces relatively more industry- and market- level information. Subsequent initiations in analyst coverage, however, result in decreases in synchronicity, suggesting that additional analyst coverage produces relatively more firm-specific information.

Similar in spirit to Crawford et al. (2012), I analyze changes in synchronicity from before to after quiet period expiration. I estimate a firm-level measure of synchronicity based on the coefficient of determination (R^2) value from the following regression (using daily returns):

$$\boxed{\text{Firm return}_{i,t} = \alpha + \beta_1\left(\text{Market return}_{i,t}\right) + \beta_2\left(\text{Industry return}_{i,t}\right) + \varepsilon_{i,t}} \quad [1]$$

Firm return$_{i,t}$ is the return of firm *i* on date *t*. Market return$_{i,t}$ is the market value-weighted return of all firms (excluding *i*) on the CRSP daily stock file on date *t*. Industry return$_{i,t}$ is the market value-weighted return of all firms (excluding *i*) on the CRSP daily stock file on date *t* with the same SIC 2-digit industry as firm *i*.

For pre-Global Settlement IPOs with quiet periods expiring 25 calendar days after the offering, I measure synchronicity during the quiet period using daily returns up to the quiet period expiration date. For post-Global Settlement IPOs with quiet periods expiring 40 days after the offering date, I measure quiet period synchronicity over the first 25 calendar days after the IPO, to maintain consistency of measurement.[12] I exclude the first day's return when

[12] Results are robust to using the last 25 calendar days of the quiet period.

measuring synchronicity to remove the effects of any underpricing. For all firms, I measure post-quiet period synchronicity using daily returns over the first 25 calendar days after the quiet period expires. The change in synchronicity is the post-quiet period synchronicity minus the quiet period synchronicity. Figure 1 illustrates the measurement windows. Because R^2 is bound by 0 and 1, in regression specifications I use the following transformation ($Synch_i$):

$$\boxed{\text{Synch}_i = \log\left(\frac{R^2}{1-R^2}\right)} \quad [2]$$

In all tests, I employ both a firm-specific measure of synchronicity, and a measure of firm synchronicity relative to a matched control firm. For each IPO, I find the existing public firm trading for at least one year, in the same SIC 2-digit industry, and with the closest market capitalization on the IPO firm's quiet period expiration day. I then measure the control firm's synchronicity over the exact same windows as its corresponding sample firm, and compute relative synchronicity as the IPO firm's synchronicity minus that of its matched control firm.[13]

4 Sample

4.1 Sample selection and data sources

I obtain IPO information from Thomson Financial's SDC Platinum database, corrected and augmented with data from Professor Jay Ritter's website. I begin with all U.S. IPOs with an issue date (SDC variable D) from January 1996 through December 2011. I begin the sample period in 1996 for three reasons. First, the Private Securities Litigation Reform Act (PSLRA) passed in December 1995, so starting in 1996 allows for a more uniform disclosure regime.[14] Second, the SEC started requiring all firms to post filings electronically through EDGAR in

[13] Results are also robust to using adjusted R^2 values (with winsorization of non-positive adjusted R^2 values).
[14] The PSLRA safe harbor provisions specifically exempted IPO firms (Billings and Lewis, 2014; Choi, Nelson, and Pritchard, 2009).

1996, and I utilize Form S-1 and other SEC filings. Third, I/B/E/S analyst recommendation coverage is less complete prior to the mid-1990s (Cliff and Denis, 2004).

Table 1 Panel A describes the sample selection procedures. Consistent with prior IPO studies, I exclude unit offerings, ADRs, spin-offs, reverse LBOs, closed-end funds, REITs, and any IPO of non-common shares. I also eliminate any firms already filing with the SEC at the time of IPO (typically because the firm had greater than 500 shareholders of record, or the firm already had publicly traded bonds). The final sample consists of 3,380 IPOs. I obtain return, price, and volume information from the CRSP Daily Stock File and financial information from the Compustat Fundamental Annual and Quarterly files. I use I/B/E/S to obtain analyst recommendations and earnings forecasts.

Consistent with several recent studies examining the role of firm-initiated communication and business press coverage (e.g., Bushee, Core, Guay, and Hamm, 2010; Bushee and Miller, 2012; Ahern and Sosyura, 2014), I develop simple, objective proxies for firm communication based on news articles in the Factiva database. For each firm, I hand collect news articles in the 20 days before and after quiet period expiration. I utilize the Intelligent Indexing search function in Factiva to isolate articles that relate to each particular firm in my sample.[15] I categorize any articles coming from press release wires as firm-generated communications.

Panels B and C of Table 1 provide the year and industry composition of the IPO sample. The largest number of IPOs come in the tech bubble years of the late 1990s. IPO volume drops in the post-internet bubble recession and subsequently recovers (though not nearly to 1990s levels). IPO volume drops again in the financial crisis years, and recovers again in the final two years of the sample period. Consistent with other studies examining similar time periods,

[15] The vast majority of firms in the IPO sample are included in the Intelligent Indexing feature in Factiva. For the firms for which I could not locate through Intelligent Indexing, I performed a free text search of the Company's name, and scanned the individual articles in the search results to ensure they related to the firm in question.

internet and technology firms account for the most IPOs.

4.2 Descriptive statistics and correlations

Table 2 Panel A presents descriptive statistics for the full sample (Appendix A provides variable definitions and sources). The mean firm issues more press releases after the quiet period (5.30) than during the quiet period (3.65), suggesting that firms do indeed take advantage of the loosened restrictions on communication once the quiet period expires.

The patterns in stock return synchronicity suggest that once the quiet period expires, new firm-specific information is being incorporated into stock prices.[16] Mean synchronicity during the quiet period is 17.75%, while mean synchronicity immediately after the quiet period drops to 15.32%. Meanwhile, mean daily volatility (measured over the same windows as synchronicity) is more stable, at 4.49% during the quiet period, and 4.45% after. IPO firms have lower (higher) overall levels of synchronicity (volatility) than their matched existing public firms.

Mean trading volume (measured over the same windows as the synchronicity measures) declines from during to after the quiet period. This is consistent with prior research showing that trading volume declines steadily after the offering date. The median firm is underpriced by 10.0%, and has a market value of $225 million when the quiet period expires. I measure R&D intensity as R&D expenditures scaled by sales in the IPO year. This measure is highly skewed: the median firm has no R&D, but the mean R&D/sales value is 1.909. For this reason, in the main analyses I use an indicator variable (High R&D) for R&D-intensive firms, which is defined as R&D/sales value greater than 0.1. I measure analyst coverage as the number of analyst recommendations the firm receives within 5 days after quiet period expiration. The mean firm

[16] For ease of interpretation, I report raw R^2 values in descriptive statistics and univariate analyses. However, I use the equation [2] log-odds transformation in all multivariate regression analyses.

receives 1.39 recommendations immediately upon quiet period expiration, with 1,911 firms (57% of the sample) receiving at least one recommendation.

The median firm is in registration for 84 days and makes 4 amendments to its Form S-1 before the offering, is 7.6 years old at the IPO, has an offering price of $13, and has retained ownership of slightly over 50%. The median underwriter ranking (defined as the average Carter-Manaster ranking of lead underwriters identified in SDC) is 8, while the book-to-market ratio in the IPO year is 0.304. H-index is the Herfindahl industry competitiveness index of the IPO firm's industry, and has a median value of 0.016.

Table 2 Panel B presents univariate correlations, revealing some key relations. First, the relative change in press release activity from during to after the quiet period is negatively related to size and analyst coverage, and positively related to High R&D. Second, the change in synchronicity exhibits positive correlations with market value, underpricing, and analyst coverage, while it is negatively correlated with High R&D. Third, the change in synchronicity is negatively correlated to the change in press releases. These univariate relations suggest that certain firms take greater advantage of the quiet period's expiration, and that firms communicating more with the market after the quiet period expires see more of this reflected in their returns. In the next section, I test these relations in a multivariate setting.

5 Quiet period effectiveness

5.1 Management communication activity

To make an initial assessment of the overall effectiveness of the quiet period regulations, I examine whether firms do indeed take advantage of the quiet period's expiration by communicating with the market more. Figure 2 plots the mean number of press releases per firm

each day in the 21-day window centered on the expiration of the quiet period (day 0). Figure 2 shows that press release activity declines in the days leading up to expiration, and then spikes after expiration, rising nearly four-fold from day −1 to day +1, suggesting that the quiet period is indeed associated with a (relative) degree of quietness.

Next, I explore cross-sectional variation in communication. Hypothesis #1 predicts that firms with greater difficulty of valuation or less-than-expected aftermarket attention will increase disclosure more after the quiet period expires. Table 3 Panel A presents univariate analyses of press release activity around quiet period expiration. I report both raw numbers and log transformations, however I use log transformations in subsequent multivariate analyses to capture relative changes. For the full sample, the mean number of press releases in the 20 days before quiet period expiration is 3.65, while it is 5.30 in the 20 days after expiration, consistent with the jump in press release activity shown in Figure 2.

Moving to the cross-sectional analyses, larger firms, not surprisingly, have higher overall levels of press release activity. The change in the raw number of press releases after the quiet period expires is almost the same for below-median and above-median market capitalization firms (+1.64 vs. +1.65), however, for smaller firms the increase in press release activity represents a substantially larger percentage change, as indicated by the logs. Turning to R&D intensity, I find that high R&D firms have significantly greater increases in press release activity, both in absolute number and in percentages. These results are consistent with Hypothesis #1.

While less underpriced firms have greater percentage increases in press release activity than more underpriced firms, the difference is not statistically significant. Firms with immediate analyst coverage have higher overall levels of press release activity, likely because analysts tend

to cover larger firms to begin with.[17] Similar to the case with size, the change in raw number of press releases between firms with and without analyst coverage is similar, but represents a significantly greater percentage jump for firms without analyst coverage.

I test Hypotheses #1 in a multivariate setting by regressing the relative change in press release activity on the information environment variables of interest and controls.

$$\Delta\text{Log press release}_i = \alpha + \beta_1\left(\text{Log MVE}_i\right) + \beta_2\left(\text{High RD}_i\right) + \beta_3\left(\text{Underpricing}_i\right) + \beta_4\left(\text{Log analyst coverage}_i\right) + \text{controls} + \varepsilon_i \quad [3]$$

Hypothesis #1 predicts negative values for β_1, β_3 and β_4, and a positive value for β_2. I include as control variables the log of the number of amendments the firm makes to its S-1 while in registration (Log S-1 amendments$_i$), the change in trading volume from during to after the quiet period (ΔVolume$_i$), the offer price (Offer price$_i$), the Carter-Manaster ranking of the IPO firm's lead underwriters (Underwriter rank$_i$), the number of days the firm spent in registration (Registration time$_i$), the firm's age in years (Age at IPO$_i$), the book-to-market ratio at the end of the IPO fiscal year (B/M$_i$), industry competitiveness (H-index$_i$), and the percentage of ownership retained by insiders (Retained interest$_i$).

Table 3 Panel B presents the results of estimating Equation [3]. The coefficient on Log MVE is significantly negative, while the coefficient on High R&D is significantly positive, suggesting that smaller firms and R&D-intensive firms have greater increases in press release activity once the quiet period expires. Also consistent with the univariate results, the coefficient on Log analyst coverage is significantly negative, while that on Underpricing is insignificantly negative. The coefficients on the control variables show that the change in press release activity is positively related to volatility, underwriter rank, and negatively related to registration time, age, H-index (lower H-index values represent higher industry competition) and retained interest.

[17] From Table 2, the Pearson (Spearman) correlation between Log MVE and Log analyst coverage is 0.546 (0.547).

Overall, with the exception of underpricing, the univariate and multivariate results are consistent with Hypothesis #1, and suggest that firms with greater difficulty of valuation or less-than-expected analyst attention in the aftermarket take greater advantage of the quiet period expiration in order to communicate with the market.

5.2 Capital market consequences

In this section, I examine the market's reaction to increased news after the quiet period expires. If increased disclosure after the quiet period expires results in new firm-specific information useful for valuation, then the firm-specific information content of stock returns should increase (i.e., a decrease in synchronicity). Table 4 Panel A presents a univariate analysis of the change in synchronicity, Figure 3 Panel A plots these results.

Mean synchronicity for the IPO firms during the quiet period is 17.74% and drops to 15.32% after the quiet period, a statistically and economically significant decrease of 2.42%. For the control firms, synchronicity essentially remains flat, and the −2.72% difference in change is significant at the 1% level.[18] IPO firms have lower overall levels of synchronicity, suggesting that existing public firms have less new and firm-specific information for the market to digest, while IPO firms have more firm-specific information for the market to digest. However, the sharp drop in synchronicity suggests that once IPO firms can communicate more freely, there is *even more* for the market to digest relative to existing public firms.

I also perform this difference-in-changes on overall volatility, measured as the standard deviation of daily returns, over the same windows.[19] Not surprisingly, overall levels of volatility

[18] Recall that for each control firm, synchronicity and volatility are measured over the exact same windows as its matched IPO firm.

[19] I am unable to use option-implied volatility for this analysis, because most firms do not have options traded in the immediate weeks after IPO. Chemmanur, Ornthanalai, and Kadiyala (2013) explore in greater detail the issue of the

are considerably higher for IPO firms than for existing public firms. However, volatility remains remarkably stable from before to after quiet period expiration. The change in volatility from during to after the quiet period is insignificantly different from 0%, both within sample and relative to the control group. This suggests that the changes in synchronicity are reflecting new firm-specific information, and not being driven by changes in overall volatility.

Table 4 Panel B explores in a univariate setting cross-sectional differences in the change in synchronicity (within sample), and Figure 3 Panel B plots these results. Smaller firms experience a greater drop in synchronicity (3.34% drop for below-median size firms vs. a 1.50% drop for above-median size firms). Consistent with Piotroski and Roulstrone (2004), larger firms have higher overall synchronicity levels. High R&D firms experience greater synchronicity drops (3.16% vs. 1.93%), suggesting that these firms reveal more about their R&D projects after the quiet period expires. Firms with less underpricing experience greater synchronicity drops (3.11% vs. 1.73%), as do firms that have no immediate analyst coverage (3.33% vs. 1.72%).

Table 4 Panel B also presents univariate cross-sectional analyses of volatility behavior. While overall volatility for the full sample does not significantly change after the quiet period expires, the univariate analyses suggest that the change in volatility does vary non-randomly with firm characteristics, and can even move in opposite directions. Larger firms, high R&D firms, more underpriced firms, and firms obtaining immediate analyst coverage exhibit lower overall levels of volatility. However, in each these four cross-sectional dimensions, the firms that start with higher (lower) volatility experience a decrease (increase) after the quiet period. Although this may simply reflect mean-reverting behavior in the immediate aftermarket (with no such mean-reverting behavior manifesting in synchronicity), I include the change in volatility in multivariate regressions to control for any effect this may have on synchronicity.

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length of time after the IPO until options begin trading on the firm.

I now test in a multivariate setting whether the communication behavior observed in Section 5.1 is driving the changes in the firm-specific information in stock returns and, if so, whether this relationship is stronger for firms with greater difficulty of valuation or less-than-expected attention. I regress the change in synchronicity on the information environment variables of interest, the relative change in press releases, interactive terms, and controls.

$$\begin{aligned}\Delta\text{Synch}_i = {} & \alpha + \beta_1(\text{Log MVE}_i) + \beta_2(\text{High RD}_i) + \beta_3(\text{Underpricing}_i) \\ & + \beta_4(\text{Log analyst coverage}_i) + \beta_5(\Delta\text{Log press release}_i) \\ & + \beta_6(\text{Log MVE}_i \times \Delta\text{Log press release}_i) + \beta_7(\text{High RD}_i \times \Delta\text{Log press release}_i) \\ & + \beta_8(\text{Underpricing}_i \times \Delta\text{Log press release}_i) \\ & + \beta_9(\text{Log analyst coverage}_i \times \Delta\text{Log press release}_i) + \text{Controls} + \varepsilon_i\end{aligned} \quad [4]$$

If increased communication is leading to an increase in firm-specific information in returns, then β_5 should be negative. If this effect is greater for firms with more difficulty of valuation or less-than-expected attention, then this should be reflected in the interaction terms. Specifically, Hypothesis #2 predicts positive values for β_6, β_8 and β_9, and a negative value for β_7.

Table 5 Panel A (B) presents the results of estimating Equation [4] using the within-firm (relative-to-control) measure of synchronicity change. As the results are similar, I discuss the results for Panel A only. For brevity, I do not tabulate the controls or the intercept. In all specifications, the coefficient on ΔLog press release is significantly negative, indicating that after the quiet period expires, firms which increase their press release activity to a greater extent see greater decreases in synchronicity. This suggests that the increase in firm-specific information potentially being conveyed in press releases does indeed manifest in returns.

Turning to interactive terms, I find a significantly positive (negative) coefficient on the interaction with Log MVE (High R&D). As the interactive terms are in the same direction as their respective main effects, this indicates that the impact of increased press release activity on

the drop in synchronicity is especially pronounced for smaller and High R&D firms. The coefficient on the interaction with Underpricing is insignificant, which is not surprising, as underpricing was found to vary only insignificantly with the change in press releases. The interactive term on analyst converge is significantly positive, suggesting that increased communication after the quiet period expires is especially useful to make up for less-than-expected analyst coverage. Overall, the results support Hypothesis #2 and suggest that post-quiet period communication from firms that are more difficult to value or receive less-than-expected attention has a greater marginal impact for investors.

5.3 The change from a 25-day to a 40-day quiet period

Before moving on to analyze quiet period compliance, I briefly explore whether the Global Settlement change in the quiet period expiration date (from 25 to 40 days after IPO) had any effect on synchronicity or volatility. I divide the sample into two groups. Firms whose IPO date was before (after) July 9, 2002 have their quiet period expire 25 (40) days after the IPO.

Table 6 presents the analyses. Within sample, the change in synchronicity is not significantly different before and after the Global Settlement (−2.55% in the 25-day regime vs. −2.13% in the 40-day regime). For control firms, the mean change in synchronicity is also insignificantly different between the two regimes. Comparing the change across regimes between IPO and control firms (i.e., diff-in-diff-in-diff), the difference of +1.24% is still statistically insignificant at conventional levels. Moreover, most of this difference results from the control firms rather than the IPO firms (+0.42% for IPO firms vs. −0.82% for control firms).

The right section of Table 6 presents similar analyses for mean daily volatility. For both IPO firms and control firms, as well as their difference, the change in daily volatility from during

to after the quiet period does not change significantly in either the 25-day regime or the 40-day regime. The differences between the two regimes are also insignificant for all groups.

While the *changes* in synchronicity and volatility do not differ significantly between the regimes, the overall *levels* of synchronicity and volatility display notable patterns. While IPO firm synchronicity levels do not change significantly from the 25-day to the 40-day regime, synchronicity increases dramatically (over 12%) for control firms over this period. Also, as was previously shown, IPO firms have higher overall levels of volatility. However, volatility levels decline from the 25-day regime to the 40-day regime for both IPO and control firms, with IPO firms experiencing a significantly greater decline.

Figure 4 Panel A plots the mean pre- and post-quiet period expiration synchronicity for the IPO and control firms each year. Synchronicity for the control firms increases considerably throughout the sample period, moving from approximately 15% in 1996 to over 40% in 2011. This is consistent with the overall drop in idiosyncratic volatility in the late 1990s and 2000s, as documented in Chen, Huang, and Jha (2012) and Brandt, Brav, Graham, and Kumar (2010). This decline came after a long-term increase in idiosyncratic volatility going back to the 1960s (Campbell, Lettau, Malkiel, and Xu, 2001; Rajgopal and Venkatachalam, 2011). However, overall levels of synchronicity for IPO firms do not follow the same pattern and remain relatively stable in the 15-20% range throughout.

Panel B presents a similar plot for volatility. For IPO firms, volatility reaches astronomical levels in internet bubble, then drops. Existing firms also see an increase in volatility during this period, though not nearly as dramatic as for IPO firms.

Overall, the plots suggest synchronicity in the IPO aftermarket has remained stable, and that the difference in synchronicity levels between the 25-day regime and 40-day regime is due

to a general increase in synchronicity for existing firms over the sample period. The extension of the quiet period in 2002 by itself does not appear to have had a substantive impact on firm-specific information in IPO aftermarket stock returns. As for volatility, Panel B suggests that the observed changes in volatility more likely reflect the peculiar circumstances of the tech bubble period, as volatility levels receded well before the quiet period extension took effect.

6 Quiet period compliance

6.1 Information events during and after quiet period expiration

The results thus far indicate that while the quiet period does seem to be effective in the aggregate (evidenced by lower management communication and firm-specific information in returns before expiration), cross-sectional analyses suggest that the effects vary in a non-random way. This calls into question whether the quiet period actually prevents the firms that would benefit most from providing useful information to the market from being able to do so in a timely manner. This may give incentives for firms to violate the quiet period rules.

In this section, I exploit intra-year variation in IPO timing to assess quiet period compliance. Depending on the time of year it went IPO, a firm may have its inaugural earnings announcement as a public company while still in the quiet period. For example, a firm going public, say, two or three weeks after a fiscal quarter end will likely not have enough time to include the results for the most recent completed quarter in a Form S-1 amendment. Thus, the firm's first earnings release will likely occur before the quiet period expires.

If a firm's earnings announcement falls within the quiet period, then there are restrictions on management's ability to supplement the earnings release with forecasts, qualitative assessments, and forward-looking statements. Thus, examining earnings announcements shortly

before and after the quiet period expiration provides an ideal quasi-random setting to test market reactions when regulations potentially have a "muting effect" on information release.

Within the sample of 3,380 IPO firms, I find that 696 (20.6%) had their first earnings release while still in the quiet period. I first investigate how these 696 firms disseminate their earnings. For each quiet period earnings release, I manually investigate SEC filings, investor relations sections of company websites (if still available) and Factiva news items around the earnings announcement date.[20] Table 7 Panel A summarizes earnings release methods. I find that 164 firms release earnings by filing a post-effective S-1 amendment (POS AM) or, more commonly, by simply filing a 10-K or 10-Q. For these firms, I found no associated firm-initiated press release in Factiva or any 8-K filing with Item 2.02 announcing results of operations. The other 532 firms issue some kind of press release announcing earnings, and a surprising 286 of them also indicate that they will hold a conference call to discuss results. It is difficult to imagine management conducting a call with analysts without potentially risking a statement that could be construed by regulators as forward-looking or as an opinion.

The earnings announcement press releases that firms issue in the quiet period vary considerably in terms of content and supplemental information. Some firms explicitly state that quiet period regulations prohibit the firm from commenting on results, while others provide some qualitative commentary. Some firms actually provide quantitative guidance for the upcoming quarter, which would seem to most clearly run counter to the quiet period rules. Appendices B and C provide two contrasting examples of earnings press releases during the quiet period. Appendix B provides an excerpt of a press release issued by XTENT, Inc., announcing results for the fiscal quarter and year ended December 31, 2006. The firm went public on February 6,

[20] The SEC started requiring firms to file an 8-K for earnings announcement press releases on March 28, 2003, as part of Regulation G (Kolev et al., 2008; Heflin and Hsu, 2008).

2007, and announced earnings 15 days later, on February 21, 2007, when the company was still in the quiet period. The press release mentions this fact and states that management will not hold a conference call to discuss quarterly results, and that quarterly earnings conference calls will commence with the subsequent quarter's earnings release.

Appendix C provides an example of what would appear to be a violation of the quiet period rules. Republic Companies Group completed its IPO on August 3, 2005, and 20 days later, on August 23, 2005, the firm announced earnings for the fiscal quarter ended June 30, 2005. The company's press release details operating results, provides qualitative and quantitative forward looking guidance, and also mentions that management would hold a conference call to further discuss results the following day.[21]

I examine the effect of the quiet period restrictions by comparing trading volume reaction to earnings announcements before and after quiet period expiration. I compute volume changes as the difference in total volume in trading day window [−4,−2] and trading day window [−1,+1], with day 0 as the earnings announcement date. Because trading volume in general declines in the aftermarket, I analyze relative declines by using logs. I expect smaller declines for firms whose earnings release is after the quiet period vs. during the quiet period. If firms benefit by exploiting vagueness in the quiet period rules, then there should be smaller declines in volume for firms that issue press releases, and even smaller declines for those that additionally hold a conference call.

Table 7 Panel B provides univariate analyses of the volume reaction to inaugural earnings announcements. Subsamples 1, 2, and 3 compare earnings announcements before vs. after quiet

[21] Interestingly, this press release mentions a "quiet period" but it is referring to the start and end date for the company's own internally-imposed quiet period for the subsequent quarter's earnings release. It is not referring to the IPO quiet period that appears to have been overlooked by management.

period expiration.[22] Subsample 1 compares the full sample of all quiet period earnings releases vs. all inaugural earnings releases after quiet period expiration. Subsample 2 uses only earnings releases prior to 40 days after quiet period expiration. Subsample 3 uses a random selection of 685 post-quiet period earnings announcements from Subsample 2 to create balanced subsamples. In all three analyses, earnings releases after the quiet period experience significantly lower declines in trading volume than the 685 earnings releases during the quiet period, suggesting an overall muting effect of the quiet period.

Subsamples 4, 5, and 6 focus on cross-sectional variation *within* the 685 quiet period earnings releases. Subsample 4 partitions based on whether there was a press release, and shows that firms issuing a press release experience significantly lower decreases in volume than firms which "quietly" release earnings by simply filing the 10-Q/K or a post-effective S-1 amendment. Subsample 5 partitions based on whether the firm held a conference call. Firms with conference calls have significantly lower declines in volume, and the difference is even greater than that for the difference between firms with and without press releases. Subsample 6 shows that this differential exists even among the 529 quiet period earnings releases with a press release.

I test Hypothesis #3 by performing the volume reaction analyses in a multivariate setting. I regress the relative change in short window trading volume on indicators for quiet period earnings release, press release, or conference call, and controls as follows.

$$\boxed{\begin{aligned}\Delta\text{Earnings volume}_i = {} & \alpha + \beta_1\left(\text{Quiet period earnings}_i\right) + \beta_2\left(\text{Press release}_i\right) \\ & + \beta_3\left(\text{Conference call}_i\right) + \text{controls} + \varepsilon_i\end{aligned}} \quad [5]$$

Quiet period earnings$_i$ is an indicator variable equal to 1 if the earnings announcement fell in the quiet period, and 0 otherwise. Press release$_i$ and Conference call$_i$ are indicators equal

[22] Within the group of 696 quiet period earnings releases, I eliminate 11 firms whose [−4,−2] volume measurement window includes the offer date, to avoid distorting volume change measurements.

to 1 if the earnings announcement fell in the quiet period and was accompanied by a press release or conference call, respectively. Table 7 Panel C presents the results, with the 6 columns corresponding to the six subsamples in Panel B. The multivariate results are consistent with the univariate results: earnings releases after the quiet period experience less significant declines in trading volume. More importantly, among earnings announcements within the quiet period, those that are bundled with a press release have significantly lower declines in volume, and those that hold conference calls have even lower declines. The results in columns [4] through [6] support Hypothesis #3 and provide evidence that some firms do appear to violate the quiet period rules and are able to attract a greater market reaction to earnings releases by doing so.

6.2 How quiet is the quiet period?

In this section, I examine whether firms that comply less with the quiet period mandates derive capital market benefits related to analyst coverage and the ability to guide analyst earnings estimates to beatable levels. Because of the general vagueness of the quiet period rules and apparent lack of SEC enforcement, I develop two proxies for the level of quiet period "loudness" that would constitute a violation under a more rigorous enforcement regime. The first proxy (Quiet period loudness$_i$) is simply the log of the number of firm-initiated press releases during the quiet period.[23] The second proxy (Serious violation$_i$) is an indicator variable equal to 1 if the firm gave earnings guidance prior to quiet period expiration, or if the firm had an earnings announcement during the quiet period and held a conference call with analysts.[24] This represents a potentially more serious violation of the quiet period rules. I obtain management forecast data

[23] This is different from the press release count used in Section 5 tests. Here, I focus on management communication *within* the quiet period, and as such I count the total number of press releases after IPO but prior to quiet period expiration. Results are robust if I count only press releases from the first 25 days of the quiet period for firms with a 40 day post-IPO quiet period.

[24] As explained in Section 6.1, a surprising number of firms hold a conference call on the earnings release date, even if it falls within the quiet period.

from the I/B/E/S Guidance, CIG First Call, and Capital IQ Company Events databases.

I measure three potential benefits from quiet period violation. The first measure (Log # EPS forecasts$_i$) is the number of analysts providing EPS forecasts for the first quarterly earnings release after the quiet period expires. The second measure (Non-EPS forecast$_i$) is whether at least one analyst provided a disaggregated (i.e., non-earnings) forecast for the first quarterly earnings release after the quiet period expires. The third measure (Q# meet-beat$_i$) is whether the firm met or beat the mean analyst consensus EPS forecast in the initial quarters (up to four) following quiet period expiration. To test Hypothesis #3, I estimate the following regression (taking a logistic or OLS form depending on the dependent variable):

$$\begin{aligned}&\text{Log \# EPS forecasts}_i \text{ or Non-EPS forecast}_i \text{ or Q\# meet-beat}_i \\ &\quad = \alpha + \beta_1(\text{Quiet period loudness}_i) + \beta_2(\text{Serious violation}_i) + \text{controls} + \varepsilon_i\end{aligned} \quad [6]$$

Table 8 Panel A presents the results using the number of quiet period press releases as the measure of quiet period loudness. For each specification, the coefficient on the number of quiet period press releases loads significantly positively. Firms that issue more press releases during the quiet period have more analysts making EPS forecasts after the quiet period expires, are more likely to have analysts making disaggregated income statement forecasts, and are more likely to meet or beat analyst forecasts for up to 3 quarters after the quiet period expires.

Table 8 Panel B presents the results using the presence of management guidance or a conference call as the measure of quiet period loudness. Of the full sample of IPO firms, 371, or 11% of the sample, have a management forecast or conference call during the quiet period. The coefficient on Serious violation$_i$ loads significantly positive in columns [1] and [2], suggesting that firms which issue forecasts or hold conference calls during the quiet period—a more serious violation of the quiet period rules—attract more numerous and detailed analyst forecasts for the first earnings release after the quiet period expires. As for the ability to meet or beat analyst

forecasts subsequent to the quiet period, the coefficient on Serious violation$_i$ loads significantly positive only for the first quarter following the IPO, possibly reflecting management forecasts providing guidance for the immediate upcoming quarter only.

The results in Table 8 further support Hypothesis #3 and suggest that not only do some firms engage in behavior that likely violates the quiet period rules, but that these firms also get something out of it. The capital market benefits resulting from a "louder" quiet period makes the SEC's lack of enforcement all the more puzzling.

7 Conclusions

> Two questions are at the heart of this debate. One is whether all investors should have equal access to information. The other is whether allowing looser corporate tongues is good, leading to better pricing, or bad, leading to hype. Mr. Levitt took an important step in 2000 when he introduced a rule [Reg FD] obliging public firms to disclose information to all investors simultaneously. His instincts were right on the quiet period, too.
>
> — *The Economist*, September 1, 2012

By abruptly freeing managers to offer opinions and forward-looking statements about their firms, the expiration of the quiet period marks a potentially dramatic shift in the information environment of a newly public company. Yet, prior research has made little investigation into the quiet period's impact on management communication, nor has it assessed the effectiveness and desirability of the quiet period regulations more generally. In this paper, I fill this gap in the literature by investigating firm communication during and after the quiet period, how the market interprets these communications, and whether firms can benefit from testing—if not overstepping—the limits on quiet period communications.

Initial analyses indicate that firm communications do indeed increase substantially once the quiet period expires. Moreover, the market perceives these communications as adding genuine firm-specific information, as evidenced by drops in stock return synchronicity. These

results suggest that the IPO quiet period is indeed effective, creating a (relative) degree of calm before firms and analysts start talking freely.

Yet, one could also argue that this demonstrates that the quiet period serves nothing more than to prevent investors from learning useful, valuation-relevant information in a timely manner. This would be especially problematic if certain IPO firms differentially benefit from the ability to speak in a more subjective fashion about their prospects in the aftermarket. Supporting this notion, further multivariate tests reveal that the relation between firm communication and synchronicity around quiet period expiration is non-random and stronger for firms that are more difficult to value or receive less-than-expected attention in the aftermarket.

I then examine instances where a firm's first earnings release fell within the quiet period. I find, surprisingly, that firms often issue detailed press releases and hold conference calls for these announcements. Comparing earnings releases during and immediately after the quiet period, I find that earnings releases during the quiet period experience lower volume reaction, suggesting that the quiet period does have a muting effect on information events within its confines. However, there are benefits to non-compliance, as the muting effect is considerably less for firms that issue press releases and/or hold conference calls during the quiet period.

Finally, I examine whether firms obtain analyst coverage-related benefits from making more "loudness" in quiet period, since the SEC's enforcement efforts seem to be concentrated in the pre-offering period, and not in the aftermarket. I find that firms issuing more press releases during the quiet period or that have conference calls during the quiet period attract more analyst attention, are more likely to have disaggregated income statement forecasts beyond EPS, and are more likely to meet or beat future analyst earnings expectations. Collectively, the results suggest that the quiet period is indeed effective on average, but that the level of compliance varies

considerably, and firms that exploit the vagueness of the quiet period rules and lack of SEC enforcement derive benefits over more-compliant firms.

The findings of this study contribute to the broad stream of literature on the IPO aftermarket, and in particular contribute to the current debate over the merits of the IPO quiet period. The wide variation in quiet period press releases and instances of conference calls are puzzling. Though I am unaware of any study or data on the enforcement of the quiet period, all of the anecdotal cases that I am aware of relate to violations that occurred *prior* to IPO. The SEC appears to be less concerned about quiet period violations occurring *after* the IPO.[25]

One possible reason for the lack of aftermarket enforcement is that the potential remedies are not immediately obvious. If there is a pre-IPO violation, the SEC can impose a cooling-off period and delay the IPO, as it did with Groupon. But if a firm violates the quiet period after the IPO, whatever information was revealed should be quickly impounded into the price, and by the time the SEC investigates and sanctions the firm, the quiet period will have long passed.

Whatever its reasons, the lack of SEC aftermarket enforcement may be contributing to the quiet period's uneven compliance and effectiveness, resulting in the observed benefits to those less in line with the law's intent. If the pre-offering quiet period is being criticized for the inherent difficulty to stop information leakage, then the post-offering quiet period seems even harder to justify. The prohibition on communications *after* a company begins trading runs counter to the principles of greater disclosure and transparency promoted by the SEC. Indeed, one could argue that the simultaneous existence of the quiet period and Regulation FD sends mixed messages to newly public firms. If the SEC is unable to enforce the quiet period in the aftermarket (or finds it impractical to do so), then the results in this study suggest that investors

[25] An informal search of the enforcement action database on the SEC's website yielded no actions related to post-IPO quiet period violations.

might be better served by simply removing the quiet period restrictions, at least in the aftermarket, if not entirely. The effect would be to send an unambiguous signal to firms that full disclosure in the spirit of Regulation FD, even if subjective in nature, is useful to market participants and promotes transparency in the marketplace.

The findings in this paper suggest several avenues for future research, I offer two here. First, the Jumpstart Our Businesses (JOBS) Act, signed into law in 2012 (after the end of the sample period in this study), allows so-called emerging growth companies[26] to engage in private oral or written communications, while the company is in registration, to certain accredited institutional investors in order to gauge investment interest.[27] Future studies can assess whether the JOBS Act rule changes influence firm communications prior to the offering, and their effect on IPO outcomes such as proceeds, underpricing, and other factors.

Second, online social media is an increasingly popular tool for firms to disseminate information. On April 2, 2013, the SEC ruled that firms may use social media platforms to disseminate corporate information without violating Regulation FD. Blankespoor, Miller, and White (2014) find that firms using Twitter to disseminate firm-initiated news experience higher liquidity. Do firms increase their tweeting activity once the quiet period expires, and does this attract more attention than traditional forms of communication? The intersection of social media and regulations on firm communication is a promising area for future research. Importantly, such research should further assist regulators in assessing the efficacy and relevance of regulations on firm disclosure as preferred mediums of communication continue to evolve.

[26] The JOBS Act defines emerging growth companies as firms with less than $1 billion in revenues in the most recent fiscal year, a definition which would encompass the majority of IPO firms.
[27] This practice is referred to as "testing the waters" communications. The JOBS Act left in place most of the other restrictions on public management communications by pre-IPO firms, as well as the post-IPO 40-day quiet period.

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Appendix A ■ Variable definitions

Quiet period press releases — Number of firm-initiated news releases in the 20 calendar days prior to quiet period expiration. I manually search the Factiva database and define a press release as any Factiva news item that lists a wire service as its source. The following sources are considered newswires: PR NEWSWIRE, PR NEWSWIRE (U.S.), PR NEWSWIRE ASIA, PR NEWSWIRE DISCLOSE, PR NEWSWIRE EUROPE, PR NEWSWIRE UK DISCLOSE, M2 PRESSWIRE, DOW JONES NEWS SERVICE, BUSINESS WIRE, REUTERS NEWSWIRES, ASSOCIATED PRESS NEWSWIRES.

Post-quiet press releases — Number of firm-initiated news releases issued in the 20 calendar days after quiet period expiration.

Δ Press releases — Post-quiet period press releases minus quiet period press releases.

R^2 — Stock return synchronicity, defined as the R^2 from a regression of daily firm-returns on market returns and industry returns. Market returns and industry returns are weighted by market value. Industry is defined using the 2-digit SIC code in CRSP. Daily return data are from the CRSP daily stock file.

Quiet R^2 — Stock return synchronicity during the IPO quiet period. For IPOs with a 25-day quiet period (i.e., pre-Global Settlement), I measure using daily returns during the quiet period. For IPOs with a 40-day quiet period (i.e., post-Global Settlement), I measure using daily returns for the first 25 days of the quiet period.

Post-quiet R^2 — Stock return synchronicity measured in the first 25 days after the expiration of the quiet period.

Δ R^2 — Post-quiet R^2 minus Quiet R^2.

Synch — An unbounded measure of synchronicity used in regressions, defined as the log of $R^2/(1-R^2)$.

Quiet σ — Standard deviation of daily stock returns during the quiet period. The measurement windows are the same as those used in Quiet R^2. Daily return data are from the CRSP daily stock file.

Post-quiet σ — Standard deviation of stock returns post-quiet period. The measurement windows are the same as those used in Post-quiet R^2.

Δ σ — Post-quiet σ minus Quiet σ.

MVE — Firm market value on the date of quiet period expiration, calculated as stock price (CRSP variable PRC) multiplied by shares outstanding (CRSP variable SHROUT).

R&D/Sales — R&D intensity in the year of IPO, defined as the level of R&D (Compustat variable XRD) scaled by sales (Compustat variable SALE). Missing values of XRD are set to zero.

High R&D — An indicator variable equal to 1 if RD/Sales is greater than 0.1.

Underpricing — Stock return on the first day of trading after the IPO, based on the Day 1 ending price (from CRSP variable PRC) and the offer price.

Analyst coverage — The number of I/B/E/S analyst recommendations made within 5 days after quiet period expiration. Recommendations are from the I/B/E/S Recommendations Detail File.

Δ Trading volume— The change in trading volume from during the quiet period to after the quiet period. The measurement windows are the same as those used in Δ R^2. Volume is measured as the number of shares traded (CRSP variable VOL) scaled by the number of shares outstanding (CRSP variable SHROUT).

Age at IPO — Age of IPO firm in years, based on information available at Professor Jay Ritter's website.

Book-to-market — Book-to-market ratio in the year of IPO, calculated as common equity (Compustat variable CEQ) divided by MVE.

H-index — Industry competitiveness of the IPO firm's industry, defined as the Herfindahl index of the IPO firm's industry in the year the firm went public. I compute H-index using sales concentration the Compustat segments database (Compustat variable SALES). Industry is defined using the 2-digit SIC code. Smaller values suggest a more competitive industry.

Offer price — The IPO firm's offering price (SDC variable USPR).

Underwriter rank — The mean value of the Carter-Manaster ranking of investment banks identified as Lead Underwriters in SDC. I obtain Carter-Manaster ranking from Professor Jay Ritter's website. Higher values correspond to more reputable investment banks.

Days in registration — Number of days the firm spent in registration prior to going public (SDC variable DAYSINREG).

Retained interest — The ratio of shares retained by insiders to shares outstanding after the offering. It is calculated as pre-IPO shares outstanding (SDC variable OUTSTANDING) minus secondary shares offered (SDC variable TOTSECSHMIL) divided by shares outstanding on IPO date (CRSP variable SHROUT).

Δ Earnings volume — Short-window relative change in trading volume (CRSP variable VOL) around the firm's inaugural earnings announcement as a public company, computed as the log of total shares traded in the trading day window [−4,−2] minus the of total shares traded in the trading day window [−1,+1], with day 0 as the earnings announcement date.

Earnings return — The short-window return around the firm's earnings announcement, over the trading day window [−1,+1].

Quiet period earnings — An indicator variable equal to 1 if the firm's inaugural earnings announcement as a public company occurred while still within the quiet period.

Earnings press release — An indicator variable equal to 1 if Quiet period earnings = 1 and the firm issued a press release to announce earnings.

Conference call — An indicator variable equal to 1 if Earnings press release = 1 and the firm held a conference call to discuss results.

Log # EPS forecasts — The number of unique analysts providing a forecast of earnings per share for the firm's first quarterly announcement after the quiet period expires. Earnings forecasts are from the I/B/E/S Detail History Unadjusted EPS for US Region file.

Non-EPS forecast — An indicator equal to 1 if at least one analyst provides a disaggregated (i.e., non-earnings) forecast for the first quarterly earnings release after the quiet period expires. Disaggregated forecasts are from the I/B/E/S Detail History Unadjusted Non-EPS for US Region file.

Q# meet-beat — An indicator variable equal to 1 if the firm meets or beats the mean analyst consensus EPS forecast in the initial quarters (up to four) following quiet period expiration.

Quiet period loudness — The log of the number of firm-initiated press releases during the quiet period.

Serious violation — An indicator variable equal 1 if the firm gave earnings guidance prior to quiet period expiration or if Conference call = 1. I obtain management forecast data from the I/B/E/S Guidance, CIG First Call, and Capital IQ Company Events databases.

Appendix B ■ Excerpt from quiet period press release issued by XTENT, Inc., announcing quarterly financial results

XTENT Announces Fourth Quarter and Year-End 2006 Financial Results

MENLO PARK, Calif., February 21, 2007 - XTENT, Inc. (Nasdaq: XTNT) today reported financial results for the fourth quarter and year ended December 31, 2006.

Fourth Quarter and Year-end 2006 Financial Results

The company reported a net loss of $7.2 million for the fourth quarter of 2006 and a net loss of $25.0 million for the year ended December 31, 2006. These results compare to a net loss of $3.8 million for the fourth quarter of 2005 and a net loss of $14.0 million for the year ended December 31, 2005. The net loss attributable to common stockholders was $7.2 million, or $2.46 per share, in the fourth quarter of 2006 and $38.1 million, or $13.96 per share, for the full year of 2006. Included in the net loss attributable to common stockholders in the full year of 2006 was a $13.1 million deemed dividend related to the issuance of redeemable convertible preferred stock. Upon the closing of XTENT's initial public offering in February 2007, all shares of redeemable convertible preferred stock were converted into common stock.

Operating expenses increased to $7.5 million and $26.2 million in the fourth quarter and full year of 2006, respectively, from $3.8 million and $14.4 million in the comparable periods of 2005. The increases were primarily due to higher payroll expenses associated with an increased number of personnel, expenditures for XTENT's clinical trials and non-cash stock-based compensation expenses.

On February 6, 2007, the company completed an initial public offering of 4,700,000 shares at $16.00 per share. Net proceeds from the offering were approximately $67.8 million after deducting underwriting discounts, commissions and offering expenses. **The company continues to be in a quiet period following its IPO. Therefore, the company will hold its first earnings call during the second quarter of this year when it reports its first quarter 2007 financial results.**

About XTENT

XTENT, Inc. is a medical device company focused on developing and commercializing innovative customizable drug eluting stent (DES) systems for the treatment of coronary artery disease (CAD). CAD is the most common form of cardiovascular disease and the number one cause of death in the United States and Europe. XTENT® Custom NX™ DES Systems are designed to enable the treatment of single lesions, long lesions and multiple lesions of varying lengths and diameters, in one or more arteries with a single device. Note: XTENT® Custom NX™ DES Systems have not been approved for sale by any regulatory authority.

Appendix C ■ Excerpt from quiet period press release issued by Republic Companies Group, Inc., announcing quarterly financial results

Republic Companies Group, Inc. Announces an Increase in Net Income for the Second Quarter and Year-To-Date 2005

Dallas, Texas -- August 23, 2005 -- (NASDAQ:RUTX) Republic Companies Group, Inc. ("Republic") today reported revenues of $66.2 million and net income of $2.9 million for the quarter ended June 30, 2005. Shareholders' equity increased to $159.7 million, and the statutory surplus of our principal insurance subsidiary increased to $164.2 million as of June 30, 2005.

Republic's 2005 second quarter revenues were $66.2 million and, compared to the second quarter of 2004, represent an increase of 11.9%. On a year-to-date basis, revenues through June 30, 2005 were $129.7 million and, compared to $120.3 million for the comparable period in 2004, represent an increase of 7.8%. Net written premiums of $68.5 million for the second quarter of 2005 were 9.5% higher than for the comparable period in 2004. Net insurance premiums earned of $62.2 million for the second quarter of 2005 were 11.2% higher than for the comparable period in 2004. Net insurance premiums earned in 2004 were negatively impacted by amortization of the purchase accounting fair value adjustment of unearned premium reserves related to the Company's 2003 acquisition.

Republic's 2005 second quarter net income was $2.9 million and, compared to the second quarter of 2004, represents an increase of 2.0%. On a year-to-date basis, net income was $10.3 million through June 30, 2005 and, compared to net income of $9.5 million for the comparable period in 2004, represents an increase of 8.4%. The net combined ratio for the quarter was 100.1%, slightly higher than the net combined ratio of 98.6% in the comparable period in 2004. Excluding catastrophe losses, the net loss ratio for the quarter was 49.7%, down from 60.2% in the comparable period in 2004. On a year-to-date basis, the net combined ratio was 93.7%, an improvement from 94.6% in the comparable period in 2004. Excluding catastrophe losses, the net loss ratio for the year-to-date was 48.8%, down from 59.1% in the comparable period in 2004.

Republic's expense ratio for the second quarter 2005 was 40.1% compared to 31.0% for the comparable period in 2004. The expense ratio in 2004 was favorably impacted by the amortization of the purchase accounting fair value adjustment of unearned premium reserves related to the Company's 2003 acquisition.

Parker Rush, President and Chief Executive Officer, commented, "We are pleased to report improved underwriting results for the second quarter, which is typically our most challenging period due to seasonal weather patterns. Our catastrophe weather related losses, which are generally greatest in the second quarter due to hail season, were favorably low compared to historic norms, but were higher than the extraordinarily low level we experienced in 2004. The strong improvement in net loss ratio excluding catastrophe losses is evidence of our continuing effort to shape our business mix to emphasize growth and profitability in underserved markets that are less vulnerable to broad market competition. **We believe this strategy will continue to produce favorable and increasing returns on equity for our investors in the coming quarters**."

2005 Guidance

We believe our focus on underserved, target markets continues to provide opportunities for profitable growth that are relatively protected from competitive offerings in a generally softening market climate. The continued implementation of our business strategy should provide the opportunity for double digit percentage growth in net written premium for the balance of 2005 and high single digit percentage net written premium growth through 2006. Assuming weather patterns remain broadly consistent with prior years' experience, our net combined ratios should continue to improve throughout the remainder of the year. **For the full year 2005, we continue to anticipate producing a return on average equity that is in the range of 13% to 15%.**

Investors are advised to read the precautionary statement regarding forward-looking information included at the end of this press release.

Conference Call

The Company will conduct a teleconference call to discuss information included in this news release and related matters at 8:00 a.m. CDT on Wednesday August 24, 2005. Investors may access the call telephonically by dialing (888) 873-4896 with pass code 33845095. International callers may access the call by dialing (617) 213-8850. The conference call will be available for replay through August 31, 2005 by dialing (888) 286-8010 (617-801-6888 for international) with the pass code 25574144. Additional information is available on our website at www.RepublicGroup.com.

Quiet Period

The Company observes a quiet period and will not comment on financial results or expectations during quiet periods. The quiet period for the third quarter will start September 15, 2005 and will extend through the time of the earnings conference call tentatively scheduled for October 26, 2005.

About Republic

Republic Companies Group, Inc. is a holding company of a group of insurance companies and related entities that provide personal and commercial property and casualty insurance products to individuals and small to medium-size businesses primarily in Texas, Louisiana, Oklahoma and New Mexico. Our focus on this large and fast-growing region helps us identify profitable underserved niche opportunities primarily in rural and small to medium-sized metropolitan areas. We have written insurance in Texas consistently and have developed a deep market knowledge and a loyal network of independent agents and a select group of managing general agents who provide us access to what we believe are among the most profitable markets. We are rated A- (Excellent) by A.M. Best Company, Inc. with a stable outlook. We completed our Initial Public Offering in early August, 2005.

Figure 1 ■ Illustration of IPO timeline and synchronicity measurement windows

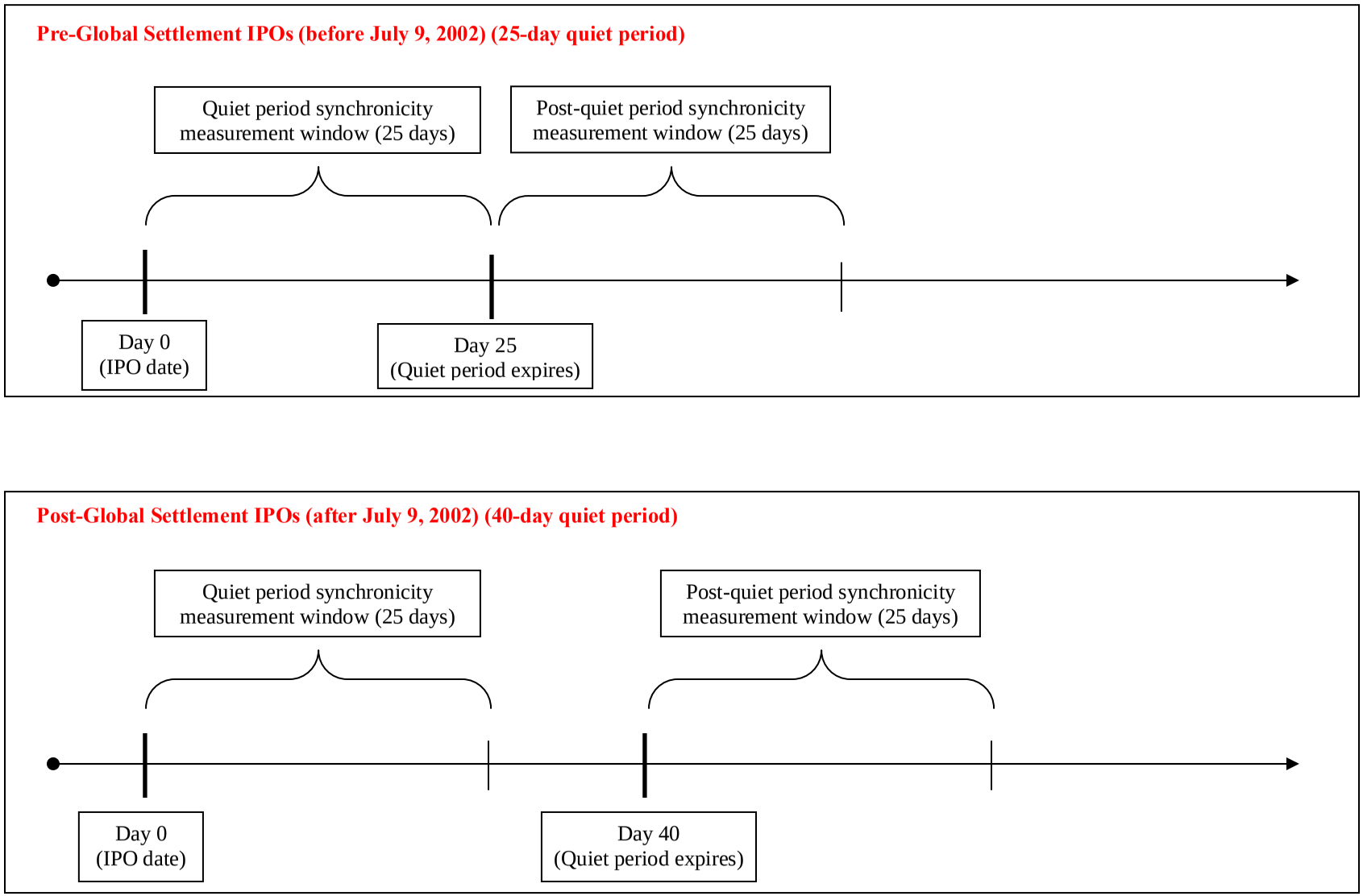


Figure 2 ■ Firm press releases before and after quiet period expiration

This figure plots the mean number of press releases firms issue in the days surrounding the quiet period expiration date (defined as day 0 in this plot). Press releases are defined as Factiva articles with a newswire listed as the source. Refer to Appendix A for specific sources designated as newswires and further details on the construction of the press release variables.

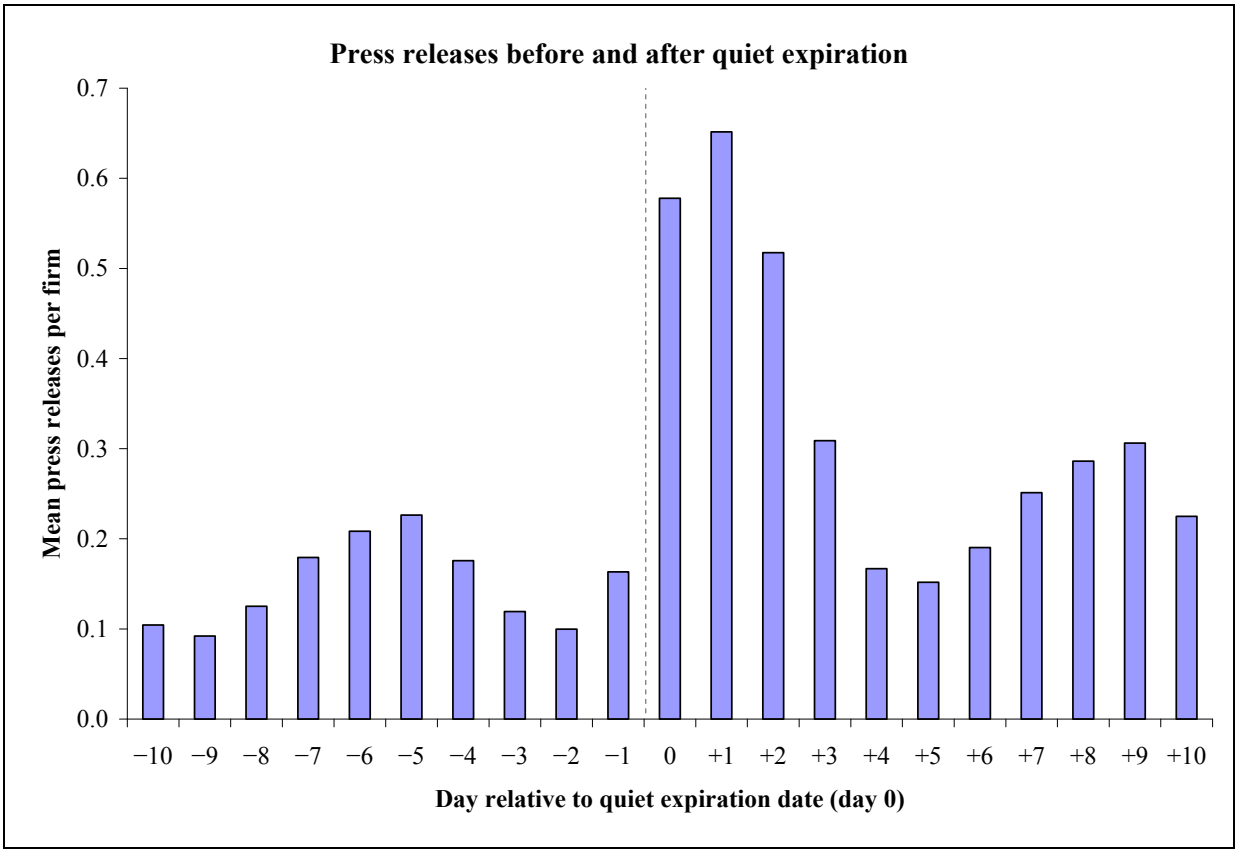
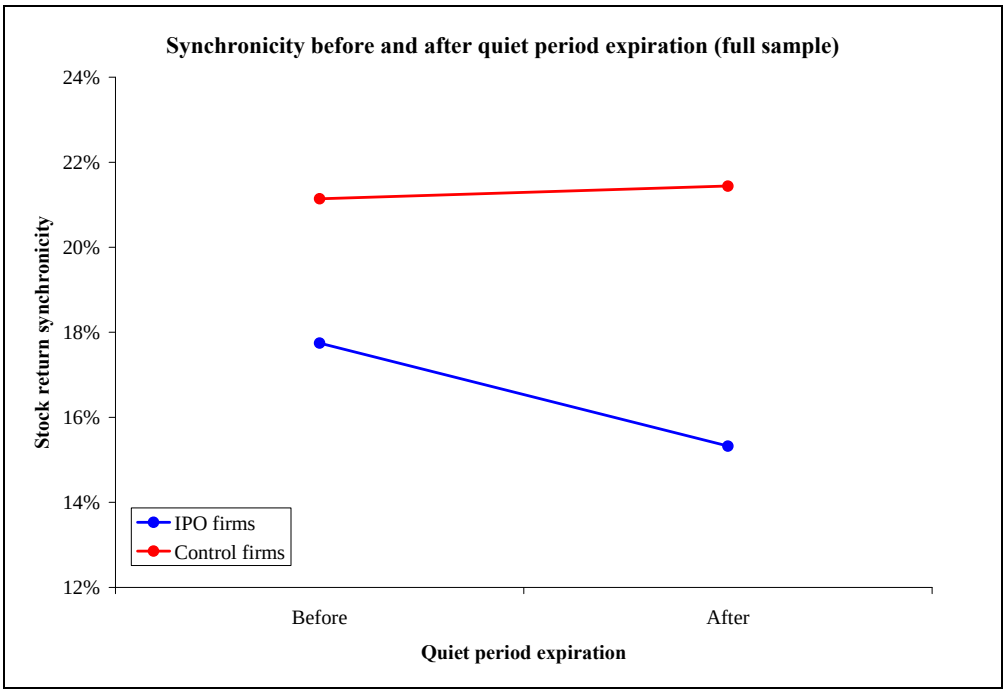


Figure 3 ■ Stock return behavior during and after the quiet period

This figure visually depicts the movement in stock return synchronicity and volatility before and after the expiration of the quiet period. Panel A depicts the changes in stock return synchronicity for the IPO sample and matched control firms as tabulated in Table 4 Panel A. Panel B visually depicts the within-firm cross-sectional changes in stock return synchronicity as tabulated in Table 4 Panel B. Refer to Table 4 for details on synchronicity and volatility calculations.

Panel A ■ Full sample



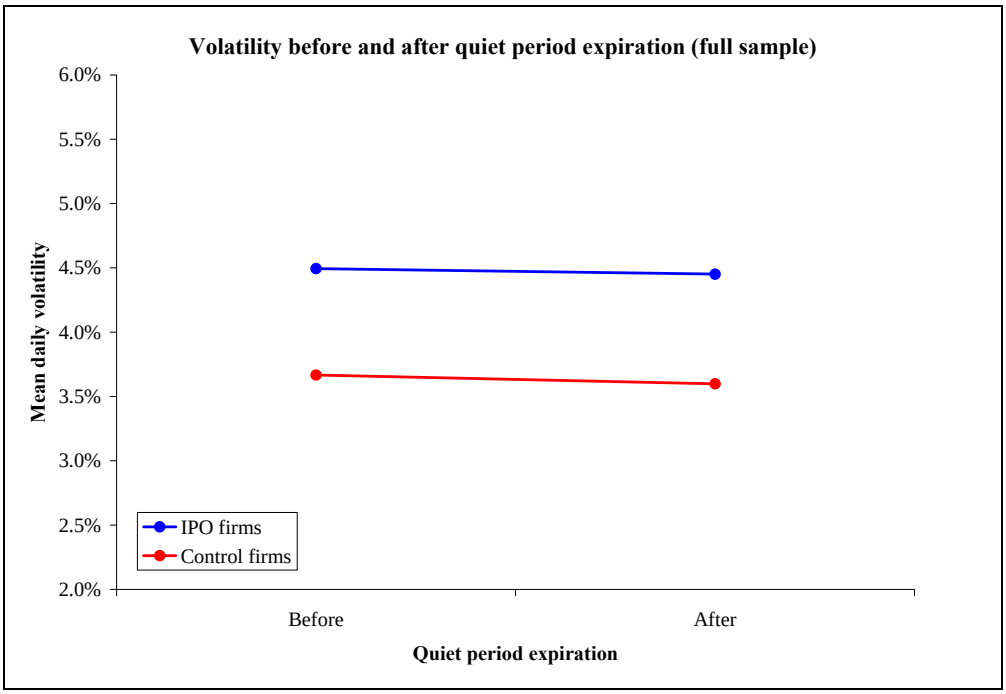
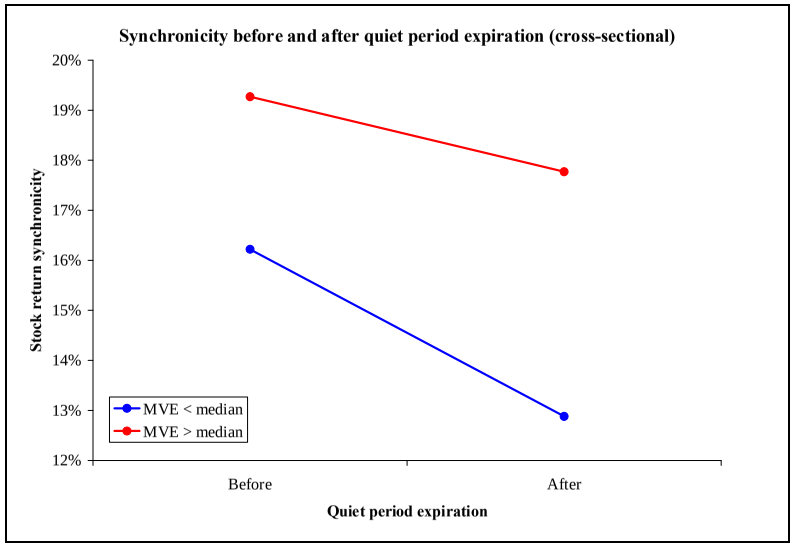
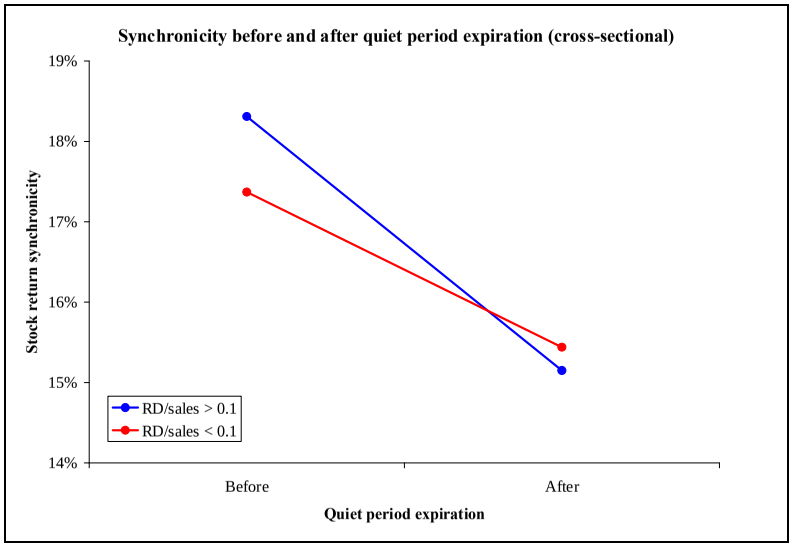
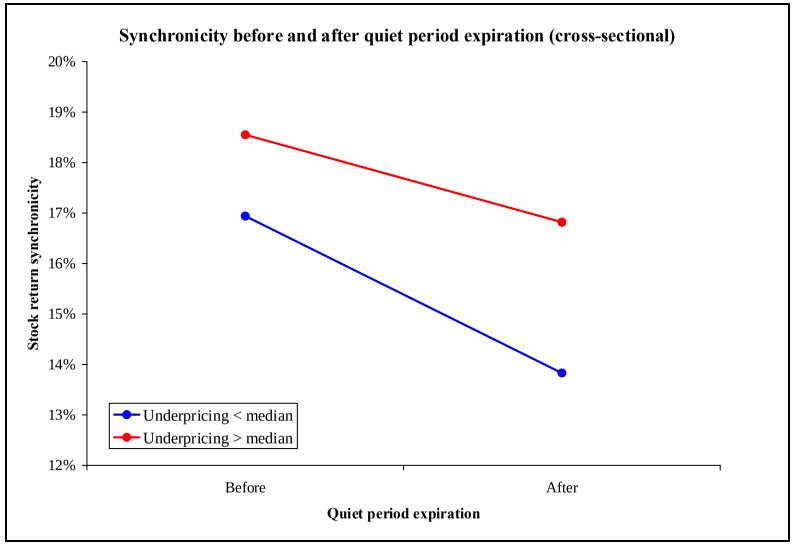


Figure 3 ■ Stock return behavior during and after the quiet period (concluded)

Panel B ■ Cross-sectional variation in the change in stock return synchronicity







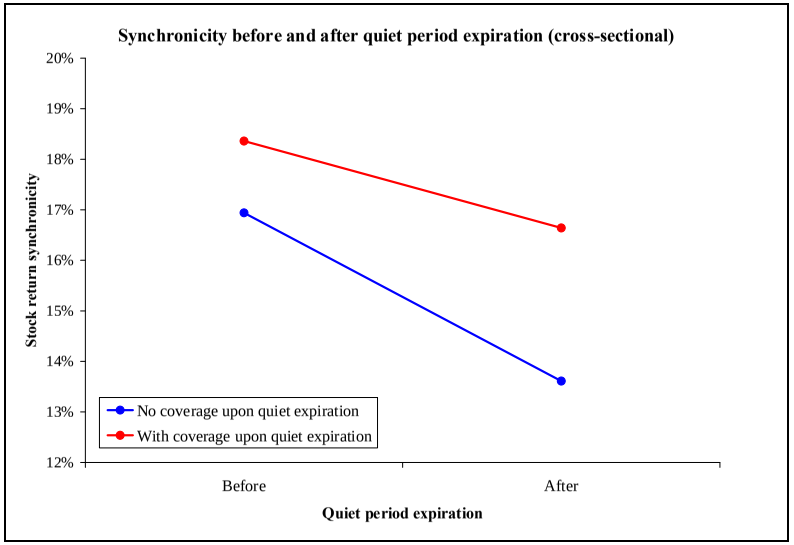
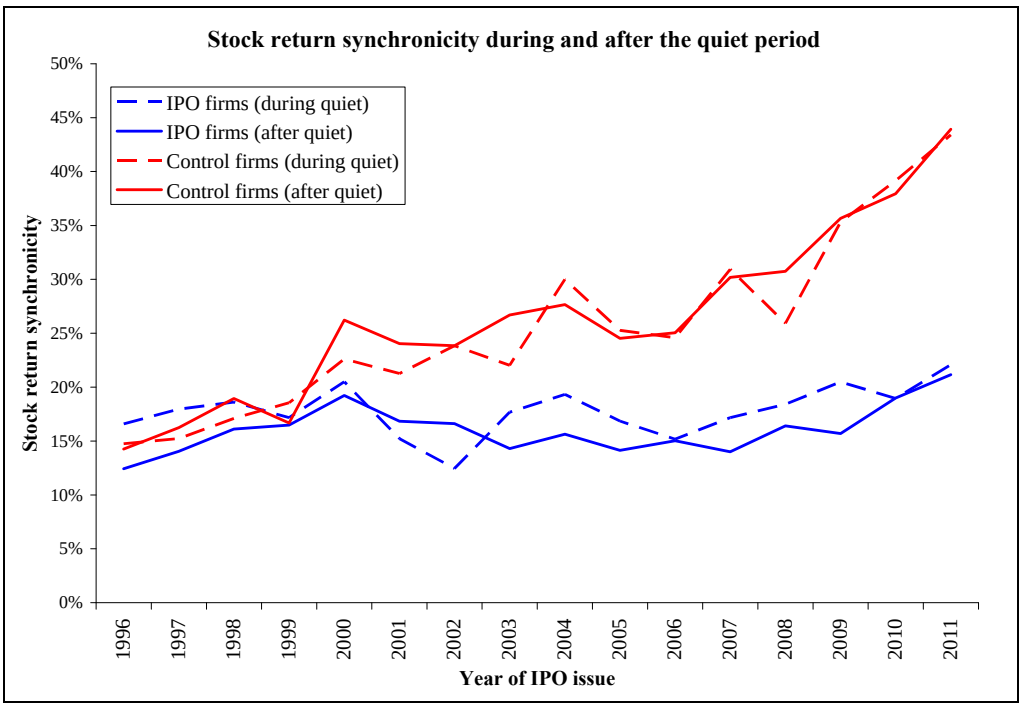


Figure 4 ■ Stock return synchronicity and volatility over time

Panel A (Panel B) plots the stock return synchronicity (daily volatility) during and after the quiet period for IPO firms and their matched controls firms by year of issue.

Panel A ■ Stock return synchronicity



Panel B ■ Volatility

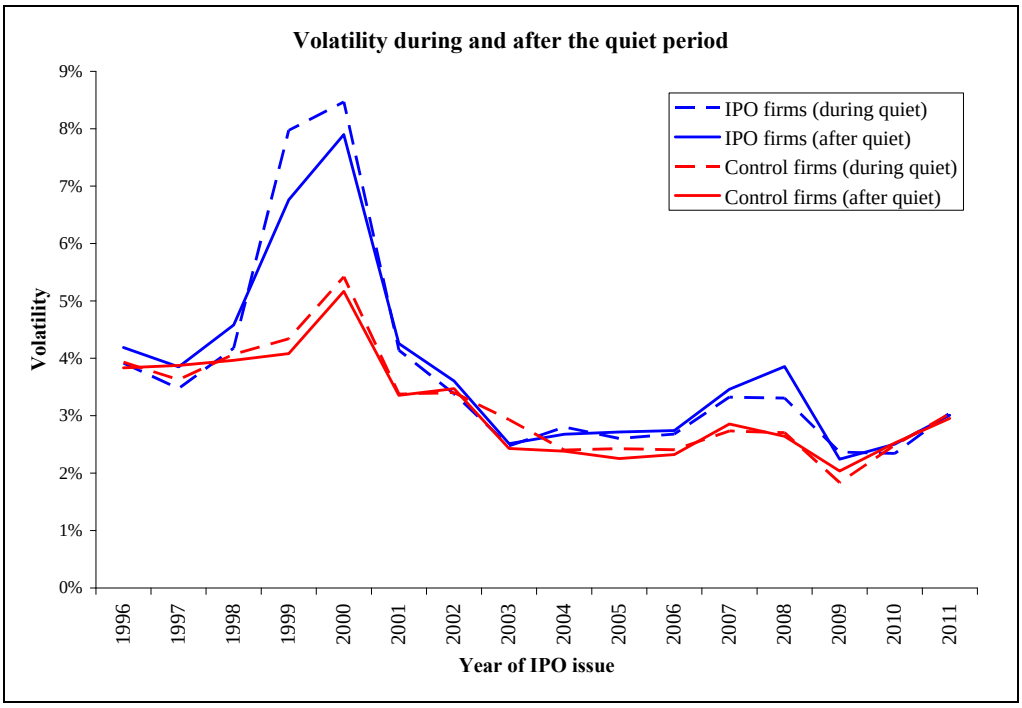


Table 1 ■ Sample demographics and selection procedures

The IPO sample consists of 3,380 U.S. firms which completed an offering from January 1, 1996 through December 31, 2011. I obtain IPO information from Thomson Reuters Securities Data Corporation (SDC) database, augmenting and correcting the SDC data using information supplied from Professor Jay Ritter's website. I exclude unit offerings, American Depositary Receipts, spin-offs, reverse leveraged buy-outs, closed-end funds, real estate investment trusts, and any IPO consisting of non-common shares. I also eliminate any firms that were already trading at the time of IPO, and firms without corresponding Compustat gvkey or CRSP permno identifiers. Panel A provides details on sample construction and the impact of sample restrictions on the final sample of 3,380 IPOs. Panel B provides the yearly distribution of the sample, based on the year of issuance. Panel C provides the industry composition of the sample, based on 2-digit Standard Industrial Classification (SIC) code.

Panel A ■ Sample selection procedures

Number of IPOs	Sample restriction
5,227	IPOs of U.S.-based firms in SDC with issue date during [1996, 2011]
(597)	Unit investment trusts (SIC code 6726), REITs, and closed-end funds
(198)	Spin-offs and reverse leveraged buy-outs
(800)	IPOs that listed on non-U.S. public exchanges
(126)	IPOs where non-common shares were issued
(24)	Firms already reporting at time of IPO
(100)	No corresponding CRSP PERMNO or Compustat GVKEY identifier
(2)	No other firms in same 2-digit industry to compute synchronicity
3,380	Final sample

Panel B ■ IPO sample by year of issuance

Number of IPOs	Year
711	1996
490	1997
290	1998
435	1999
327	2000
67	2001
66	2002
74	2003
188	2004
165	2005
149	2006
154	2007
24	2008
49	2009
101	2010
90	2011
3,380	

Table 1 ■ Sample demographics and selection procedures (concluded)

Panel C ■ IPO sample industry composition

Number of IPOs	2-digit SIC code	Industry description
802	73	Business services (includes internet firms)
245	28	Chemicals and allied products manufacturers
238	36	Electronic and other electrical equip manufacturers
201	38	Measuring and analyzing instruments
162	48	Communications
140	67	Holding and other investment offices
137	87	Engineering, accounting, and management services
120	99	Nonclassified establishments
107	35	Industrial and commercial machinery manufacturers
89	60	Depository institutions
78	59	Miscellaneous retail
73	13	Oil and gas extraction
71	50	Wholesale trade-durable goods
69	80	Health services
64	61	Nondepository credit institutions
56	63	Insurance carriers
55	62	Security and commodity brokers
45	58	Eating and drinking places
38	51	Wholesale trade-nondurable goods
36	20	Food and kindred products manufacturers
33	37	Transportation equipment manufacturers
31	27	Printing publishing and allied industries
31	49	Electric gas and sanitary services
459	Other	Other industries with < 30 IPOs in sample
3,380		

Table 2 ■ Descriptive statistics and correlations

The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. Panel A provides descriptive statistics. Panel B provides correlations. Refer to Appendix A for variable definitions.

Panel A ■ IPO firm descriptive statistics

			Interquartile range		
	Mean	St. dev.	P25	P50	P75
Firm communication activity					
Quiet period press releases	3.65	7.25	0	1	4
Post-quiet press releases	5.30	8.90	1	3	6
Δ Press releases	+1.65	5.78	+0	+1	+4
IPO firm R^2 & σ					
Quiet period R^2	17.75%	15.04%	5.74%	13.79%	26.28%
Post-quiet R^2	15.32%	13.50%	4.91%	11.75%	22.55%
Δ R^2	−2.42%	19.24%	−13.52%	−1.17%	+8.93%
Quiet σ	4.49%	3.39%	2.26%	3.49%	5.74%
Post-quiet σ	4.45%	2.88%	2.50%	3.76%	5.63%
Δ σ	−0.04%	2.78%	−1.06%	+0.03%	+1.15%
IPO firm − matched firm R^2 & σ					
Quiet period R^2	−3.39%	22.83%	−15.80%	−1.54%	10.32%
Post-quiet R^2	−6.12%	21.08%	−17.49%	−3.66%	6.25%
Δ R^2	−2.72%	27.25%	−19.95%	−2.10%	+14.40%
Quiet σ	0.83%	3.81%	−0.88%	0.51%	2.33%
Post-quiet σ	0.85%	3.12%	−0.65%	0.67%	2.23%
Δ σ	+0.02%	3.59%	−1.52%	+0.05%	+1.56%
Test & control variables					
MVE ($ millions)	607	1,706	92	225	573
R&D/sales	1.909	17.705	0.000	0.000	0.196
Underpricing	25.4%	53.1%	0.1%	10.0%	27.7%
Analyst coverage	1.39	1.62	0	1	2
S-1 amendments	4.21	1.95	3	4	5
Δ Trading volume	−0.021	0.023	−0.027	−0.016	−0.008
Age at IPO (years)	15.0	21.3	3.9	7.6	15.6
Book-to-market	0.417	0.476	0.167	0.304	0.543
H-index	0.074	0.190	0.011	0.016	0.041
Offer price	$13.13	$5.93	$9.00	$13.00	$16.00
Underwriter rank	7.29	2.18	7	8	9
Days in registration	113.7	107.1	65	84	120
Retained interest	0.685	0.773	0.194	0.507	0.730

Table 2 ■ Descriptive statistics and correlations (concluded)

Panel B ■ Correlations

Pearson (Spearman) correlations are listed below (above) the diagonal. Numbers below each correlation indicate *p*-values.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
[1] Δ Synch		0.063 0.000	0.101 <0.001	−0.061 0.000	0.049 0.004	0.062 0.000	−0.085 <0.001	0.019 0.265	−0.037 0.030	0.059 0.001	0.043 0.013	0.037 0.032	0.007 0.675	−0.018 0.287	−0.016 0.361	0.010 0.562
[2] Δ Log σ	0.042 0.015		−0.133 <0.001	−0.032 0.060	−0.170 <0.001	−0.051 0.003	0.112 <0.001	−0.030 0.078	0.239 <0.001	−0.069 <0.001	−0.060 0.001	−0.001 0.974	0.039 0.023	0.102 <0.001	0.049 0.004	−0.057 0.001
[3] Log MVE	0.119 <0.001	−0.123 <0.001		0.066 0.000	0.377 <0.001	0.547 <0.001	−0.091 <0.001	0.314 <0.001	−0.135 <0.001	0.702 <0.001	0.667 <0.001	0.012 0.489	0.141 <0.001	−0.253 <0.001	−0.202 <0.001	0.281 <0.001
[4] High R&D	−0.063 0.000	−0.035 0.043	0.078 <0.001		0.156 <0.001	0.141 <0.001	0.089 <0.001	0.117 <0.001	0.031 0.068	−0.145 <0.001	0.085 <0.001	−0.051 0.003	−0.157 <0.001	−0.291 <0.001	−0.404 <0.001	0.119 <0.001
[5] Underpricing	0.086 <0.001	−0.136 <0.001	0.408 <0.001	0.224 <0.001		0.129 <0.001	−0.012 0.501	−0.012 0.492	−0.347 <0.001	0.286 <0.001	0.183 <0.001	−0.130 <0.001	−0.051 0.003	−0.302 <0.001	−0.143 <0.001	0.136 <0.001
[6] Log analyst	0.093 <0.001	−0.054 0.002	0.546 <0.001	0.134 <0.001	0.162 <0.001		−0.090 <0.001	0.357 <0.001	−0.086 <0.001	0.334 <0.001	0.403 <0.001	0.151 <0.001	0.119 <0.001	−0.138 <0.001	−0.143 <0.001	0.126 <0.001
[7] Δ Log press	−0.104 <0.001	0.124 <0.001	−0.080 <0.001	0.090 <0.001	0.004 0.818	−0.090 <0.001		−0.088 <0.001	0.002 0.917	−0.066 0.000	−0.012 0.468	−0.118 <0.001	−0.059 0.001	−0.053 0.002	−0.028 0.101	−0.042 0.015
[8] S-1 amend.	0.015 0.396	−0.031 0.071	0.284 <0.001	0.118 <0.001	0.091 <0.001	0.333 <0.001	−0.068 <0.001		0.011 0.540	0.114 <0.001	0.224 <0.001	0.521 <0.001	0.015 0.373	−0.077 <0.001	−0.181 <0.001	0.031 0.074
[9] Δ Volume	−0.062 0.000	0.235 <0.001	−0.055 0.001	0.015 0.376	−0.234 <0.001	−0.043 0.012	0.037 0.030	−0.008 0.653		−0.336 <0.001	−0.160 <0.001	0.074 <0.001	−0.015 0.391	0.027 0.122	0.059 0.001	0.081 <0.001
[10] Offer price	0.069 <0.001	−0.074 <0.001	0.674 <0.001	−0.117 <0.001	0.274 <0.001	0.313 <0.001	−0.050 0.004	0.110 <0.001	−0.191 <0.001		0.554 <0.001	−0.109 <0.001	0.189 <0.001	−0.071 <0.001	−0.011 0.514	0.171 <0.001
[11] Under. rank	0.047 0.007	−0.027 0.121	0.691 <0.001	0.087 <0.001	0.155 <0.001	0.451 <0.001	0.009 0.592	0.219 <0.001	−0.094 <0.001	0.518 <0.001		−0.036 0.036	0.157 <0.001	−0.167 <0.001	−0.139 <0.001	0.208 <0.001
[12] Days in reg.	0.011 0.528	0.010 0.562	−0.037 0.033	−0.059 0.001	−0.103 <0.001	0.076 <0.001	−0.085 <0.001	0.373 <0.001	0.006 0.722	−0.056 0.001	−0.043 0.013		0.023 0.178	0.083 <0.001	−0.028 0.102	−0.036 0.034
[13] Age at IPO	0.007 0.669	0.029 0.092	0.157 <0.001	−0.254 <0.001	−0.115 <0.001	0.084 <0.001	−0.083 <0.001	−0.001 0.939	0.014 0.414	0.221 <0.001	0.144 <0.001	0.048 0.005		−0.020 0.246	0.079 <0.001	0.104 <0.001
[14] B/M	0.003 0.879	0.070 <0.001	−0.128 <0.001	−0.168 <0.001	−0.115 <0.001	−0.062 0.000	−0.022 0.207	−0.028 0.102	0.013 0.439	−0.037 0.030	−0.072 <0.001	0.019 0.278	−0.008 0.623		0.195 <0.001	−0.215 <0.001
[15] H-index	−0.001 0.968	0.007 0.706	−0.009 0.621	−0.054 0.002	−0.082 <0.001	0.120 <0.001	−0.077 <0.001	0.028 0.098	0.066 0.000	−0.025 0.139	−0.020 0.255	0.092 <0.001	0.032 0.062	0.037 0.033		−0.109 <0.001
[16] Retain. int.	−0.002 0.895	−0.016 0.359	0.028 0.105	−0.009 0.619	0.010 0.570	0.030 0.083	−0.063 0.000	−0.019 0.270	−0.016 0.349	0.039 0.024	0.002 0.913	0.001 0.950	0.009 0.603	−0.023 0.189	−0.007 0.701	

Table 3 ■ Analysis of firm press-release and disclosure

The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. Panel A analyzes the mean number of press releases (both absolute number and logarithmic transformation) that firms release in the 20 days immediately before and after the expiration of the quiet period. Panel B regresses the change in the log of the number of press releases on information environment variables of interest and controls. The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Press releases are defined as Factiva articles with a newswire listed as the source. Refer to Appendix A for specific sources designated as newswires, and for other variable definitions.

Panel A ■ Cross-sectional analyses

	Mean number of press releases				Mean log number of press releases			
	Quiet period expiration				Quiet period expiration			
	20 days prior	20 days after	Change		20 days prior	20 days after	Change	
Overall	3.65	5.30	1.65	•••	1.002	1.397	0.395	•••
Market cap								
< median	1.97	3.61	+1.64	•••	0.703	1.199	+0.496	•••
> median	5.34	6.99	+1.65	•••	1.300	1.595	+0.295	•••
Difference	−3.37	−3.38	−0.01		−0.597	−0.396	+0.201	
	•••	•••			•••	•••	•••	
R&D intensity								
R&D/sales > 0.1 (n = 1,358)	3.89	6.12	+2.23	•••	1.068	1.563	+0.495	•••
R&D/sales < 0.1 (n = 2,022)	3.49	4.75	+1.25	•••	0.957	1.285	+0.328	•••
Difference	+0.39	+1.37	+0.98		+0.111	+0.278	+0.167	
		•••	•••		•••	•••	•••	
Underpricing								
< median	3.37	4.92	+1.55	•••	0.949	1.359	+0.411	•••
> median	3.94	5.68	+1.75	•••	1.055	1.435	+0.380	•••
Difference	−0.57	−0.77	−0.20		−0.106	−0.076	+0.031	
	••	••			•••	••		
Immediate analyst coverage								
No (n = 1,469)	1.96	3.45	+1.50	•••	0.683	1.134	+0.452	•••
Yes (n = 1,911)	4.96	6.72	+1.76	•••	1.247	1.599	+0.352	•••
Difference	−3.00	−3.26	−0.26		−0.564	−0.465	+0.100	
	•••	•••			•••	•••	•••	

Table 3 ■ Analysis of firm press-release and disclosure (concluded)

Panel B ■ Multivariate regressions

	Dependent variable = Δ Log press releases					
Intercept	0.664•••	1.429•••	0.631•••	0.667•••	0.565•••	1.348•••
	8.42	8.10	7.96	8.44	6.85	6.51
Log MVE		−0.091•••				−0.094•••
		−4.85				−4.39
High R&D			0.123•••			0.139•••
			3.64			4.02
Underpricing				−0.018		−0.038
				1.07		1.27
Log analyst coverage					−0.113•••	−0.085•••
					−4.00	−2.84
Log S-1 amendments	−0.115•••	−0.064	−0.136•••	−0.118•••	−0.070	−0.059
	−2.61	−1.41	−3.05	−2.65	−1.53	−1.29
Δ Volume	0.367	0.868	0.336	0.433	0.400	1.090
	0.53	1.24	0.48	0.61	0.58	1.51
Δ Log σ	0.205•••	0.184•••	0.207•••	0.206•••	0.201•••	0.187•••
	7.04	6.28	7.14	7.06	6.92	6.40
Offer price	−0.007••	0.002	−0.006•	−0.008••	−0.006•	0.004
	−2.36	0.53	−1.76	−2.43	−1.93	1.06
Underwriter rank	0.023•••	0.048•••	0.018••	0.023•••	0.034•••	0.052•••
	2.70	4.83	2.13	2.71	3.84	5.08
Days in registration	−0.180•••	−0.202•••	−0.160•••	−0.176•••	−0.181•••	−0.170•••
	−3.12	−3.51	−2.78	−3.04	−3.15	−2.95
Age at IPO	−0.003•••	−0.003•••	−0.003•••	−0.003•••	−0.003•••	−0.002•••
	−4.53	−4.54	−3.54	−4.37	−4.51	−3.08
BM	−0.054	−0.073••	−0.034	−0.052	−0.058•	−0.048
	−1.65	−2.22	−1.03	−1.58	−1.79	−1.45
H-index	−0.333•••	−0.327•••	−0.321•••	−0.330•••	−0.285•••	−0.270•••
	−4.07	−4.01	−3.92	−4.03	−3.46	−3.27
Retained interest	−0.007•••	−0.007•••	−0.007•••	−0.007•••	−0.007•••	−0.007•••
	−3.59	−3.51	−3.59	−3.59	−3.46	−3.40
R-squared	4.3%	5.0%	4.7%	4.3%	4.8%	5.8%
n	3,380	3,380	3,380	3,380	3,380	3,380

Table 4 ■ Univariate analyses of quiet period return behavior

Panel A ■ Full sample univariate analyses (within sample and control-matched)

The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. For IPOs which have a 25-day quiet period (i.e., pre-Global Settlement), I measure quiet period synchronicity and volatility using daily returns during the quiet period. For IPOs which have a 40-day quiet period (i.e., post-Global Settlement), I measure quiet period synchronicity and volatility using daily returns for the first 25 days of the quiet period. For all IPOs, I measure post-quiet period synchronicity and volatility using daily returns for the first 25 days after the expiration of the quiet period. Matched control firms are existing public firms in the same industry with the closest market capitalization at the time of quiet period expiration, and have been trading for at least one years. Synchronicity and volatility measures for control firms are measured over the same windows as their corresponding IPO firms. Panel A presents univariate analyses for the full sample, both within sample and compared to control firms. Panel B explores in a univariate setting cross-sectional differences in the change in synchronicity and volatility (within sample). The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Refer to Appendix A for variable definitions.

	Mean stock return synchronicity			
	Quiet period expiration			
	Before	After	Change	
IPO firms	17.74%	15.32%	−2.42%	•••
Control firms	21.14%	21.44%	+0.30%	
Difference	−3.40% •••	−6.12% •••	−2.72% •••	•••

	Mean daily volatility			
	Quiet period expiration			
	Before	After	Change	
IPO firms	4.49%	4.45%	−0.04%	
Control firms	3.67%	3.60%	−0.07%	
Difference	+0.83% •••	+0.85% •••	+0.03%	

Table 4 ■ Univariate analyses of quiet period return behavior (concluded)

Panel B ■ Cross-sectional within-firm univariate analyses (within sample)

	Mean stock return synchronicity			Mean daily volatility		
	Quiet period expiration			Quiet period expiration		
	Before	After	Change	Before	After	Change
Market cap						
< median	16.22%	12.88%	−3.34% •••	3.87%	4.19%	+0.32% •••
> median	19.27%	17.77%	−1.50% •••	5.11%	4.71%	−0.40% •••
Difference	−3.05% •••	−4.89% •••	−1.84% •••	−1.24% •••	−0.52% •••	+0.72% •••
R&D intensity						
R&D/sales > 0.1 (n = 1,358)	18.31%	15.15%	−3.16% •••	5.91%	5.74%	−0.17% •
R&D/sales < 0.1 (n = 2,022)	17.37%	15.44%	−1.93% •••	3.54%	3.59%	+0.05%
Difference	+0.94% •	−0.29%	−1.23% •	+2.37% •••	+2.15% •••	−0.22% ••
Underpricing						
< median	16.94%	13.83%	−3.11% •••	3.51%	3.87%	+0.36% •••
> median	18.55%	16.82%	−1.73% •••	5.48%	5.04%	−0.44% •••
Difference	−1.61% •••	−2.99% •••	−1.38% ••	−1.97% •••	−1.17% •••	+0.80% •••
Analyst coverage immediately upon quiet period expiration						
No (n = 1,469)	16.94%	13.61%	−3.33% •••	4.06%	4.18%	+0.08% •
Yes (n = 1,911)	18.36%	16.64%	−1.72% •••	4.83%	4.66%	−0.17% •••
Difference	−1.42% •••	−3.03% •••	−1.61% ••	−0.74% •••	−0.51% •••	+0.29% ••

Table 5 ■ The effect of press releases and disclosure on synchronicity

Panel A ■ Within sample multivariate analyses

The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. Panel A regresses the change in stock return synchronicity on the change in press release activity, information environment variables, interactive terms, and controls (not tabulated). Panel B performs presents the same regressions as Panel A, except the dependent variable is the IPO firm's change in synchronicity relative to that of its matched control firm. Numbers below each coefficient represent *t*-statistics. The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Refer to Appendix A for variable definitions.

	Dependent variable = Δ Synchronicity (within sample)					
Log MVE	0.248•••	0.215•••	0.247•••	0.249•••	0.252•••	0.217•••
	5.06	4.33	5.03	5.06	5.14	4.31
High R&D	−0.366•••	−0.365•••	−0.281•••	−0.366•••	−0.366•••	−0.271•••
	−4.61	−4.60	−3.23	−4.60	−4.61	−3.08
Underpricing	0.193••	0.162••	0.190••	0.183••	0.178••	0.204••
	2.42	2.04	2.39	2.05	2.23	2.25
Log analyst coverage	0.188•••	0.191•••	0.185•••	0.187•••	0.108	0.136•
	2.74	2.79	2.70	2.73	1.51	1.86
Δ Log press release	−0.214•••	−1.692•••	−0.142•••	−0.218•••	−0.362•••	−1.498•••
	−5.42	−4.72	−2.86	−4.97	−6.45	−3.47
Δ Log press release × Log MVE		0.120•••				0.105•••
		4.15				2.83
Δ Log press release × High R&D			−0.188••			−0.214•••
			−2.37			−2.61
Δ Log press release × Underpricing				0.019		−0.094
				0.25		−1.09
Δ Log press release × Log analyst coverage					0.230•••	0.155••
					3.71	2.14
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	4.6%	5.1%	4.7%	4.6%	5.0%	5.4%
n	3,380	3,380	3,380	3,380	3,380	3,380

Table 5 ■ The effect of press releases and disclosure on synchronicity (concluded)

Panel B ■ Relative to control group multivariate analyses

	Dependent variable = Δ Synchronicity (relative to control group)					
Log MVE	0.246•••	0.186•••	0.244•••	0.249•••	0.253•••	0.195•••
	3.77	2.83	3.75	3.81	3.89	2.92
High R&D	−0.347•••	−0.345•••	−0.233••	−0.345•••	−0.347•••	−0.208•
	−3.29	−3.28	−2.01	−3.26	−3.30	−1.79
Underpricing	0.270••	0.215••	0.267••	0.225•	0.243••	0.269••
	2.55	2.03	2.52	1.89	2.30	2.24
Log analyst coverage	0.288•••	0.294•••	0.285•••	0.286•••	0.142	0.194••
	3.16	3.25	3.13	3.14	1.50	2.00
Δ Log press release	−0.385•••	−3.063•••	−0.288•••	−0.406•••	−0.659•••	−2.626•••
	−7.34	−6.44	−4.35	−6.96	−8.83	−4.59
Δ Log press release × Log MVE		0.218•••				0.180•••
		5.67				3.65
Δ Log press release × High R&D			−0.254••			−0.312•••
			−2.41			−2.86
Δ Log press release × Underpricing				0.086		−0.126
				0.85		−1.09
Δ Log press release × Log analyst coverage					0.423•••	0.284•••
					5.15	2.94
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	4.5%	5.4%	4.7%	4.5%	5.3%	5.9%
n	3,380	3,380	3,380	3,380	3,380	3,380

Table 6 ■ Comparison of 25-day and 40-day quiet period regimes

This table compares stock return synchronicity and volatility behavior in the 25-day and 40-day quiet period regimes. The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. For IPOs which have a 25-day quiet period (i.e., pre-Global Settlement), I measure quiet period synchronicity and volatility using daily returns during the quiet period. For IPOs which have a 40-day quiet period (i.e., post-Global Settlement), I measure quiet period synchronicity and volatility using daily returns for the first 25 days of the quiet period. For all IPOs, I measure post-quiet period synchronicity and volatility using daily returns for the first 25 days after the expiration of the quiet period. Matched control firms are existing public firms in the same industry with the closest market capitalization at the time of quiet period expiration, and have been trading for at least 6 months. Synchronicity and volatility measures for control firms are measured over the same windows as their corresponding IPO firms. The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Refer to Appendix A for variable definitions.

	Mean stock return synchronicity			Mean daily volatility		
	Quiet period expiration			Quiet period expiration		
	Before	After	Change	Before	After	Change
IPO firms						
Quiet period regime						
25 days (< Jul. 9, 2002) (*n* = 2,361)	17.68%	15.13%	−2.55% •••	5.23%	5.15%	−0.08%
40 days (≥ Jul. 9, 2002) (*n* = 1,019)	17.90%	15.77%	−2.13% •••	2.79%	2.82%	+0.03%
Change from 25 day to 40 day regime	+0.22%	+0.64%	+0.42%	−2.44% •••	−2.33% •••	+0.11%
Control firms						
Quiet period regime						
25 days (< Jul. 9, 2002) (*n* = 2,361)	17.24%	17.79%	+0.55%	4.15%	4.08%	−0.07%
40 days (≥ Jul. 9, 2002) (*n* = 1,019)	30.18%	29.91%	−0.27%	2.56%	2.48%	−0.08%
Change from 25 day to 40 day regime	+12.94% •••	+12.12% •••	−0.82%	−1.59% •••	−1.60% •••	−0.01%
IPO firms minus control firms						
Quiet period regime						
25 days (< Jul. 9, 2002) (*n* = 2,361)	+0.44%	−2.66% •••	−3.10% •••	+1.08% •••	+1.07% •••	−0.01%
40 days (≥ Jul. 9, 2002) (*n* = 1,019)	−12.28% •••	−14.14% •••	−1.86% ••	+0.23% •••	+0.34% •••	+0.11%
Change from 25 day to 40 day regime	−12.72% •••	−11.48% •••	+1.24%	−0.85% •••	−0.73% •••	+0.12%

Table 7 ■ Quiet period earnings announcement analyses

This table analyzes firms' first earnings announcement as a public company. Of the 3,380 firms in the IPO sample, 696 firms have their first earnings announcement while the company is still in the quiet period. Panel A analyzes how these 696 firms release earnings. Panel B presents univariate analyses of trading volume behavior around firms first earnings announcement. Volume is computed as the log of the total shares traded in the trading windows [−4,−2] and [−1,+1], with day 0 as the earnings announcement date. Panel C presents multivariate regression analyses of changes in trading volume. Numbers below each coefficient represent *t*-statistics. The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Refer to Appendix A for variable definitions.

Panel A ■ How do firms release earnings in the quiet period

Earnings press release	Conference call: No	Conference call: Yes	
No	**164** 23.6% Firm releases earnings via post-effective S-1 amendment (POS AM S-1) or simply filing 10-Q or 10-K without any associated news announcement in Factiva or any 8-K filing containing results of operations (Item 2.02).	**0** 0% n/a	**164**
Yes	**246** 35.3% Firm announces earnings with press release, but does not make any mention of conference call to discuss results (some firms explicitly state no conference call due to quiet period).	**286** 41.1% Firm releases earnings with a press release, and press release mentions that management will hold a conference call with investors and analysts to discuss quarterly results.	**532**
	410	**286**	**696**

Table 7 ■ Quiet period earnings announcement analyses (continued)

Panel B ■ Univariate volume analysis

Log earnings trading volume				
Trading day relative to earnings release (day 0)				
[−4,−2]	[−1,+1]	Change		
				[1] All firms first earnings release as public company
12.184	11.376	−0.808	•••	Earnings releases after quiet period (n = 2,705)
12.864	11.878	−0.985	•••	Earnings releases during quiet period (n = 685)
−0.680	−0.503	+0.177		Difference
•••	•••	•••		
				[2] Earnings releases around quiet expiration
12.470	11.603	−0.866	•••	Earnings release within 40 days after quiet expiration (n = 1,495)
12.864	11.878	−0.985	•••	Earnings releases during quiet period (n = 685)
−0.394	−0.275	+0.119		Difference
•••	•••	•••		
				[3] Earnings releases around quiet expiration (balanced)
12.403	11.539	−0.864	•••	Earnings release within 40 days after quiet expiration (n = 685)
12.864	11.878	−0.985	•••	Earnings releases during quiet period (n = 685)
−0.461	−0.340	+0.121		Difference
•••	•••	••		
				[4] Earnings releases during quiet period
12.857	11.640	−1.217	•••	No press release (n = 156)
12.866	11.949	−0.917	•••	With press release (n = 529)
−0.009	−0.309	−0.300		Difference
	••	•••		
				[5] Earnings releases during quiet period
12.918	11.725	−1.192	•••	No conference call (n = 399)
12.788	12.092	−0.696	•••	With conference call (n = 286)
+0.130	−0.367	−0.496		Difference
	•••	•••		
				[6] Earnings releases during quiet period
12.957	11.780	−1.177	•••	No conference call (n = 243)
12.788	12.092	−0.696	•••	With conference call (n = 286)
+0.169	−0.312	−0.481		Difference
	•••	•••		

Table 7 ■ Quiet period earnings announcement analyses (concluded)

Panel C ■ Multivariate volume analysis

The six column specifications correspond to the subsample univariate analyses presented in Panel B.

	Dependent variable = Δ Log earnings trading volume					
	[1]	[2]	[3]	[4]	[5]	[6]
Intercept	−1.042•••	−1.110•••	−1.284•••	−0.817	−0.550	−0.766
	−4.80	−4.30	−3.71	−1.47	−1.00	−1.22
Quiet period earnings	−0.248•••	−0.181•••	−0.199•••			
	−5.86	−4.22	−3.77			
Earnings press release				0.214••		
				2.30		
Conference call					0.441•••	0.414•••
					5.06	4.34
Log market cap	0.001	0.012	0.033	−0.027	−0.040	−0.039
	0.02	0.45	0.95	−0.50	−0.75	−0.63
High R&D	−0.031	−0.015	0.020	−0.007	0.022	−0.002
	−0.82	−0.35	0.35	−0.08	0.25	−0.02
Underpricing	−0.061	−0.071	−0.114	−0.143	−0.072	−0.044
	−1.69	−1.63	−1.92	−1.59	−0.80	−0.36
Log analyst coverage	0.125	0.141	0.171	0.238	0.142	0.131
	3.89	3.85	3.47	3.21	1.87	1.55
BM	−0.029	−0.040	−0.067	−0.087	−0.062	−0.050
	−0.80	−0.87	−1.22	−1.29	−0.93	−0.72
Earnings return	0.651•••	0.822•••	0.792•••	0.581•	0.640•	0.796••
	4.57	4.82	3.47	1.70	1.90	2.14
Log S-1 amendments	0.003	−0.014	−0.011	−0.104	−0.150	−0.161
	0.05	−0.24	−0.14	−0.86	−1.26	−1.08
Offer price	0.002	−0.002	−0.006	−0.004	−0.004	−0.003
	0.40	−0.46	−0.93	−0.38	−0.41	−0.31
Underwriter rank	0.016	0.004	−0.003	−0.002	0.002	0.031
	1.43	0.31	−0.17	−0.08	0.06	1.00
Days in registration	0.009	0.019	0.026	0.148	0.139	0.178
	0.14	0.27	0.30	1.04	0.99	1.17
Age at IPO	0.002••	0.002••	0.002	0.001	0.001	0.000
	2.54	2.21	1.29	0.82	0.76	0.15
H-index	0.140	0.153	0.156	0.020	−0.036	0.031
	1.58	1.60	1.33	0.14	−0.26	0.21
Retained interest	0.003	0.003	0.003	0.003	0.002	0.002
	1.37	1.51	1.40	1.15	0.96	1.07
R-squared	2.9%	3.3%	3.9%	5.4%	8.1%	8.6%
n	3,380	2,180	1,370	685	685	529

Table 8 ■ Firm benefits from potential quiet period violation

This table analyzes the benefits to engaging in communication behavior that is more likely to violate the quiet period rules. The sample consists of 3,380 firms which went public during 1996-2011 and meet other criteria as described in Table 1. Panel A uses a continuous measure (Quiet period loudness$_i$) based on the number of press releases firms issue during the quiet period, while Panel B uses an indicator (Serious violation$_i$) based on whether the firm issues a forecast or holds a conference call during the quiet period. The symbols •••, ••, and • represent significance at the 1%, 5%, and 10%, levels, respectively. Numbers below each coefficient represent *t*-statistics. Refer to Appendix A for other variable definitions.

Panel A ■ Press releases during quiet period as measure of potential violation

	Dependent variable					
	Log # EPS forecasts	Non-EPS forecast	Q1 meet-beat	Q2 meet-beat	Q3 meet-beat	Q4 meet-beat
	[1]	[2]	[3]	[4]	[5]	[6]
Intercept	−0.846•••	−16.180•••	−2.256•••	−2.280•••	−1.658•••	−1.563•••
	−6.94	−15.60	−7.23	−7.50	−5.64	−5.32
Quiet period loudness	0.063•••	0.556•••	0.106•••	0.076••	0.080•	0.061
	6.60	8.18	2.65	2.21	1.83	1.40
Log market cap	0.070•••	0.523•••	0.000	0.000•••	0.000	0.000
	6.32	6.24	0.47	3.11	1.61	1.22
High R&D	−0.024	−0.235•	−0.155•	0.225•••	0.329•••	0.443•••
	−1.30	−1.72	−1.78	2.63	3.93	5.30
Underpricing	0.391•••	1.548•••	0.484•••	0.168••	0.298•••	0.237•••
	15.17	10.93	7.01	2.44	4.37	3.48
Log analyst coverage	−0.097•••	−1.682•••	0.079	−0.016	0.053	0.148•
	−5.30	−6.85	0.93	−0.19	0.63	1.72
Quiet period volume	0.925•••	3.157	−0.987	2.523•	1.791	2.052
	3.18	1.26	−0.70	1.87	1.35	1.53
Quiet period σ	−0.004	−1.403•••	0.058	−0.124••	−0.085	−0.054
	−0.27	−14.26	0.94	−2.03	−1.41	−0.90
Log S-1 amendments	0.071•••	1.185•••	0.245••	0.153	−0.066	−0.033
	3.03	6.63	2.17	1.37	−0.61	−0.30
Offer price	0.005••	0.005	0.006	−0.030•••	−0.027•••	−0.027•••
	2.53	0.39	0.63	−3.28	−3.10	−3.05
Underwriter rank	0.063•••	−0.073•	0.154•••	0.135•••	0.133•••	0.152•••
	12.27	−1.67	6.46	5.91	6.03	6.93
Days in registration	−0.056•	0.371••	−0.142	−0.112	−0.080	−0.303••
	−1.90	1.98	−1.01	−0.79	−0.58	−2.04
Age at IPO	0.002•••	−0.007•••	0.001	−0.003	−0.005••	−0.006•••
	3.82	−2.93	0.51	−1.61	−2.45	−3.27
BM	−0.065•••	−0.372•••	0.139•	0.200••	0.217•••	0.274•••
	−3.92	−2.66	1.75	2.52	2.69	3.25
H-index	0.134•••	1.565•••	0.086	−0.124	0.028	−0.180
	3.14	5.22	0.43	−0.63	0.14	−0.92
Retained interest	0.001	−0.006	−0.072•	−0.011	−0.024	−0.004
	1.24	−0.62	−1.78	−0.55	−0.95	−0.54
n	3,380	3,380	3,380	3,380	3,380	3,380
R^2 / Pseudo R^2	52.8%	38.2%	8.9%	4.0%	5.0%	6.3%
ROC area	n/a	0.914	0.668	0.613	0.629	0.645

Table 8 ■ Firm benefits from potential quiet period violation (concluded)

Panel B ■ Management guidance or conference call during quiet period as measure of potential violation

	Dependent variable					
	Log # EPS forecasts	Non-EPS forecast	Q1 meet-beat	Q2 meet-beat	Q3 meet-beat	Q4 meet-beat
	[1]	[2]	[3]	[4]	[5]	[6]
Intercept	−0.911•••	−16.807•••	−2.192•••	−2.286•••	−1.664•••	−1.578•••
	−7.50	−15.95	−7.02	−7.51	−5.65	−5.36
Serious violation	0.122•••	1.840•••	0.163••	−0.196	−0.216	−0.125
	4.53	11.12	2.33	−1.57	−1.63	−1.05
Log market cap	0.082•••	0.622•••	0.000	0.000•••	0.000•	0.000
	7.45	7.44	0.77	3.31	1.85	1.42
High R&D	−0.012	−0.129	−0.139	0.231•••	0.335•••	0.446•••
	−0.66	−0.93	−1.60	2.71	4.01	5.34
Underpricing	0.397•••	1.537•••	0.505•••	0.224•••	0.358•••	0.292•••
	15.51	10.71	7.36	3.25	5.27	4.31
Log analyst coverage	−0.091•••	−1.585•••	0.092	−0.024	0.044	0.137
	−4.94	−6.30	1.08	−0.29	0.53	1.59
Quiet period volume	1.155•••	5.921••	−0.635	2.633••	1.879	2.089
	3.97	2.53	−0.46	1.96	1.42	1.56
Quiet period σ	−0.002	−1.403•••	0.061	−0.130••	−0.091	−0.061
	−0.14	−14.14	0.98	−2.12	−1.51	−1.00
Log S-1 amendments	0.078•••	1.199•••	0.263••	0.193•	−0.023	0.006
	3.30	6.60	2.34	1.74	−0.21	0.05
Offer price	0.005•••	0.003	0.006	−0.028•••	−0.026•••	−0.025•••
	2.65	0.23	0.73	−3.14	−2.94	−2.90
Underwriter rank	0.064•••	−0.059	0.160•••	0.138•••	0.136•••	0.154•••
	12.34	−1.33	6.74	6.06	6.19	7.01
Days in registration	−0.047	0.471••	−0.127	−0.100	−0.068	−0.290••
	−1.61	2.51	−0.91	−0.71	−0.49	−1.97
Age at IPO	0.001•••	−0.009•••	0.001	−0.003	−0.004••	−0.006•••
	3.67	−3.54	0.47	−1.47	−2.28	−3.08
BM	−0.065•••	−0.326••	0.136•	0.184••	0.200••	0.257•••
	−3.89	−2.31	1.71	2.32	2.48	3.05
H-index	0.161•••	1.782•••	0.140	−0.034	0.123	−0.093
	3.79	6.04	0.71	−0.17	0.64	−0.48
Retained interest	0.001	−0.011	−0.069•	−0.008	−0.020	−0.003
	1.15	−0.73	−1.73	−0.49	−0.82	−0.44
n	3,380	3,380	3,380	3,380	3,380	3,380
R^2 / Pseudo R^2	43.2%	35.3%	7.3%	3.5%	3.6%	4.9%
ROC area	n/a	0.903	0.645	0.602	0.605	0.625